DOT 4360 09-18-2023

Subject: CLIMATE CHANGE ADAPTATION AND RESILIENCE POLICY FOR DOT OPERATIONAL ASSETS

1. PURPOSE. This Order conveys policy, delegates authority, and assigns responsibility to ensure that DOT and its Operating Administrations integrate climate change adaptation (climate adaptation or adaptation) and climate change resilience (climate resilience or resilience) requirements into agency planning, supply chain sustainability, mission critical assets for internal operations. This Order supports implementation of the Federal Managers' Financial Integrity Act of 1982; Office of Management and Budget (OMB) Circulars A-123 and A-11; Executive Orders (EOs) 14008 (Tackling the Climate Crisis at Home and Abroad), 13653 (Preparing the United States for the Impacts of Climate Change), 14030 (Climate-Related Financial Risk), 14017 (America's Supply Chains), 13990 (Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis) and 14057 (Catalyzing America's Clean Energy Industries and Jobs through Federal Sustainability); Presidential Policy Directive 8 on National Preparedness; and other applicable requirements set forth in law, regulations, or executive actions. Pursuant to these requirements, DOT has a responsibility to strengthen the resilience of its mission critical assets and operations and adapt to climate impacts. With implementation of this Order, the Department will ensure more climate resilient and adaptive operations.

2. CANCELLATIONS: N/A

3. BACKGROUND. This Order applies to internal DOT actions and activities (e.g., all phases of administration, planning, design, programming, budgeting, operations, maintenance, training, management, acquisition, business travel, and employee commuting) that affect climate adaptation and resilience.

    a. For the purpose of this Order, Operating Administration (OA) refers to the nine DOT Operating Administrations, the Office of the Secretary, and the Office of Inspector General.

    b. OAs must comply with all relevant laws, regulations, executive actions, and other directives, including those set forth in Appendix I of this Order, along with any legal requirements not cited herein, or established after issuance.

    c. The requirements of this Order are not intended to restrict or inhibit DOT's ability to fulfill its mission or adversely affect in a material way the Department's operations or the safety of the traveling public.

d. This Order is intended solely to improve the internal management of the Department. It is not intended to and does not create any right or benefit, substantive or procedural, enforceable by any party against the United States, the Department, or its entities, officers, employees, or agents, or any other person.

e. For the actions contained in this Order, "must" conveys requirements, and "should" or "may" convey recommendations for efficient and effective implementation.

4. REFERENCES. See Appendix I for a list of authorities and guidance documents.

5. DEFINITIONS. See Appendix II for a list of key terms.

6. POLICY. It is the policy of the Department to pursue cost-effective, innovative strategies that build climate adaptation and resilience through planning, governance, oversight, financial management, and acquisition.

a. The Department will implement a comprehensive strategy in the following areas:

1) Characterize Risks from Climate Change
2) Identify and Prioritize Strategies to Address Climate Change Resilience
3) Plan, Budget for, and Implement Strategies
4) Review and Update Climate Adaptation and Resilience Plans
5) Promote Climate Literacy

b. Sections 8-10 of this Order cover specific requirements, exclusions, and suggested practices related to the above.

c. In accordance with EO 14057, DOT will support climate resilient investment; strong partnerships and communication; risk-informed decision making and the tools to facilitate it; adaptive learning; and preparedness planning to ensure climate adaptive and resilient operations.

d. DOT will annually assess and report on progress. Section 13 of this Order sets forth reporting requirements.

e. Other DOT Orders and Federal directives address internal controls related to terrorism and national security. This Order is not intended to supersede or replace those directives.

f. OAs should also follow requirements related to this Order in DOT's Overarching Sustainability, Energy Management, Sustainable Buildings, Water Management, Sustainable Acquisition, Pollution Prevention and Waste Management, and Greenhouse Gas Policies, or any subsequent updates that supersede them.

7. RESPONSIBILITIES. The following personnel are responsible for directing, managing and/or implementing sustainability actions across the Department including those requirements in this Order.

a. **DOT Chief Sustainability Officer (CSO):** The Secretary of Transportation has delegated to the Assistant Secretary of Administration the duties of CSO pursuant to 49 CFR § 1.38(c)(2). The CSO serves as the senior official responsible for the day-to-day management, implementation, performance, and compliance with all applicable energy, environmental, and sustainability statutes, regulations, executive actions, and other requirements. Related to the requirements of this Order, the CSO will:

