Highlights of the 2023 Executive Order on Artificial Intelligence for Congress

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On October 30, 2023, the Biden Administration released Executive Order (E.O.) 14110 on *Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence*. It establishes a government-wide effort to guide responsible artificial intelligence (AI) development and deployment through federal agency leadership, regulation of industry, and engagement with international partners.

The E.O. directs over 50 federal entities to engage in more than 100 specific actions to implement the guidance set forth across eight overarching policy areas.

- *Safety and security.* The E.O. promotes the development and implementation of repeatable processes and mechanisms to understand and mitigate risks related to AI adoption, including with respect to biosecurity, cybersecurity, national security, and critical infrastructure.

- *Innovation and competition*. The E.O. compels actions to attract AI talent to the United States, understand novel intellectual property (IP) questions, protect inventors and creators, and promote AI innovation, including at startups and small businesses.

- *Worker support*. The E.O. states that AI adoption may be disruptive to the workforce and directs agencies to research and develop potential mitigations against such disruptions.

- *Consideration of AI bias and civil rights*. The E.O. states that AI models may perpetuate biases and their implementation may lead to civil rights violations. The E.O. includes a section on equity and civil rights considerations for use of AI in the criminal justice system and the administration of federal government programs and benefits.

- *Consumer protection.* The E.O. instructs agencies to enforce existing, technology-agnostic authorities in an effort to minimize harms to consumers, and to identify needed authorities related to AI.

- *Privacy*. The E.O. calls for the evaluation and mitigation of privacy risks—potentially exacerbated by AI—associated with the collection, use, and retention of user data.

- *Federal use of AI*. The E.O. requires the Office of Management and Budget (OMB) to establish an interagency council to coordinate AI use by federal agencies and develop guidance on AI governance and risk management activities for agencies. It acknowledges the ubiquity of generative AI (GenAI) tools, and directs agencies to move toward adoption with safeguards in place. The E.O. also calls for additional agency hiring and training activities to increase the AI workforce capacity across the federal government.

- *International leadership*. The E.O. declares that the United States should be a global leader in AI development and adoption by engaging with international allies and partners, leading efforts to develop common AI regulatory and accountability principles, and advancing responsible global technical standards for AI.

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Introduction and Overview

On October 30, 2023, the Biden Administration released Executive Order (E.O.) 14110 on *Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence*.[1] It establishes a government-wide effort to guide responsible artificial intelligence (AI) development and deployment through federal agency leadership, regulation of industry, and engagement with international partners. The E.O. states its purpose as follows.

> Artificial Intelligence (AI) holds extraordinary potential for both promise and peril. Responsible AI use has the potential to help solve urgent challenges while making our world more prosperous, productive, innovative, and secure. At the same time, irresponsible use could exacerbate societal harms such as fraud, discrimination, bias, and disinformation; displace and disempower workers; stifle competition; and pose risks to national security. Harnessing AI for good and realizing its myriad benefits requires mitigating its substantial risks. This endeavor demands a society-wide effort that includes government, the private sector, academia, and civil society.

E.O. 14110 builds on prior work to support the development of responsible AI technologies and policies, including the Office of Science and Technology Policy's (OSTP) *Blueprint for an AI Bill of Rights* and the National Institute of Standards and Technology's (NIST) *AI Risk Management Framework* (AI RMF).[2]

This CRS report provides a summary of requirements for agency action in the E.O. and timelines for their deliverables. It is organized in tables that correspond to each policy area listed in the E.O.

The E.O. describes eight overarching policy areas:

1. Safety and security;
2. Innovation and competition;
3. Worker support;
4. Consideration of AI bias and civil rights;
5. Consumer protection;
6. Privacy;
7. Federal use of AI; and
8. International leadership.

These areas and the actions listed within are further described in the section "Requirements and Deliverables," below.

To help federal departments and agencies implement the E.O., and consistent with the Artificial Intelligence in Government Act (P.L. 116-260) and the Advancing American AI Act (P.L. 117-263), OMB released a memorandum on *Advancing Governance, Innovation, and Risk*

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[1] Executive Office of the President, "Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence," 88 *Federal Register* 75191, November 1, 2023, at https://www.federalregister.gov/documents/2023/11/01/2023-24283/ safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence.

