U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF MISSION SUPPORT

Climate Adaptation Action Plan Implementation

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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DEPUTY ADMINISTRATOR

Preface

Climate change is threatening communities across the nation. Millions of Americans feel the destructive effects of climate change each year when the power goes down, rivers and lakes go dry, homes are destroyed by wildfires and communities are flooded by hurricanes. Underserved communities are especially vulnerable to the climate crisis and are more likely to experience the negative health and environmental effects of extreme weather events.

The Biden-Harris Administration is actively confronting the climate crisis while also advancing environmental justice. As part of a whole-of-government approach, the U.S. Environmental Protection Agency is strongly committed to taking the actions necessary to protect human health and the environment and to increase the resilience of the entire nation, even as the climate changes.

The EPA's commitment to action is reflected in its FY 2022-2024 Strategic Plan and in the 2021 Climate Adaptation Action Plan. Both documents present priority actions the agency will take to ensure that its programs, policies and operations remain effective under future climate conditions while we work to support states, territories, tribes and communities in increasing their own adaptive capacity and resilience to climate change impacts.

From flooding at Superfund sites, to wildfires causing air pollution, to sea-level rise affecting water quality and infrastructure, the EPA will boldly address climate impacts in both its programs and the communities it serves. We recognize the importance of tribal, state and local government partnerships in efficient, effective and equitable implementation of climate change adaptation strategies. Our plans were informed and improved by input we received in listening sessions we held to engage these and other partners as we developed these plans.

To ensure we are addressing the climate crisis in a comprehensive way, each of our national program and regional offices has developed individual Climate Adaptation Implementation Plans that outline how the EPA will attain the agencywide goals described in the broader Climate Adaptation Action Plan. These plans describe how programs and regions will integrate climate adaptation into their programs, partnerships and operations. They also describe how they will help partners build their resilience and capacity to adapt, while delivering co-benefits, including curbing greenhouse-gas emissions and other pollution, and

promoting public health, economic growth and climate justice. Of course, the EPA has a major role to play on emissions reductions as well, though that is not the focus of these plans. Indeed, we must focus on both climate adaptation and mitigation to ensure our nation and communities thrive in an era of climate change.

As part of this effort, we will empower our staff and partners by increasing awareness of how climate change may affect our collective ability to implement effective and resilient programs. We will also provide them with the necessary training, tools, data, information and technical support to make informed decisions and integrate climate adaptation into our work.

The EPA will work to modernize its financial assistance programs to encourage climate-resilient investments across the nation. We will also focus on ensuring that investments funded by the Bipartisan Infrastructure Law, the Inflation Reduction Act and other government programs are resilient to the impacts of climate change. Finally, as our knowledge advances and as impacts continue to develop, our response will likewise evolve. We will work to share these developments to enhance the collective resilience of our nation.

The actions outlined in these implementation plans reflect the EPA's commitment to build every community's capacity to anticipate, prepare for, adapt to and recover from the increasingly destructive impacts of climate change. Together with our partners, we will work to create a healthy and prosperous nation that is resilient to the ever-increasing impacts of climate change — which is vital to the EPA's goal of protecting human health and the environment and to ensuring the long-term success of our nation.

Janet G. McCabe

Introduction

As the Office within EPA responsible for facilities, human resources, employee safety, physical security, information technology (IT), grants and procurement, OMS is responsible for ensuring the sustainable and continuous operation of the Agency's buildings, personnel, IT, purchasing, and grant funding in the event of a climate-related emergency or disaster. This plan describes how OMS will implement the key strategies outlined in EPA's Climate Adaptation Action Plan covering facilities, training, procurement, and security, and it builds off a previous plan for the then-Office of Administration and Resources Management to implement the EPA Climate Change Adaptation Plan in 2014.

In addition to this plan, EPA also has in place an extensive continuity of operations plan (COOP) designed to address natural disasters and other events that could interrupt Agency business. However, this plan supplements the COOP by anticipating the various risks of and responses to specific climate change impacts, by conducting further assessments on facility resilience and proactively addressing building performance, cybersecurity, personnel training, procurement supply chains, and grantmaking.

In addition to facilitating internal planning for climate change effects within the Agency, this plan encourages coordination between EPA and other federal agencies, including the General Services Administration (GSA), which is responsible for numerous regional offices and other facilities where EPA has operations. EPA will draw upon its in-house expertise of climate scientists and sustainable building professionals to inform resilience planning in regions and facilities shared by other agencies, thus improving the federal governments' resources to adapt to the changing climate.

To lead this effort, OMS has temporarily designated the Acting Principal Deputy Assistant Administrator for Mission Support to serve as its senior career leader on climate adaptation for the Office. Once OMS' nominated Assistant Administrator is confirmed by the U.S. Senate, that position will assume the role of climate adaptation implement lead for OMS. The designated climate adaptation lead for OMS will be responsible for overseeing OMS staff involved in climate adaptation activities, and they will report on the Office's progress annually.