1) Represent DOT on sustainability matters with officials from the federal Executive Branch, Congress, and all other external stakeholders;
2) Communicate all energy, environmental, and sustainability requirements to the OAs and report to the Secretary and Deputy Secretary of Transportation on the adequacy and effectiveness of DOT's implementation;
3) Coordinate with all appropriate Secretarial Offices and OAs to implement this Order;
4) In conjunction with the Deputy Assistant Secretary for Transportation Policy:
   (a) Develop, implement and update a DOT Climate Action Plan;
   (b) Review and approve all climate adaptation and resilience-related reports submitted to oversight agencies, such as the Department of Energy (DOE), the Office of Management and Budget (OMB), and the Council on Environmental Quality (CEQ), on behalf of the Secretary;
   (c) Enter into partnerships with other federal agencies, on behalf of DOT, to advance sustainability, climate adaptation and resilience activities; and
   (d) Designate reporting points of contact responsible for addressing general and technical questions regarding DOT's sustainability, climate adaptation and resilience reporting requirements.
5) Submit the DOT Annual Energy Management Data Report and supporting documentation to the OMB and DOE; and
6) Develop and implement the annual DOT Sustainability Plan.
7) Attend management reviews with the Chair of CEQ and the Director of OMB to assess implementation and progress on agency plans, goals, and targets developed pursuant to EO 14057.

b. **DOT Assistant Secretary for Administration:** Provides Departmental leadership and develops DOT policy on issues related to human resources, security, acquisition and grants, information services, energy, environmental management and sustainability, transportation, facilities, and space management.

c. **DOT Deputy Assistant Secretary for Transportation Policy:** Guides the Department's policy and advances strategic initiatives related to climate change mitigation, adaptation, and resilience. Represents DOT on climate change matters with officials from the federal Executive Branch, Congress, and other external stakeholders.

d. **DOT Chief Science Officer:** Serves as principal advisor to the Secretary of Transportation on science and technology issues. Ensures that DOT's research, development, and technology programs are scientifically and technologically well-founded and conducted with integrity. Related to the requirements of this Order, the Chief Science Officer incorporates scientific research to advance climate change initiatives that are fair and equitable to all.

e. **DOT Office of Intelligence, Security, and Emergency Response (OISER):** Provides a variety of functions to support DOT's ability to respond to and recover from hazards. A full description of functions is in the Department of Transportation Organizational Manual, OISER, DOT Order 1101.8A. The OISER Director's delegations are codified at 49 CFR § 1.45. Related to the requirements of this Order, OISER will evaluate the extent to which the DOT continuity of operations plan (COOP) provides adaptive capacity to climate change and consider how the COOP can address climate risks.

f. **DOT Office of the Senior Procurement Executive (OSPE):** Facilitates the accomplishment of DOT's mission by providing effective and sustainable business policies, practices, and services in acquisition, financial assistance management, and competitive sourcing. Ensures that the Department considers climate risk mitigation in contracting and procurement and drives innovation to increase the Department's resilience against supply chain disruptions.

g. **DOT Senior Real Property Officer:** Oversees the siting, acquisition, and operations of DOT facilities and the integration into regional and local planning initiatives.

h. **DOT Office of the Secretary of Transportation (OST); Office of Facilities, Information, and Asset Management; Energy and Resource Efficiency Program (EREP):** Related to the requirements of this Order, EREP will:

1) Develop energy, environmental, and sustainability policies to improve efficiency, reduce waste, and reduce costs for DOT facilities;
2) Provide strategy development, oversight, evaluation, methodology, and assistance for implementation of sustainability policy;
3) Assist the CSO in communicating all energy, environmental, and sustainability requirements to the OAs; and
4) Aggregate and assemble data for DOT-wide internal and external sustainability reports, including GHG inventory and supporting documentation.

i. **DOT Office of the General Counsel (OGC):** Interprets and provides guidance at a Departmental level on new and existing environmental and sustainability statutes, regulations, executive actions, and other requirements. Reviews contracts and ensures they meet all applicable statutes, regulations, executive actions, and other requirements for OST or other OAs as requested[1].

j. **OA Administrator:** Ensures OA conforms to and implements all applicable requirements for climate change adaptation and resilience set forth in this Order. The OA Administrator may delegate responsibilities as necessary to meet the sustainability, climate adaptation, and resilience requirements to the Energy Manager or other OA personnel, as appropriate. Related to the requirements of this Order, the OA Administrator will:

1) Issue data collection requests and analyze data for reporting progress milestones;
2) Incorporate sustainability, climate adaptation and resilience goals into performance plans and appraisals;
3) Advocate for financial resources and dedicate financial resources to sustainability initiatives;
4) Ensure employees with sustainability, climate adaptation and resilience and/or facility responsibilities receive appropriate training;
5) Communicate new sustainability, climate adaptation and resilience requirements, including financial and workforce resources, throughout OA;
6) Ensure that sustainability, climate adaptation, and resilience information is tracked and reported to the appropriate systems at the minimum intervals;
7) Submit requests, if appropriate, for exemptions to specific goals or requirements of this Order in accordance with Section 602 of EO 14057 to the CSO; and
8) Ensure that OAs use performance contracting, in accordance with the provisions of section 1002 of the Energy Act of 2020 (Public Law 116–133, division), to improve