[2] White House, *Blueprint for an AI Bill of Rights: Making Automated Systems Work for the American People*, October 2022, at https://www.whitehouse.gov/wp-content/uploads/2022/10/Blueprint-for-an-AI-Bill-of-Rights.pdf; and National Institute of Standards and Technology, *Artificial Intelligence Risk Management Framework* (NIST AI 100-1), January 2023, at https://nvlpubs.nist.gov/nistpubs/ai/NIST.AI.100-1.pdf.

Management for Agency Use of Artificial Intelligence.[3] The stated purpose of the memorandum is to "direct[s] agencies to advance AI governance and innovation while managing risks from the use of AI, particularly those affecting the safety and rights of the public."[4]

To coordinate the timely implementation of federal AI policies, including those set forth in the E.O., it establishes the White House Artificial Intelligence Council. The Assistant to the President and Deputy Chief of Staff for Policy serves as the council's chair. The council is composed of the heads of the following departments and agencies, or their designees:

1. Department of State;
2. Department of the Treasury;
3. Department of Defense;
4. Department of Justice;
5. Department of Agriculture;
6. Department of Commerce;
7. Department of Labor;
8. Department of Health and Human Services;
9. Department of Housing and Urban Development;
10. Department of Transportation;
11. Department of Energy;
12. Department of Education;
13. Department of Veterans Affairs;
14. Department of Homeland Security;
15. Small Business Administration;
16. United States Agency for International Development;
17. Office of the Director of National Intelligence;
18. National Science Foundation;
19. Office of Management and Budget;
20. Office of Science and Technology Policy; as well as the
21. National Security Advisor;
22. Director of the Council of Economic Advisors;
23. Domestic Policy Advisor;
24. Chief of Staff to the Vice President;
25. Director of the Gender Policy Council;
26. Chairman of the Council of Economic Advisors;
27. National Cyber Director; and

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[3] Office of Management and Budget, "Advancing Governance, Innovation, and Risk Management for Agency Use of Artificial Intelligence," M-24-10, March 28, 2024, https://www.whitehouse.gov/wp-content/uploads/2024/03/M-24-10-Advancing-Governance-Innovation-and-Risk-Management-for-Agency-Use-of-Artificial-Intelligence.pdf; The Artificial Intelligence in Government Act, P.L. 116-260, Division U, Title I; and The Advancing American AI Act, P.L. 117-263, Title LXXII, Subtitle B.

[4] Office of Management and Budget, "Advancing Governance, Innovation, and Risk Management for Agency Use of Artificial Intelligence," M-24-10, March 28, 2024, https://www.whitehouse.gov/wp-content/uploads/2024/03/M-24-10-Advancing-Governance-Innovation-and-Risk-Management-for-Agency-Use-of-Artificial-Intelligence.pdf.

28. Chairman of the Joint Chiefs of Staff.

Other agencies and executive offices may be added to the council at the discretion of the chair.

Requirements and Deliverables

E.O. 14110 directs over 50 federal entities to engage in more than 100 specific actions to implement the guidance set forth in the E.O. CRS has outlined the requirements of the E.O. (as well as any deliverables) in the tables below, organized by policy area. The tables only list requirements with explicit deliverables and due dates, as well as the responsible agency or agencies for those deliverables. The E.O. encourages independent federal regulators to engage in given tasks, but does not prescribe accompanying deadlines for those tasks. Those tasks are described below each table. Abbreviations used in the tables can be found in the **Appendix**.

Safety and Security

The E.O. promotes the development and implementation of repeatable processes and mechanisms to understand and mitigate risks related to AI adoption, especially with respect to biosecurity, cybersecurity, national security, and critical infrastructure risk. Actions related to this policy area are prescribed in Section 4 of the E.O. There are 27 requirements involving over 30 federal entities in this section. **Table 1** lists these requirements.