The designated climate adaptation lead for OMS will be supported by the efforts of EPA's Office of Administration, specifically the Real Property Services and Safety & Sustainability Divisions. Two of those divisions' branches, the Sustainable Transportation & Solutions Branch (STSB) and the Architecture and Engineering Management Branch (AEAMB) will take the lead in assessing facilities' resilience and undertaking projects to increase resilience. Other OMS Offices responsible for helping to implement this plan include the Office of Human Resources, the Office of Acquisition Solutions, the Office of Grants and Debarment, and the Environmental Information Offices that oversee IT/digital services.

OMS is currently in the process of updating the list of climate vulnerabilities it identified for its facilities and operations in the 2014 implementation plan; many changes to EPA facilities have taken place since 2014, and the areas where the Agency might be vulnerable to climate change events have evolved. Given the recent wildfires and drought in the Western United States, and the electrical grid stability issues across the country related to severe weather events, OMS will need to revisit the risks and consequences affecting EPA facilities and operations due to climate change. OMS plans to conduct both onsite assessments and a broad survey of facility and lab managers to complete this task.

Current Climate Vulnerabilities

There are a variety of hazards that climate change poses to EPA facilities, operations, and personnel across the country. Extreme weather events are just some of the effects of our changing climate, and they can result in increased flooding, wind damage from hurricanes, severe drought, uncontrolled fires, and other natural disasters that can impact physical infrastructure and research integrity at the Agency. EPA's Climate Adaptation Action Plan outlines these potential climate impacts in more detail.

To address the risks the Agency faces from these hazards, OMS is in the process of reassessing its climate vulnerabilities. First identified in 2014, this list has expanded over time. OMS will survey facility and lab managers and apply the results of upcoming climate resiliency assessments described below to create a full picture of the following disruptors that could arise from climate change and how vulnerable EPA is to the consequences of them:

- **Structural and Mechanical Vulnerabilities:** Extreme weather events and natural disasters have already caused significant damage to some EPA buildings. Even when the structure is sound, the mechanical, electrical, and process (MEP) equipment may not be in a weather-proof location to withstand water, winds, and other weather extremes.

- **Electrical Grid Vulnerabilities:** Extreme heat days in the summer and freezing temperatures in the winter have occurred with increased frequency and exposed structural weaknesses in the nation's electrical grid. EPA's power supply could be threatened with rolling brownouts or blackouts, causing the Agency to experience interruptions in key research activities and compromising important support for its mission.

- **Water Supply Vulnerabilities:** Between droughts during extreme heat, and water grid/delivery issues during extreme cold, the water needed to supply EPA's cooling systems, research, and other processes could be vulnerable to climate impacts, potentially compromising Agency research and operations.

- **Water Quality Vulnerabilities:** Changes to water ecosystems—including increasing droughts, decreasing precipitation days, and rising water temperatures—could mean a change in the disposition of water supplies and potentially compromise the quality of water available for use in EPA experiments and for potable needs.

- **Physical Security Vulnerabilities:** Extreme weather events can impact facilities in ways that not only damage the physical structure and mechanical systems, but also affect the overall security of the building and its occupants. Many EPA locations have closed-circuit television (CCTV) cameras, intrusion detection systems, outdoor lighting, and access control devices that would be compromised by weather damage or electrical system/grid failures if uninterruptible power and backup power systems are limited.

- **Cybersecurity Vulnerabilities:** EPA servers, networks and data centers require a continuous supply of power; while the Agency does have sources of backup power for key aspects of its

information systems, it is not clear if those backup sources are adequate to address the breadth of impacts from climate change events that could occur.

- **Worker Safety Vulnerabilities:** While many climate impacts can affect overall worker health, safety, and ability to do their jobs, field workers in particular could be a higher risk due to climate impacts. Outdoor fieldworkers are more vulnerable to extreme temperatures or other weather events. Working conditions while conducting sampling, remediation, and other outdoor/field activities could be more hazardous after fires, hurricanes, tornados, and floods.

- **Electronic Information and Communication Vulnerabilities:** Severe weather events and other climate-related conditions causing interruptions in power could also limit employees' ability to communicate remotely or pose a vulnerability in locations where employee address systems are not connected to backup power.

- **Supply Chain Vulnerabilities:** In addition to EPA's own operations and facilities, the products and services it procures and organizations that create and supply them could also be vulnerable to climate change impacts, and that in turn could impact the Agency's ability to achieve its mission.