[1] For FAA, this requirement applies to the extent the policy herein is consistent with 49 U.S.C. § 106(f)(2)(D).

efficiency and resilience of Federal facilities, deploy clean and innovative technologies, and reduce greenhouse gas emissions from building operations[2].

k. **Energy Managers:** Implement the requirements of 42 U.S.C. § 8253(f) and reduce energy use and GHG emissions at the facility or facilities under their purview. Energy managers may delegate responsibilities as necessary to meet requirements. Related to the requirements of this and other DOT Sustainability Orders, energy managers or their delegates will:

1) Ensure facility compliance with applicable energy efficiency laws and regulations;
2) Demonstrate relevant core competencies that GSA identifies pursuant to FBPTA (40 U.S.C. § 581) and ensure that other personnel (including contractors) also demonstrate relevant competencies if they perform building operations and maintenance, energy management, safety, or design functions;
3) Evaluate climate change risk to infrastructure and operations and implement actions to improve resilience, if these tasks are not delegated to other personnel per the OA Administrator;
4) Facilitate completion of comprehensive energy and water evaluations and implementation of identified energy conservation measures (ECMs) and other GHG emissions reduction measures; and
5) Examine operations and maintenance contracts and incorporate energy and water efficient technologies and best practices to the maximum extent possible.

l. **OA Senior Procurement Official (Chief Acquisition Officer or Federal Aviation Administration (FAA) Acquisition Executive):** Awards and administers contracts and ensures compliance with the Federal Acquisitions Regulations (FAR), Transportation Acquisitions Regulations (TAR), Transportation Acquisition Manual (TAM), and other Departmental policies related to acquisition[3]. For a full description, refer to the DOT Sustainable Acquisition Policy. Related to the requirements of this Order, the OA Senior Procurement Official will:

1) Consider building efficiency and resilience when renewing or starting new leases;
2) Support contracting and financing for building efficiency and resilience improvements;
3) Ensure appropriate sustainability and resilience clauses are included in construction and renovation contracts;
4) Confirm that relevant DOT contract actions, including procurements with best-in-class (BIC) and government wide contracts, have required sustainability clauses;

[2] For FAA, this requirement applies to the extent the policy herein is consistent with 49 U.S.C. § 106(f)(2)(D).
[3] For FAA, this requirement applies to the extent the policy herein is consistent with 49 U.S.C. § 106(f)(2)(D).

5) Lead OA efforts to achieve net zero emissions from federal procurement, including a "buy clean" policy;
6) Prioritize climate resilience in contracting and procurement; and
7) Drive innovation to increase the OA's resilience against supply chain disruptions.

8. CHARACTERIZE RISKS FROM CLIMATE CHANGE. Risk assessment is the foundation of efforts to improve adaptation and resilience.

a. Pursuant to the Federal Managers Financial Integrity Act of 1982 and EOs 13653, 13690, 14008, 14030, and 14057, the Department must ensure that mission critical assets are resilient to climate change, including current and future flood risk, through the implementation of adaptation strategies and activities. To do so, DOT and its OAs must first characterize the risks, as described in this section. The next step is to identify and prioritize adaptation strategies to address those risks, as described in Section 9 of this Order.

b. Mission Criticality. Within one year of the issuance of this Order, OAs must identify critical assets to include buildings and other operational assets essential to the fulfilment of the Department of Transportation's mission.
   1) OAs must indicate the asset type, location, and function defined as mission critical, and include the asset identification number from the Real Estate Management Service (REMS) if applicable.
   2) OAs must validate or update lists of mission critical assets every four years, or sooner if new mission critical assets (as determined by the OA) are designated, or if designated assets are no longer considered mission critical.
      (a) OAs may validate that the list is current and complete if ***all*** of the following criteria are met:
         (i) The mission/service provided by the asset has not changed;
         (ii) The physical location of the asset has not changed; and,
         (iii) The energy use profile of the asset has not changed.
   3) OAs must include an assessment of mission criticality in the planning and design of new buildings and infrastructure as well as when making major renovations to existing buildings.

c. Vulnerability and Risk Assessments. OAs must assess vulnerability to potential future impacts from climate change for all mission critical assets identified per Section 8(b) of this Order within two years of the effective date of this Order.
   1) OAs must validate or update mission critical asset assessments every four years thereafter, or sooner if ***any*** of the following are met:
      (a) New mission critical assets (as determined by the OA) are designated; or,

(b) Existing mission critical assets do not meet the validation requirements in Section 8(b)2(a) of this Order; or,

(c) New data forecasts significant changes in exposure to climate hazards compared to the prior assessment.