Table 1. Requirements and Deliverables in Section 4 on Safety and Security

Ascending by Section Citation

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Develop guidelines and best practices—with the aim of promoting consensus industry standards—and testing environments, for developing and deploying safe, secure, and trustworthy AI safety and security.	NIST (DOE, DHS, DOC, NSF)	July 26, 2024 (270 days)	4.1(a)	Includes development of companion resources to the *AI Risk Management Framework* (for GenAI) and *Secure Software Development Framework* (for GenAI and dual-use foundational models), and launching an initiative to create guidance and benchmarks for AI audits.
Develop and implement a plan to develop AI model evaluation tools and testbeds, in order to understand and mitigate AI security risks.	DOE (SRMAs)	July 26, 2024 (270 days)	4.1(b)	Efforts shall use existing solutions where possible and, at a minimum, include development of tools to evaluate security threats and hazards.
Require (1) companies developing, or intending to develop, dual-use AI models to report to the government on model training, testing, and data ownership; and (2) entities that acquire, develop, or possess potential large computing infrastructure to report to the government on the location and amount of computing power.	DOC	January 28, 2024 (90 days)	4.2(a)	This requirement uses Defense Production Act (DPA, 50 U.S.C. §§4501-4568) authorities to require responses.

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Define the set of technical conditions used to determine which models and computing infrastructure are subject to the reporting in 4.2(a).	DOC (DOS, DOD, DOE, DNI)	January 28, 2024 (90 days)	4.2(b)	The minimum computational threshold that would trigger a reporting requirement for companies currently exceeds most models in use.[a]
Propose regulations for Cloud Service Providers (CSPs) to report when foreign persons use U.S. infrastructure to train AI systems.	DOC	January 28, 2024 (90 days)	4.2(c)	This requirement follows E.O. 13984, which proposed a know-your-customer regime for CSPs.
Extend regulation from Section 4.2(c) to foreign resellers of CSP products used for AI.	DOC	April 27, 2024 (180 days)	4.2(d)	Also prescribes minimum reporting information.
Evaluate and assess potential risks related to critical infrastructure adoption and use of AI and consider ways to mitigate vulnerabilities.	SRMAs (CISA)	January 28, 2024 (90 days) and annually thereafter	4.3(a)(i)	The report shall be made to DHS.
Issue best practices for financial institutions to manage AI-specific cybersecurity risks.	Treasury	March 28, 2024 (150 days)	4.3(a)(ii)	The report shall be public.
Incorporate the *AI Risk Management Framework*, and other appropriate security guidance, into safety and security guidelines used by CI owners and operators.	DHS (DOC, SRMAs, IRAs)	April 27, 2024 (180 days)	4.3(a)(iii)	
Take steps to mandate adoption of the guidelines from Section 4.3(a)(iii).	APNSA & OMB (DHS)	December 23, 2024 (240 days from guidelines)	4.3(a)(iv)	IRAs shall consider adopting regulatory action.
Establish an Artificial Intelligence Safety and Security Board.	DHS	No date assigned	4.3(a)(v)	In accordance with 6 U.S.C. §451 on advisory committees.
Plan for and conduct a pilot to use AI models to discover and remediate vulnerabilities in federal IT systems.	DOD & DHS	April 27, 2024 (180 days)	4.3(b)(ii)	DOD shall carry out a pilot for national security systems; DHS shall carry out a pilot for non-national security systems.
Report (from each agency) on results of the pilot projects (Section 4.3(b)(ii)), vulnerabilities AI systems discovered, and how those vulnerabilities were mitigated.	DOD & DHS	July 26, 2024 (270 days)	4.3(b)(iii)	The reports are to the APNSA.
Evaluate potential for AI to be used to develop, produce, or counter chemical, biological, radiological, and nuclear (CBRN) threats.	DHS (DOE, OSTP)	April 27, 2024 (180 days)	4.4(a)(i)	Report shall be made to the President, including recommendations for regulating or overseeing such AI models.