- **Environmental Justice Vulnerabilities:** Research has indicated that communities of color and low-income neighborhoods are more significantly affected by the impacts of climate change. From the perspective of both the communities surrounding EPA facilities and the priorities it places on grant funding, OMS will assess the environmental justice vulnerabilities of climate change related to EPA facilities and operations during the resilience assessments and other activities described below. Environmental justice through procurement is also being addressed as part of the supply chain vulnerability work described in this plan.

The extent to which each of these vulnerabilities poses a threat to individual facilities and the Agency as a whole requires OMS to collect additional information. Plans to identify the risks and determine the potential for hazards across the Agency and at individual facilities to better refine these vulnerabilities and strategies to address them are described below.

Employee Training

OMS will encourage all of its employees to take the climate adaptation training to be developed by the Office of Policy, once it is available. In addition, OMS will work with all relevant EPA facility managers and facility staff to take trainings regarding facility resiliency. OMS will leverage existing facility-specific trainings on resilient buildings and operations, which are currently available through nationally recognized associations, (e.g., International Institute of Sustainable Laboratories, American Society of Heating, Refrigerating and Air-conditioning Engineers).

Tribal and Other Input

In addition to gathering feedback from its facility managers, lab directors and other key staff at the facility level about climate-resilient laboratories and operations, OMS is participating in a coordinated consultation process that EPA has initiated agencywide to seek input from tribes and other entities. Per EPA's Policy on Consultation and Coordination with Indian Tribes, OMS will continue to engage with

Tribes, states, territories, local communities, and others as the agency's climate adaptation priorities and implementation activities evolve.

Science-Based Needs

As a service-based organization, OMS does not anticipate having any science-based needs as part of this implementation plan; however OMS staff will consult with the relevant Program Offices and subject matter experts on climate impacts as needed to validate training information and other aspects of this climate adaptation implementation plan.

Priority Actions for OMS

OMS, like other EPA Program and Regional Offices, is identifying its priorities to adapt to climate change and ensure that the Agency can continue its mission to protect human health and the environment. Facility resiliency is a top priority, along with personnel training, grantmaking, information technology, and supply chain resiliency. This implementation plan reflects OMS' current approach to climate adaptation, recognizing that further assessment and information could cause OMS to refine its priorities. The following five areas are key areas of focus for OMS over the next five years.

1. **Facility and Operational Vulnerability Identification (Lead: Office of Administration)**

To assess the extent of the vulnerabilities listed above, and the extent to which EPA might already be promoting climate resiliency within its facilities and operations, OMS will conduct both virtual and onsite assessment of all its owned facilities where it controls the utilities and physical plant/buildings. These assessments will also use various tools available online to assess the risk of climate impacts (e.g., floods, hurricanes, fires) occurring in locations where EPA conducts research, to develop a better sense of the risk level for each potential climate impact by region/climate zone. OMS will use these analytical tools to create "hazard maps" of EPA locations and assign risk factors to each.

1a. Facility Vulnerability Survey (Lead: Office of Administration)

The initial effort will involve a survey of facility managers to determine such things as the location of key mechanical systems, structural ability to withstand weather effects, and adaptive efforts achieved to date. It might also include a survey of lab managers to chronicle the types of research being undertaken and consequences of disruption to the various types of research.

This exercise will help ascertain what to focus on during facility-specific climate resiliency assessments (described below) and identify some "low-hanging fruit" or adjustments facility managers might easily implement to be more climate-resilient. Future years' actions will include addressing those areas where EPA can adjust its operations or systems and train its facility staff and personnel to respond to climate emergencies, both with immediate response to a specific incident and over the long term through facility operations and maintenance. Following is a timeframe for implementation of this priority action:

- FY 2022: Conduct Agencywide vulnerability survey
- FY 2023: Complete hazard maps for all EPA locations and identify "low-hanging fruit" projects
- FY 2024: Complete first round of "low-hanging fruit" improvements
- FY 2025: Complete second round of "low-hanging fruit" improvement
- FY 2026: Conduct training for facility managers on resilient maintenance

1b. Facility Resiliency Assessments (Lead: Office of Administration)

Between 2015 and 2016, OMS performed climate resiliency assessments at six EPA facilities considered most vulnerable to the impacts of climate change. The findings and lessons learned from these assessments became a list of best practices for EPA facilities, and some improvements were made, but climate risks have increased even in the past five years, and more facilities need to be assessed for climate resiliency. To further refine the risks and consequences resulting from climate change impacts, OMS will revisit and conduct additional climate resiliency assessments at its research campuses.