2) DOT has developed the Climate Hazard Exposure and Risk (CHER) Tool to guide OAs through vulnerability and risk assessments for mission critical operational assets. OAs must use the CHER Tool, or future assessment tools approved by EREP, to develop a vulnerability rating and climate risk score for each mission critical asset or group of assets. The tool and associated guidance provide a consistent Department-level approach for evaluating vulnerability and risk from climate change to mission critical assets and outline a recommended process for identifying and implementing resilience strategies.

(a) The CHER Tool currently provides exposure indices for up to 14 natural hazards and 8 climate variables for DOT mission critical facilities.

(b) OAs must identify asset criticalities, dependencies, and vulnerabilities of mission critical assets, as designated by the OA.

(c) OAs should use the climate risk scores generated by the CHER Tool (or a future EREP-approved tool) to identify the next steps that the organization plans to take to reduce risk.

(i) In addition to nationally standardized exposure indices provided in the CHER tool, OAs should consider known historic asset disruptions during extreme weather events and projected climate impacts based on local models or data, where available.

(ii) OAs can reference additional tools developed by a government agency such as the Climate Mapping for Resilience and Adaptation (CMRA) tool, which provides information on past, present, and future climate conditions, to explore additional relevant local hazards for each asset. Tools such as the FEMP Technical Resilience Navigator (TRN) offer detailed, engineering-level identification of energy and water resilience gaps.

(iii) OAs may also reference regional climate change risks and impacts defined by the most recent National Climate Assessment.

(iv) OAs should utilize the Federal Flood Risk Management Standard to establish the base floodplain when evaluating current and future flood risk for mission critical assets.

9. IDENTIFY AND PRIORITIZE STRATEGIES TO ADDRESS RISKS. Identifying and prioritizing strategies to address climate risk will help the Department make informed decisions to safeguard, strengthen, and sustain its mission performance in the face of uncertainty.

a. OAs must identify and prioritize adaptation strategies to address the high priority risks identified in Section 8 of this Order within two years of the effective date of this Order. OAs must validate or update this identification and prioritization of strategies every four years thereafter.

b. For each asset with a climate risk score that the OA has deemed actionable using the CHER Tool, OAs must develop a list of adaptation strategies to address the identified risks.

c. OAs should consider infrastructure improvements as well as policy and process-based strategies.

d. OAs must prioritize adaptation strategies to address identified risks. This prioritization process should consider:
   1) Efficacy (the extent to which the strategy addresses the identified risk(s), and the severity of the risk(s) that it addresses, based on climate risk score(s));
   2) Feasibility (the likelihood of successful implementation);
   3) Costs and benefits (the potential upfront and ongoing flows of costs and benefits, weighed against the potential costs and risks of non-action); and
   4) Flexibility (the extent to which the strategy could be changed in the future, if necessary).

e. OAs should prioritize strategies that further multiple Departmental goals over those that address only risks from climate change. Technologies and systems that reduce emissions and fossil fuel consumption as well as increase system resilience and reliability are highly encouraged.

f. OAs may utilize tools such as those found in the FEMP Solution Center Toolbox. For instance, the Technical Resilience Navigator (TRN) offers detailed, engineering-level identification of energy and water resilience gaps and potential solutions to close these gaps.

g. OAs should evaluate the extent to which the OA-level and any site-specific Continuity of Operations Plans (COOP) provide adaptive capacity to climate change. When updating COOPs, OAs should consider how they can address risks identified in climate vulnerability assessments, and specifically risks from projected future climate conditions. DOT OISER incorporates climate risk in the Departmental COOP.

h. When pursuing strategies that meet other sustainability goals, OAs must also meet the requirements of corresponding Policy Orders, namely DOT's Overarching Sustainability, Energy Management, Sustainable Buildings, Water Management, Sustainable Acquisition, Pollution Prevention and Waste Management, and Greenhouse Gas Policies, or any subsequent updates that supersede them.

10. PLAN, BUDGET, AND IMPLEMENT STRATEGIES. Successful implementation of adaptation strategies relies on integration of resilience priorities in all aspects of planning, budgeting, and programming. Ultimately, this safeguards federal investments and ensures the safety, reliability, and sustainability of DOT operations.

