National Aeronautics and
Space Administration

Principal Center for Regulatory Risk Analysis and Communication

REGULATORY SUMMARY

Executive Order 13514: Federal Leadership in Environmental, Energy, and Economic Performance

This information was prepared by NASA's Principal Center for Regulatory Risk Analysis and Communication (RRAC PC). If you have further questions or need assistance, please contact the RRAC PC Manager, Sharon Scroggins (256-544-7932, sharon.scroggins@nasa.gov).

Introduction

On 5 October 2009, President Obama signed an Executive Order (EO) 13514 titled "Federal Leadership in Environmental, and Economic Performance," which requires federal agencies to set a greenhouse gas (GHG) emissions reduction target, increase energy efficiency, reduce fleet petroleum consumption, conserve water, reduce waste, support sustainable communities, and leverage federal purchasing power to promote environmentally responsible products and technologies. The EO was published in the *Federal Register* (FR) on 8 October 2009 (74 FR 52117). Implementation will be managed through the previously established Office of the Federal Environmental Executive (OFEE), working in close partnership with the Office of Management and Budget (OMB) and the Council on Environmental Quality (CEQ). Additional information on this EO is available on the OFEE website.

Summary of the EO

The EO establishes environmental goals for federal facilities in several key areas, as outlined in the following sections.

GHG

GHG requirements under the EO include establishing the following and reporting the metrics to the CEQ Chair and OMB Director:

- Within 90 days, establishing the agency-wide percent reduction target to be achieved by fiscal year (FY) 2020 for scopes 1 and 2 GHG emissions. Scope 1 emissions are defined in the EO as direct GHG emissions from sources that are owned or controlled by the federal agency. Scope 2 emissions are direct GHG emissions resulting from the generation of electricity, heat, or steam purchased by a federal agency. The target may exclude direct emissions from vehicles and equipment and emissions from electric power produced and

sold commercially to other parties in the course of regular business. In establishing the target, the agency should consider reductions associated with the following:

  - Reducing energy intensity in agency buildings
  - Increasing agency use of renewable energy and implementing renewable energy generation projects on agency property
  - Reducing the use of fossil fuels by the following methods:
    - Using low GHG-emitting vehicles including alternative fuel vehicles
    - Optimizing the number of vehicles in the agency fleet
    - Reducing, if the agency operates a fleet of at least 20 motor vehicles, the fleet's total consumption of petroleum products by a minimum of 2 percent annually through the end of FY 2020, relative to usage during the baseline year of FY 2005

- Within 240 days of the date of this order, establishing the agency-wide percentage reduction target for scope 3 GHG emissions by FY 2020, relative to an FY 2008 baseline. Scope 3 emissions are defined in the EO as GHGs from sources not owned or directly controlled by a federal agency, but related to agency activities, such as vendor supply chains, delivery services, and employee travel and commuting. In establishing the target, the agency should consider reductions associated with the following:
  - Pursuing opportunities with vendors and contractors to address and incorporate incentives to reduce GHG emissions (such as changes to manufacturing, utility, or delivery services; modes of transportation used; or other changes in supply chain activities)
  - Implementing strategies and accommodations for transit, travel, training, and conferencing that actively support lower-carbon commuting and travel by agency staff
  - Reducing GHG emissions associated with pursuing other relevant goals in this section
  - Developing and implementing innovative policies and practices to address scope 3 GHG emissions unique to agency operations
- Compiling a comprehensive inventory of absolute GHG emissions, including scope 1, scope 2, and scope 3 emissions within 15 months of the date of this order for FY 2010, and annually at the end of January for the subsequent FYs.

Federal agencies also are required to participate in the interagency Climate Change Adaptation Task Force, which is already engaged in developing the United States' strategy for climate change.

To support the implementation of these EO goals, guidance will be issued as follows:

- Within 180 days for GHG reporting and accounting procedures. The procedures will include information regarding the following:
  - Measuring, reporting, and accounting for GHG emissions from all scope 1, 2, and 3 sources, using accepted GHG accounting and reporting principles