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Study and report on the use of AI in biology and the potential to increase biosecurity and national security risks, and make recommendations to mitigate such risks.	DOD (APNSA, OSTP)	February 27, 2024 (120 days)	4.4(a)(ii)	DOD shall contract with the National Academies of Sciences, Engineering, and Medicine for the study.
Develop a framework for providers of synthetic nucleic acids (companies that manipulate certain biologic genetic material) to encourage such providers to implement procurement screening mechanisms, including standards and incentives.	OSTP (DOS, DOD, DOJ, DOC, HHS, DOE, DHS, DNI)	April 27, 2024 (180 days)	4.4(b)(i)	The stated goal is to reduce the misuse of synthetic genetic material, which might be substantially increased by AI's capabilities, and improve biosecurity measures for the industry.
Develop procurement screening specifications and guides, and best practices for sequence-of-concern database management and conformity-assessment, for use by nucleic acid sequence providers.	NIST & OSTP (DOS, HHS)	April 27, 2024 (180 days)	4.4(b)(ii)	
Establish requirements that life science researchers receiving federal funding must procure synthetic nucleic acids from manufacturers adhering to the framework in Section 4.4(b)(i).	All agencies that fund life sciences research	October 24, 2024 (180 days from the framework in 4.4(b)(i))	4.4(b)(iii)	The APNSA and OSTP shall review funding requirements for consistency.
Develop a framework to conduct structured evaluation and stress testing of the nucleic acid procurement screening systems.	DHS	October 24, 2024 (180 days from the framework in 4.4(b)(i))	4.4(b)(iv)	Submit an annual report, including recommendations, to the APNSA, OPPRP, and OSTP.
Identify existing and potential standards, tools, and methods for authenticating, tracking provenance of, labeling, and detecting AI-generated content.	DOC	June 26, 2024 (240 days)	4.5(a)	Report to APNSA and OMB. The report shall also consider (1) preventing GenAI from producing child sexual abuse material, (2) testing software which can be used as a tool, and (3) auditing synthetic content.
Develop guidance for adopting the tools and practices for digital content authentication and synthetic content detection measures identified in the report in 4.5(a).	DOC (OMB)	December 23, 2024 (180 days from report)	4.5(b)	Shall be updated periodically after development.
Issue guidance to agencies for labeling and authenticating digital and synthetic content the federal government uses.	OMB (DOS, DOD, DOJ, NIST, DHS, DNI)	June 21, 2025 (180 days from guidance in section 4.5(b))	4.5(c)	

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Consider amending the Federal Acquisition Regulation to account for guidance established under section 4.5.	FARC	No date assigned	4.5(d)	
Solicit expert input and report on the risks, benefits, and policy and regulatory mechanisms on dual-use foundation AI models with widely available model weights.	NTIA (DOS)	July 26, 2024 (270 days)	4.6	Report is to be submitted to the President.
Develop guidelines for performing security reviews before releasing federal information that could be used to develop CBRN weapons or offensive cyber capabilities.	CDOC (DOD, DOC, DOE, DHS, DNI)	July 26, 2024 (270 days)	4.7(a)	
Conduct security reviews using guidelines from Section 4.7(a) and take steps to address the highest-priority potential security risks.	Agencies	January 22, 2025 (180 days from guidelines)	4.7(b)	
Develop an accompanying National Security Memorandum on AI.	APNSA & DCOSP	July 26, 2024 (270 days)	4.8	Memorandum shall use an interagency development process.

Source: CRS analysis of Executive Order 14110. Executive Office of the President, "Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence," 88 *Federal Register* 75191, November 1, 2023, at https://www.federalregister.gov/documents/2023/11/01/2023-24283/safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence.

Notes: For a list of acronyms, please see the **Appendix**.

a. For example, researchers have estimated that the computational power minimum threshold in the E.O. (10^26 floating-point operations [FLOPs]) is "more than any model trained to date" and that OpenAI's GPT-4 model was just under this threshold. See Markus Anderljung et al., "Frontier AI Regulation: Managing Emerging Risks to Public Safety," *arXiv* (non-peer reviewed), July 6, 2023, at https://arxiv.org/abs/2307.03718; and Rishi Bommasani et al., "Decoding the White House AI Executive Order's Achievements," Stanford University Institute for Human-Centered AI, November 2, 2023, at https://hai.stanford.edu/news/decoding-white-house-ai-executive-orders-achievements.

Additionally, Section 4.3 encourages independent regulatory agencies to consider rulemaking to help critical infrastructure owners and operators safely adopt AI technologies and mitigate risks.