    a. Pursuant to the Federal Managers Financial Integrity Act of 1982, and EOs 14057, 14008, and 14030, OAs must integrate the risks identified per Section 8 of this Order and the prioritized strategies identified per Section 9 of this Order into planning, budgeting, operations, policies, and programs. This includes the following requirements:
        1) Pursuant to EO 14030, integrate climate-related financial risk into procurement processes. For example, this may include procuring products that are energy and water efficient and with minimal potential for supply-chain disruptions;
        2) Integrate climate resilient design and management elements into the operation, repair, and renovation of existing OA buildings and design of new buildings;
            (a) Pursuant to EO 14057, ensure that all new federal buildings and major renovations over 25,000 sq ft comply with CEQ's Guiding Principles for Sustainable Federal Buildings, including Principle Six to Assess and Consider Building Resilience. All renovations of existing buildings must comply to the greatest extent technically feasible and practicable.
            (b) Incorporate climate resilience into building management plans including operation and maintenance schedules and best practices.
            (c) Ensure that new buildings and major renovations meet or exceed DOT and federal policies on flood plain risk management, including EO 13690 and the associated Federal Flood Risk Management Standard (reinstated through Executive Order 14030); DOT Policy Order 5620.2A, Floodplain Management and Protection; and other requirements).
        3) Include climate resilience planning as a standard component of asset management and capital improvement planning processes;
        4) Incorporate climate resilience criteria in new and renewed lease arrangements; and,
        5) Pursue procurement strategies that facilitate climate resilience.

    b. Pursuant to EO 14057, OAs must:

1) Develop or revise polices, processes and decision-points to promote climate resilient investment and ensure outcomes that advance adaptation to climate change and ensure protection of public health and the environment;
2) Ensure that programs conduct climate adaptation analysis and planning for climate-informed financial and management decisions and implementation;
3) Reform agency policies and funding programs that are maladaptive to climate change and increase the vulnerability of communities, natural or built systems, economic sectors, and natural resources to climate impacts, or related risks; and,
4) Develop and enhance tools that assess climate change impacts and support climate adaptation planning and implementation.

c. OAs must consider the effects of climate change as part of the evaluation of proposed federal actions in accordance with the National Environmental Policy Act and the CEQ interim guidance, National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change (issued January 9, 2023), or the final CEQ guidance when issued.

d. Pursuant to EO 13653, OAs must identify and address barriers that discourage investments or other actions that would increase resilience while ensuring continued protection of public health and the environment.

e. OAs should ensure requests to fund high-priority projects that reduce risk are included in the budget planning process.

11. REVIEW AND UPDATE CLIMATE ADAPTATION AND RESILIENCE PLANS. Overarching planning documents help the Department chart and track progress related to the goals and requirements of this Order.

a. Within one year of the effective date of this Order or if new mission critical assets (as determined by the OA) are acquired, OAs must report to EREP on the list of mission critical assets identified per Section 8 of this Order.

b. Within two years of the effective date of this Order or if new mission critical assets (as determined by the OA) are acquired, OAs must report to EREP on the following:
   1) Vulnerability assessments conducted per Section 8 of this Order; and,
   2) Prioritized strategies identified per Section 9 of this Order.

c. Annually, OAs must report to EREP on the status of any completed or planned implementation actions, including consideration of Section 10 of this Order.

d. Pursuant to EO 14008 and 14057, the Department must develop and implement a Climate Adaptation and Resilience Plan and provide annual updates to the Director of OMB and the Federal Chief Sustainability Officer including assessment of climate vulnerability assessments, consultation of climate projection data, implementation of risk reduction measures, and evaluation of fiscal risk exposure due to climate change.
   1) OAs must respond to annual data requests from EREP, including but not necessarily limited to the items in a, b, and c above in order to assist in developing the Departmental Climate Adaptation and Resilience Plan.

e. Section 13 of this Order provides a detailed schedule of reporting requirements.

12. PROMOTE CLIMATE LITERACY. Education and engagement are essential to foster a climate-focused workforce and a culture of climate action across all disciplines and functions at DOT.

a. OAs must ensure that staff have sufficient training to carry out the duties described in this Order. EREP can assist OAs with identifying suitable training opportunities.

b. OAs must incorporate information and considerations related to climate resilience into their technical and executive training programs, and where appropriate, incorporate sustainability goals and objectives into performance plans of executives, managers, and staff.

c. Employee roles that may require training include those who:
   1) Conduct vulnerability and risk assessments;
   2) Manage daily operations of buildings and data centers;
   3) Have real property management responsibilities;
   4) Plan capital investments in DOT-owned infrastructure; or
   5) Budget for or procure goods, assets, or services related to resilience strategies.

d. OAs should seek training resources to address high priority topics identified by energy managers and other facility managers.

e. Further information related to training requirements is included in the Department's Overarching Sustainability Policy.

13. SUMMARY OF REPORTING REQUIREMENTS. OAs must use the monitoring and documentation systems listed in the following table to meet the requirements of this Order. These systems are generally web-based and proprietary to the federal government.