  - Identifying opportunities to revise the FY 2008 baseline to address significant changes in agency emissions due to reorganization, improvements in accuracy of data collection, estimation procedures, or other major changes that would leave the initial baseline information unsuitable
  - Considering past federal agency efforts to reduce GHG emissions
  - Considering and accounting for sequestration and emissions of GHGs resulting from federal land management practices
- Within 1 year for electronic accounting and reporting of GHGs to ensure consistent and accurate reporting. Additionally, existing federal agency reporting systems will be leveraged as much as possible to ensure continuity. Every 3 years, the recommendations to revise the federal GHG reporting procedures will be developed and provided to CEQ.
- Within 180 days, for federal fleet management guidelines regarding the following:
  - Acquiring alternative fuel vehicles and use of alternative fuels
  - Using biodiesel blends in diesel vehicles
  - Acquiring electric vehicles for appropriate functions
  - Improving fleet fuel economy
  - Optimizing fleets to the agency mission
  - Developing petroleum usage reduction strategies, such as acquiring low GHG-emitting vehicles and reducing the vehicle miles traveled
  - Installing renewable fuel pumps at federal fleet fueling centers
- Within 180 days, for the feasibility of working with the federal vendor and contractor community to provide information that will assist federal agencies in tracking and reducing scope 3 GHG emissions related to the supply of products and services. Recommendations will include the feasibility of:
  - Requiring vendors and contractors to register with a voluntary registry or organization for reporting GHG emissions
  - Requiring contractors to develop and make available their GHG inventory and description of efforts to mitigate GHG emissions
  - Using federal government purchasing preferences or other incentives for products manufactured using processes that minimize GHG emissions
  - Developing other options for encouraging sustainable practices and reducing GHG emissions

Water Efficiency

Agencies must improve water use efficiency and management by:

- Reducing potable water consumption intensity by 2 percent annually through FY 2020, or 26 percent by the end of FY 2020, based on an FY 2007 baseline. Water management strategies can be considered and implemented to achieve the reductions, including using water-efficient and low-flow fixtures and more efficient cooling towers.
- Reducing agency industrial, landscaping, and agricultural water consumption by 2 percent annually, or 20 percent by the end of FY 2020, based on an FY 2010 baseline.
- Identifying, promoting, and implementing water reuse strategies that reduce potable water consumption.
- Implementing and achieving stormwater management objectives that will be outlined in guidance to be published by the U.S. Environmental Protection Agency (EPA) within 60 days, as required by Energy Independence and Security Act of 2007.

Pollution Prevention (P2)

Under the EO, agencies must promote pollution prevention and eliminate waste by:

- Minimizing the generation of waste and pollutants through source reduction
- Diverting at least 50 percent of nonhazardous solid waste, excluding construction and demolition debris, by the end of FY 2015
- Diverting at least 50 percent of construction and demolition materials and debris by the end of FY 2015
- Reducing printing paper use and acquiring uncoated printing and writing paper containing at least 30-percent post-consumer fiber
- Reducing and minimizing the quantity of toxic and hazardous chemicals and materials acquired, used, or disposed
- Increasing diversion of compostable and organic material
- Implementing integrated pest management and other sustainable landscape management practices
- Increasing agency use of acceptable alternative chemicals and processes in keeping with the agency's procurement policies
- Decreasing agency use of chemicals where such decrease will assist the agency in achieving GHG reduction targets
- Reporting in accordance with the requirements of Sections 301 through 313 of the Emergency Planning and Community Right-to-Know Act

Regional and Local Integrated Planning

The EO requires several initiatives to provide for regional and local integrated planning, including the following:

- Participating in regional transportation planning and recognizing existing community transportation infrastructure.
- Aligning federal policies to increase the effectiveness of local planning for energy choices such as locally generated renewable energy.
- Ensuring that planning for new federal facilities or new leases includes consideration of sites that are pedestrian friendly, near existing employment centers, and accessible to public transit; and emphasizes existing central cities and, in rural communities, existing or planned town centers.
- Identifying and analyzing impacts from energy usage and alternative energy sources in all National Environmental Policy Act Environmental Impact Statements and Environmental Assessments for proposals for new or expanded federal facilities.
- Coordinating with regional programs for federal, state, tribal, and local ecosystem, watershed, and environmental management.

To support the implementation of these regional and local planning goals, the following guidance will be issued:

- Within 180 days, recommendations will be developed for the consideration of sustainable location strategies. The recommendations will be consistent with principles of sustainable development, including the following:
  - Prioritizing central business district and rural town center locations
  - Prioritizing sites well served by transit, including site design elements that ensure safe and convenient pedestrian access
  - Considering transit access and proximity to housing affordable to a wide range of federal employees
  - Considering adaptive reuse or renovation of buildings
  - Avoiding development of sensitive land resources
  - Evaluating parking management strategies
- Within 180 days, recommendations will be provided regarding the revision of policies and practices for the use of public transportation by federal personnel, federal shuttle bus and vehicle transportation routes supported by multiple federal agencies, and using alternative fuel vehicles in federal shuttle bus fleets.
- Within 180 days, a regional implementation plan will be issued to support the goals of this EO while taking into account the energy and environmental priorities of particular regions of the United States.