OMS first plans to revisit the six facilities assessed previously, to follow up on initial recommendations and to ensure that resiliency is being incorporated into those facilities undergoing major renovations or master planning. OMS will also complete additional assessments at its remaining owned facilities in order to identify and facilitate projects that can ensure the resilience and readiness of all EPA locations to meet the impacts of climate change in the future, with an eye on the most pressing risks. Following is the timeframe for implementing priority climate resilience assessments:

- FY 2022: Complete facility resiliency assessments at two locations (revisits)
- FY 2023: Complete facility resiliency assessments at five locations (revisits and new facilities)
- FY 2024: Complete facility resiliency assessments at five locations and initiate two projects
- FY 2025: Complete facility resiliency assessments at three new locations; initiate four projects
- FY 2026: Complete final facility resilience assessment and initiate five new resiliency projects

2. Personnel Training (Lead: Office of Human Resources)

EPA's Office of Human Resources (OHR) facilitates delivery of both required and voluntary training for Agency employees. As EPA subject matter experts provide content for climate change adaptation training developed in conjunction with EPA's Office of Policy, OHR will support training for both existing and new EPA employees on ways their research, programs, and facilities can promote resilience.

3. Grants (Lead: Office of Grants and Debarment)

Many of the grants that EPA makes to eligible entities could be promoting climate adaptation, especially in lower income areas and communities of color, which are often hardest hit by the effects of climate change. The Office of Grants and Debarment (OGD) will provide support to EPA's Program Offices to develop appropriate language, including evaluation criteria, to include in competitive grant solicitations in which climate change and/or climate change adaptation considerations could be relevant, that will be used to evaluate and score applications. OGD will also provide leadership to assess the capability of the Next Generation Grants System to track the number of solicitations and/or awards that involve climate change and/or climate change adaptation. If that is not possible, then OGD will work with Program Offices to establish a process to track the number of their solicitations and/or awards that involve climate change and/or climate change adaptation considerations.

- FY 2022-26: Support Program Offices in developing climate change/adaptation language and evaluation criteria in applicable solicitations
- FY 2023: Assess Next Generation Grants System capability to track solicitations and/or awards on climate change/adaptation
- FY 2024: Assist Program Offices with developing process to track climate change/adaptation in their solicitations

4. Supply Chain Resilience (Lead: Office of Acquisition Solutions)

EPA relies on a robust channel of supplies and services to support meeting its mission to protect human health and the environment, but there are inherent risks to any supply chain from climate-related impacts. Working as an enterprise to effectively manage supply chain risks is a priority for OMS and EPA. Through its Office of Acquisition Solutions (OAS), OMS will implement a supply chain risk management plan that effectively identifies the Agency's mission-essential supply chain risks using the GSA Framework for Managing Climate Risks in Federal Supply Chains. Likewise, EPA's supply chain of goods and services could serve as an area to address resilience through Environmental Justice.

As OAS works to incorporate environmental justice into EPA procurements, it is prioritizing two commitments: a) Develop and implement policies and procedures to promote utilization of underserved and underrepresented businesses; and b) facilitate programmatic acquisition forecasting, acquisition planning, and requirements development to eliminate ambiguity and increase opportunities for underserved and underrepresented businesses.

OAS will also assess EPA's overall supply chain risk and establish an executive board to lead enterprise-wide supply chain risk management activities. This board will consist of EPA's: Chief Acquisition Officer, Chief Information Officer, Chief Information Security Officer, Chief Financial Officer, General Counsel, Office of the Administrator, and Office of Congressional and Intergovernmental Affairs and will help develop and implement acquisition policy to incorporate climate change considerations in the advance acquisition planning process. OAS will also raise awareness and educate its workforce to help manage and mitigate supply chain risks. Following is the proposed timeline for implementing EPA's Supply Chain Risk Management Plan:

- FY 2022: Establish an executive board to lead EPA supply chain risk management activities
- FY 2023: Assess, identify, and address mission-essential supply chain risks and capabilities
- FY 2024: Assess EPA's overall supply chain risks and develop capabilities to manage them
- FY 2025: Develop and implement acquisition policy incorporating climate change considerations
- FY 2026: Raise workforce awareness on managing and mitigating supply chain risks

OAS developed a Supply Chain Risk Management Plan that examines the risks and priorities to address climate change-related vulnerabilities in EPA's supply chain, which is available by request from OAS.

5. IT and Digital Services Support (Lead: Environmental Information Offices)

Information technology and digital services are critical to climate adaptation at EPA, both in terms of implementing the Agencywide Climate Adaptation Action Plan and in ensuring operations are not impacted significantly by climate change effects. EPA's Environmental Information Offices are ready to consult and support with Program Offices and Region Offices to implement this plan. OMS-EI will provide IT and other digital services to address the vulnerabilities described above and ensure environmental information needs are met despite climate change impacts. Following is a timeline for Environmental Information Offices' adaptation implementation:

- FY 2022: Support the Office of the Administrator's development of Version 1.1 of the data tracking tool for EPA's Climate Adaptation Action Plan
- FY 2023-FY 2025: Support Program Offices in developing climate change/adaptation solutions for their IT applications and tools