Reporting Module	**Purpose**	**Data Attributes to Report**	**Reporting Frequency**
CHER Excel tool	Complete vulnerability and risk assessments for mission critical operational assets	Identify which buildings or property IDs are mission critical assets, rate mission criticality and dependency on system focus areas, and rate vulnerability of each focus area to relevant climate hazards. Enter proposed next steps to address climate and natural hazard risks.	Within one year of Order effective date or when assets are identified as mission critical, with updated assessments for all assets every 4 years.
DOT Climate Adaptation and Resilience Plan (updates to plans issued in October 2021)	Communicate agency action to bolster climate adaptation and resilience and make the Federal Government more climate-ready	Steps to bolster adaptation and increase resilience for agency facilities and operations	Agencies to update plans by September 30, 2023, in accordance with forthcoming CEQ guidance.
DOT Climate Adaptation and Resilience Plan annual progress reports	Communicate agency action to bolster climate adaptation and resilience and make the Federal Government more climate-ready	Status of agency implementation of prior plan submissions and agency action in priority areas.	Annually by June 30
Internal OA Sustainability Scorecard	Report OA progress on implementation of climate adaptation and resilience plans	Summary of relevant activities to support Departmental reports	As needed to support DOT and internal OA reporting requirements
OMB Scorecard for Efficient Federal Operations/ Management (TBD)	Report DOT progress on climate adaptation and resilience	TBD	Annually, by date specified by OMB. Data are derived from federal reporting systems.

14. POLICY UPDATES AND/OR REVISIONS. This Order must be reviewed to determine whether updates or revisions are necessary at least once every three years. In the interim, all applicable laws revised by Congress and all new executive actions or guidance related to sustainable buildings are considered incorporated by reference.

15. POLICY EXCEPTION REQUIREMENTS. OA Administrators may submit a request for an exception to specific requirements of this order to the CSO, through EREP. Approvals for exceptions should be coordinated with DOT's OGC.

16. DISTRIBUTION. This Order is distributed to all OST Offices listed in Section 7 of this Order, the DOT Senior Real Property Officer, OA Administrators, OA Chief Acquisition Officers, and the FAA Acquisition Executive.

17. CONTACT. If you have specific questions related to this Order, please contact EREP (M-90) at DOTsustains@dot.gov.

Philip A. McNamara
Assistant Secretary for Administration,
Chief Sustainability Officer

PHILIP ADAM MCNAMARA

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APPENDIX I: AUTHORITIES AND REFERENCES.

1. Public Laws and Statutes

   a. Federal Managers' Financial Integrity Act of 1982, Pub. L. No. 97-255 (31 U.S.C. § 1105, 31 U.S.C. § 1113, 31 U.S.C. § 3512)
   b. Energy Act of 2020 (Division Z of the Consolidated Appropriations Act of 2021), Pub. L. No. 116-260 (42 U.S.C. § 8253, 42 U.S.C. § 8258(b), 42 U.S.C. § 8259, 42 U.S.C. § 8287)
   c. Energy Independence and Security Act of 2007 (EISA), Pub. L. No. 110-140 (42 U.S.C. § 8253, 42 U.S.C. § 8258(a), 42 U.S.C. § 6834, 42 U.S.C. § 17091, 42 U.S.C. § 17094, 42 U.S.C. § 17112(b), 42 U.S.C. § 17143).
   d. Energy Policy Act of 1992 (EP Act), Pub. L. No. 102-486, as amended by the Energy Policy Act of 2005, Pub. L. No. 109-58 (42 U.S.C. § 8253, 42 U.S.C. § 8254, 42 U.S.C. § 6834, 42 U.S.C. § 6835, 42 U.S.C. § 8262c, 42 U.S.C. § 8262k, 42 U.S.C. § 15852).
   e. National Energy Conservation Policy Act of 1978, Pub. L. No. 95–619, as amended (42 U.S.C. §§ 8251-8287d).
   f. National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321–4347.

2. Regulations

   a. DOE Regulations, 10 CFR §§ 433-436.
   b. FAR at 48 CFR § 23.205, Energy-Savings Performance Contracts (not applicable to the FAA).
   c. Federal Acquisition Regulations (FAR) at 48 CFR § 41, Acquisition of Utility Services (not applicable to the FAA).