High Performance Buildings

Requirements in the EO for implementing high performance sustainable federal building design, construction, operation and management, maintenance, and deconstruction include the following:

- Ensuring that all new federal buildings, which enter the planning process beginning in 2020, are designed to achieve zero-net-energy by 2030.
- Ensuring that all new construction, major renovation, or repair and alteration of federal buildings comply with the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings* (Guiding Principles).
- Ensuring that at least 15 percent of the agency's existing buildings (above 5,000 gross square feet) and building leases (above 5,000 gross square feet) meet the Guiding Principles by FY 2015 and that the agency makes annual progress toward 100-percent conformance with the Guiding Principles for its building inventory.
- Pursuing cost-effective, innovative strategies to minimize the consumption of energy, water, and materials, such as highly reflective and vegetated roofs.
- Managing existing building systems to reduce the consumption of energy, water, and materials, and identifying alternatives to renovation that reduce existing assets' deferred maintenance costs.
- When adding assets to the agency's real property inventory, identifying opportunities to consolidate and dispose of existing assets, optimize the performance of the agency's real-property portfolio, and reduce associated environmental impacts.
- Ensuring that rehabilitation of federally owned historic buildings uses best practices and technologies in retrofitting to promote long-term viability of the buildings.

Acquisition/Purchasing

Agencies must advance sustainable acquisition to ensure that 95 percent of new contract actions, including task and delivery orders, are for products and services that meet the agency's performance requirements and are:

- Energy-efficient (Energy Star or Federal Energy Management Program [FEMP] designated)
- Water-efficient
- Biobased
- Environmentally preferable (for example, Electronic Product Environmental Assessment Tool [EPEAT] certified)
- Non-ozone depleting
- Contain recycled content
- Non-toxic or less-toxic alternatives

Weapons systems are exempt from this EO goal.

Electronics Stewardship

The EO requires several measures to promote electronics stewardship, including the following:

- Ensuring procurement preference for EPEAT-registered electronic products
- Establishing and implementing policies to enable power management, duplex printing, and other energy-efficient or environmentally preferable features on all eligible agency electronic products
- Employing environmentally sound practices with respect to the agency's disposition of all agency excess or surplus electronic products
- Ensuring the procurement of Energy Star- and FEMP-designated electronic equipment
- Implementing best management practices for energy-efficient management of servers and federal data centers

Environmental Management Systems

Federal agencies must continue to implement their Environmental Management Systems (EMSs) at all appropriate organizational levels and to maintain EMSs in such a way as to achieve the performance necessary to meet the EO goals.

Agency-level Planning

The EO requires the implementation of several requirements at the agency level, as outlined in the following sections.

Senior Sustainability Officer

The EO requires federal agencies to take several steps at the Headquarters' level, including designating a Senior Sustainability Officer within 30 days. The Senior Sustainability Officer must be at the senior management level of the agency and is accountable for the agency's conformance with the EO. Responsibilities of the Senior Sustainability Officer include the following:

- Preparing the targets for agency-wide reductions and the inventory of GHG emissions
- Within 240 days, and annually thereafter, preparing and submitting to the CEQ Chair and the OMB Director a multi-year Strategic Sustainability Performance Plan (Plan)
- Preparing and implementing the approved Plan in coordination with appropriate offices and organizations within the agency including the General Counsel, Chief Information Officer, Chief Acquisition Officer, Chief Financial Officer, and Senior Real Property Officers
- Monitoring the agency's performance and progress in implementing the Plan, and reporting the performance and progress to the CEQ Chair and the OMB Director
- Reporting annually to the head of the agency regarding the adequacy and effectiveness of the agency's Plan in implementing this EO

Strategic Sustainability Performance Plan

Each agency must develop, implement, and annually update the Plan to prioritize agency actions based on lifecycle return on investment. Each agency Plan and update must be reviewed and approved by the OMB Director. Beginning in FY 2011 and continuing through the end of FY 2021, each Plan must:

- Include a policy statement committing the agency to compliance with environmental and energy statutes, regulations, and EOs
- Achieve the sustainability goals and targets, including GHG reduction targets
- Be integrated into the agency's strategic planning and budget process, including the agency's strategic plan
- Identify agency activities, policies, plans, procedures, and practices that are relevant to the agency's implementation of the EO, and where necessary, provide for development and implementation of new or revised policies, plans, procedures, and practices
- Identify specific agency goals, a schedule, milestones, and approaches for achieving results, and quantifiable metrics for agency implementation of the EO
- Take into consideration environmental measures, as well as economic and social benefits and costs, in evaluating projects and activities based on lifecycle return on investment
- Outline planned actions to provide information about agency progress and performance with respect to achieving the EO goals on a publicly available federal website
- Incorporate actions for achieving progress metrics identified by the OMB Director and the CEQ Chair
- Evaluate agency climate-change risks and vulnerabilities to manage the effects of climate change on the agency's operations and mission in both the short and long term
- Identify in annual updates opportunities for improvement and evaluation of past performance to extend or expand projects that have net lifecycle benefits, and to reassess or discontinue under-performing projects

NASA Considerations

Like other federal agencies, NASA is required to meet the goals and requirements outlined in this EO. OFEE plans to distribute detailed instructions and guidance to help with its implementation. Additionally, .NASA's Strategic Sustainability Plan and further guidance on its implementation are under development and will be made available according to the timeline indicated above.