Innovation and Competition

The E.O. compels actions to attract AI talent to the United States, understand novel intellectual property (IP) questions to protect inventors and creators, and promote AI innovation, including at startups and small businesses. Actions related to this policy area are prescribed in Section 5 of the E.O. There are 21 requirements involving 10 federal entities in this section. **Table 2** lists these requirements.

Table 2. Requirements and Deliverables in Section 5 on Innovation and Competition

Ascending by Section Citation

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Streamline processes for visas for foreigners seeking to come to the United States for AI education or work.	DOS & DHS	January 28, 2024 (90 days)	5.1(a)	Also applies to other critical and emerging technologies, as identified in the White House Critical and Emerging Technologies List.[a]
Consider (1) rulemaking to establish new criteria for designating countries and critical skills for visas, and (2) implementing a visa renewal program to help highly skilled AI talent continue to work in the United States.	DOS	February 27, 2024 (120 days)	5.1(b)	
Consider rulemaking to expand nonimmigrant eligibility for the domestic visa renewal program, and establish a program to identify and attract top AI talent from overseas.	DOS	April 27, 2024 (180 days)	5.1(c)	
Review and initiate policy changes related to immigration pathways for AI experts, and consider rulemaking to enhance visa modernization processes and permanent resident pathways.	DHS	April 27, 2024 (180 days)	5.1(d)	
Solicit public input to identify AI and STEM-related occupations for which there is an inadequate number of U.S. workers, so to update the "Schedule A" list.	DOL	December 14, 2023 (45 days)	5.1(e)	Refers to Schedule A of 20 C.F.R. §656.5.
Develop and publish resources to help attract and retain AI experts from other countries, and help them understand their options for working in the United States.	DHS (DOS, DOC, OSTP)	February 27, 2024 (120 days)	5.1(g)	Also includes a requirement to publish a public report with data on how AI experts have utilized the immigration system through the end of FY2023.
Launch a pilot program implementing the National AI Research Resource (NAIRR), consistent with previous recommendations.[b]	NSF	January 28, 2024 (90 days)	5.2(a)(i)	By December 14 (45 days) agencies are to identify resources that could be integrated into this pilot.
Fund and launch at least one NSF Regional Innovation Engine that prioritizes AI-related work.	NSF	March 28, 2024 (150 days)	5.2(a)(ii)	
Establish at least four new National AI Research Institutes.	NSF	April 22, 2025 (540 days)	5.2(a)(iii)	25 are currently funded; NSF funds 20 of those, and USDA NIFA funds 5.[c]

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Establish a pilot program to enhance existing training programs for scientists.	DOE & NSF	February 27, 2024 (120 days)	5.2(b)	The E.O.'s goal is to reach 500 new AI researchers by 2025.
Publish guidance to USPTO patent examiners and applicants on use of AI in the inventive process.	USPTO	February 27, 2024 (120 days)	5.2(c)(i)	
Issue additional guidance to USPTO patent examiners and applicants to address other considerations at the intersection of AI and IP.	USPTO	July 26, 2024 (270 days)	5.2(c)(ii)	Could include updated guidance on patent eligibility to address innovation in AI and critical and emerging technologies.
Recommend further executive actions on copyright and AI.	USPTO	July 26, 2024 (270 days)	5.2(c)(iii)	Could also be 180 days after the U.S. Copyright Office publishes a study on AI in copyright issues pursuant to 37 C.F.R. Part 202.
Develop a training, analysis, and evaluation program to mitigate AI-related IP risks.	DHS (DOJ)	April 27, 2024 (180 days)	5.2(d)	This includes devoting personnel, developing guidance for the private sector, and sharing information.
Identify and prioritize funding awards—and undertake related efforts—to support responsible AI development.	HHS	No date assigned	5.2(e)	Includes collaborating with the private sector to support personalized medicine, prioritizing awards to improve health care data quality, and accelerating AIM-AHEAD program awards.
Host two three-month long AI Tech Sprint competitions.	VA	October 29, 2024 (365 days)	5.2(f)	VA is also to provide access to technical assistance, mentorship opportunities, expert feedback, and potential contract opportunities to competitors.
Issue a public report describing how AI could improve electric grid infrastructure.	DOE (FERC, OSTP, CEQ, APNCA)	April 27, 2024 (180 days)	5.2(g)(i)	The overarching goals of the requirements under Section 5.2(g) are to strengthen U.S. resilience against climate change impacts.
Develop tools to help build foundational AI models for basic and applied science, including for environmental reviews and permitting, and to mitigate climate change risks.	DOE (FERC, OSTP, CEQ, APNCA)	April 27, 2024 (180 days)	5.2(g)(ii) 5.2(g)(iii)	AI models should also improve environmental and social outcomes, and agencies should collaborate with private sector organizations and academic researchers when developing tools to mitigate risks.