3. Executive Actions

   a. EO 14057, Catalyzing America's Clean Energy Industries and Jobs through Federal Sustainability, December 2021.
   b. EO 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, January 2021.
   c. EO 14008, Tackling the Climate Crisis at Home and Abroad, 86 Fed. Reg. 7619, February 2021.
   d. EO 14017, America's Supply Chains, 86 Fed. Reg. 11849, February 2021.
   e. EO 14030, Climate-Related Financial Risk, 86 Fed. Reg. 27967, May 2021.
   f. EO 13990, Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis, 86 Fed. Reg. 7037, January 2021.
   g. EO 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input, 80 Fed. Reg. 6425, January 2015.

h. EO 13653, Preparing the United States for the Impacts of Climate Change, 78 Fed. Reg. 66817, November 2013.
i. EO 11988, Floodplain Management, as amended, 42 Fed. Reg. 26951, May 1977.
j. EO 13834, Efficient Federal Operations, May 2018, Sections 6, 7, and 11.
k. EO 13212, Actions to Expedite Energy-Related Projects, 66 Fed. Reg. 28357, May 2001, as amended.
l. Presidential Policy Directive 8, National Preparedness, March 2011.
m. Presidential Policy Directive 21, Critical Infrastructure Security and Resilience, February 2013.
n. CEQ: Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews, _____.
o. OMB: Circular No. A-123, Management's Responsibility for Enterprise Risk Management and Internal Control (December 2004), as amended (June 2015).
p. OMB: Circular No. A-11, Preparation, Submission, and Execution of the Budget, June 2019.
q. OMB: Memorandum M-98-13, Federal Use of Energy Savings Performance Contracting, July 1998.
r. OMB: Memorandum M-12-21, Addendum to OMB Memorandum M-98-13 on Federal Use of Energy Savings Performance Contracts and Utility Energy Service Contracts, September 2012.
s. OMB/CEQ: Memorandum, Supporting Energy and Sustainability Goal Achievement through Efficiency and Deployment of Clean Energy Technology, OMB, August 2011.

4. Guidance, Directives, and Online Resources

a. CEQ: Guiding Principles for Sustainable Federal Buildings, December 2020.
b. Center for Climate Resilience and Decision Science (CCRDS): Climate Risk & Resilience Portal (ClimRR), November 2022.
c. FEMA: Federal Flood Risk Management Standard, February 2015.
d. Department of Homeland Security (DHS): National Infrastructure Protection Plan, December 2013.
e. DOT: DOT Order 5620.2A, Floodplain Management and Protection (TBD).
f. DOT: DOT Order 1101.8A, Department of Transportation Organizational Manual, Office of Intelligence, Security, and Emergency Response (OISER) January 2021.
g. DOT: Coupled Model Intercomparison Project (CMIP) Climate Data Processing Tool for downscaled climate projections.
h. DOT: CHER tool and guidance
i. DOE FEMP: Federal Buildings and Campuses Handbooks for Net Zero Energy, Water, and Waste, August 2017.

j. DOE FEMP: Energy and Project Procurement Development Services
k. DOE FEMP: Resources for Implementing Federal ESPCs
l. DOE FEMP: UESCs for Federal Agencies
m. FEMA: Guidelines for Implementing Executive Order 11988, Floodplain Management and Executive Order 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input, October 8, 2015.
n. GSA: Office of Federal High-Performance Buildings
o. GSA: Procuring Energy Management Services with the GSA Areawide Contract, August 2015.
p. National Oceanic and Atmospheric Administration (NOAA): Climate Resilience Toolkit, July 2016.
q. NOAA: Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model for estimating storm surge heights.
r. NOAA: Sea Level Rise Viewer.
s. U.S. Geologic Survey (USGS): Climate Projections Portal.
t. U.S. Global Change Research Program (USGCRP): National Climate Assessment, November 2018 (or most recent version available).
u. USGCRP: Climate Mapping for Resilience and Adaptation (CMRA)

APPENDIX II. KEY TERMS.

1. ***Adaptation:*** The process of adjusting to new (climate) conditions in order to reduce risks to valued assets. Relocating buildings out of flood plains or further inland from rising seas are examples of physical adaptations. Using smaller amounts of water during times of drought is an example of behavioral adaptation.

2. ***Assets:*** Facilities, buildings, equipment, employees, vehicles, and communication systems.

3. ***Building*****:** Any building, structure, or facility, or part thereof, including the associated energy consuming support systems, which is constructed, renovated, leased, or purchased in whole or in part for use by the federal government and consumes energy; also, a collection of such buildings, structures, or facilities and the energy consuming support systems for such collection. Building is used interchangeably with facility throughout this Order, based on the original statutory or guidance language.

4. ***Climate:*** The generally prevailing weather conditions (or average weather conditions) of a region, throughout the year, averaged over a series of years.

5. ***Climate Change:*** Changes in average weather conditions that persist over multiple decades or longer. Climate change encompasses both increases and decreases in temperature, as well as shifts in precipitation, changing risk of certain types of severe weather events, and changes to other features of the climate system. In this Order, the term climate change also encompasses related natural hazards, which include any perilous condition resulting from either sudden or gradual events in the natural world. These can be hydrological (e.g., avalanches and floods), climatological (e.g., extreme temperatures, drought, heavy precipitation, hurricanes, tornadoes, windstorms, and wildfires), or meteorological (e.g., cyclones and storms/wave surges).

6. ***Climate Adaptation*****:** Shorthand for "climate change adaptation." See related definitions for "climate change" and "adaptation."

7. ***Climate Resilience*****:** Shorthand for "climate change resilience." See related definitions for "climate change" and "resilience."

8. ***Comprehensive Energy and Water Evaluation*****:** An inspection, survey, and analysis of energy and water consumption in a building, process, or system to identify conservation opportunities as required by 42 U.S.C. § 8253(f)(3)(A).

9. ***Downscaled:*** Large-scale climate model outputs that have been extrapolated to predict the effects on a smaller, local level based on regional variability.

10. ***Emissions*****:** Gases and particles sent into the air or emitted by various sources.

11. ***Energy Conservation Measure (ECM)*****:** Energy and water efficiency and conservation measures identified during the comprehensive evaluation conducted pursuant to 42 U.S.C. § 8253(f)(3)(A) or otherwise. For the purpose of this Order, the acronym "ECM" will always represent both water and energy efficiency measures.

12. ***Energy Savings Performance Contract (ESPC)*****:** A contract that provides for the performance of services for the design, acquisition, installation, testing, operation, and, where appropriate, maintenance and repair of an identified ECM or series of measures at one or more locations. The contract must meet the requirements in 42 U.S.C. § 8287, et seq.

13. ***Executive Action*****:** Includes EOs, presidential memoranda, implementing instructions, and other documents issued by the Executive Office of the President.

14. ***Extreme weather:*** A weather event that is rare at a particular place and time of year, including, for example, heat waves, cold waves, heavy rains, periods of drought and flooding, and severe storms.

15. ***Facility*****:** Any building, installation, structure, or other property (including any applicable fixtures) owned or operated by, or constructed or manufactured and leased to, the federal government. "Facility" is used interchangeably with "building" throughout this Order, based on the original statutory or guidance language.

16. ***Greenhouse Gas*****:** Gases including carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride, and sulfur hexafluoride.

17. ***Major Renovation*****:** A project in an existing building that is essentially a comprehensive replacement or restoration of virtually all major systems, interior work (such as ceilings, partitions, doors, floor finishes, etc.), and building elements and features.

18. ***Mission critical assets:*** DOT assets that are essential to the Department's operations and/or impact national security and safety. Loss or damage to these assets would have a debilitating impact on DOT's ability to fulfill its mission. In addition to buildings and other real and personal property, assets may include related activities and operations that cannot be deferred during a disruption. If it results in delivery of a service to the public or another agency it is likely mission critical.

19. ***Performance Contract*:** A contract that identifies expected deliverables, performance measures, or outcomes, and makes payments contingent on their successful achievement. Performance contracts also use techniques, such as consequences or incentives, to ensure that the agency receives the agreed-upon value. Any qualified contractor, including utilities, can conduct performance contracts, which include ESPCs and UESCs.

20. ***Preparedness:*** Actions taken to build, apply, and sustain the capabilities necessary to prevent, protect against, and ameliorate negative effects.

21. ***Renewable Energy*:** Energy generated from solar, wind, biomass, landfill gas, ocean (including tidal, wave, current, and thermal), geothermal, municipal solid waste, or new hydroelectric generation capacity (as defined by 10 U.S.C. § 2924) achieved from increased efficiency or additions of new capacity at an existing hydroelectric project. See also "carbon pollution-free electricity."

22. ***Resilience***: The capacity of communities, natural or built systems, economic sectors, and natural resources to prevent, withstand, respond to, and recover from a disruption.

23. ***Resilient design:*** To design infrastructure to prepare for, withstand, respond to, or quickly recover from disruptions due to climate change and related natural hazards for the intended life of the asset.

24. ***Risk:*** The potential for negative consequences where something of value is at stake. In the context of the assessment of climate impacts, the term risk is often used to refer to the potential for adverse consequences of a climate-related hazard. Risk can be assessed by multiplying the probability of a hazard by the magnitude of the negative consequence or loss.

25. ***Sustainable Federal Building*:** Equivalent to a high-performance green building (42 U.S.C. § 17061(13)), which, when compared to similar buildings, reduces energy, water, and material use; improves occupant health and productivity; minimizes air and water pollution and waste generation; acquires sustainable products and services; increases reuse and recycling activities; and is located near multiple transportation modes.

26. ***Vulnerability*:** The propensity or predisposition of assets to be adversely affected by hazards. Vulnerability encompasses exposure, sensitivity, potential impacts, and adaptive capacity.

27. ***Weather***: The state of the atmosphere with respect to wind, temperature, cloudiness, moisture, pressure, at a given point in time (e.g., today's high temperature). In contrast, climate refers to the "average" weather conditions for an area over a long period of time (e.g., the average high temperature for today's date).