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Partner with nongovernmental entities and international allies and partners to model climate risks and projects using DOE's computing capabilities and AI testbeds.	DOE (FERC, OSTP, CEQ, APNCA)	April 27, 2024 (180 days)	5.2(g)(iv)	To include partnerships that increase community preparedness, enable clean-energy deployment, and enhance grid reliability and resilience.
Establish an office in DOE to coordinate AI programs across the national laboratories.	DOE (FERC, OSTP, CEQ, APNCA)	April 27, 2024 (180 days)	5.2(g)(v)	
Report on the potential of AI for scientific research.	PCAST	April 27, 2024 (180 days)	5.2(h)	Report shall be submitted to the President and made publicly available.

Source: CRS analysis of Executive Order 14110. Executive Office of the President, "Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence," 88 *Federal Register* 75191, November 1, 2023, at https://www.federalregister.gov/documents/2023/11/01/2023-24283/safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence.

Notes: For a list of acronyms, please see the **Appendix**.

a. Executive Office of the President, "Critical and Emerging Technologies List Update," report, February 2022, at https://www.whitehouse.gov/wp-content/uploads/2022/02/02-2022-Critical-and-Emerging-Technologies-List-Update.pdf.

b. NSF and OSTP are jointly chairing a NAIRR Pilot Interagency Working Group, which is developing an implementation plan for the NAIRR; see NASA, "Participation in National AI Research Resource (NAIRR) Pilot Interagency Working Group," June 26, 2023, at https://science.msfc.nasa.gov/2023/06/26/participation-in-national-ai-research-resource-nairr-pilot-interagency-working-group/. Per the NSF FY2024 Budget Request to Congress, "NSF will work with agencies and the broader community on the NAIRR Pilot Option outlined in the report to provide pilot-scale access to existing computational resources, software, datasets, services, and user portals across the current national cyberinfrastructure ecosystem"; see NSF FY2024 Budget Request to Congress, March 13, 2023, p. Emerging Industries–19.

c. James Donlon, "National Artificial Intelligence (AI) Research Institutes," Program Webinar, September 5, 2023, at https://nsf.gov/attachments/308263/public/National_AI_Research_Institutes_Webinar2023_508verified.pptx.

Section 5.2 (a)(i) encourages independent regulatory agencies to consider complementary actions to AI research resource pilots for their regulated industries. Additionally, Section 5.3(a) encourages the Federal Trade Commission (FTC) to consider rulemaking to ensure fair competition for consumers in the AI marketplace. Section 5.3(b) provides guidance to the Department of Commerce in implementing the Creating Helpful Incentives to Produce Semiconductors (CHIPS) Act of 2022 (P.L. 117-167). Sections 5.3(c) and (d) provide guidance to the Small Business Administration (SBA) on supporting small businesses' use of AI. These directions do not carry accompanying deliverables or specific due dates.

Worker Support

The E.O. recognizes that AI adoption may be disruptive to the workforce and directs agencies to research and develop potential mitigations against such disruptions. Actions related to this policy area are prescribed in Section 6 of the E.O. There are four requirements involving two federal entities. **Table 3** lists these requirements.

Table 3. Requirements and Deliverables in Section 6 on Worker Support

Ascending by Section Citation

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Report on the effects of AI on the labor market.	CEA	April 27, 2024 (180 days)	6(a)(i)	The report is to the President.
Report on the ability agencies have to assist workers displaced by AI adoption.	DOL	April 27, 2024 (180 days)	6(a)(ii)	The report is to the President.
Publish principles and best practices employers could adopt to minimize harms to employees.	DOL	April 27, 2024 (180 days)	6(b)(i) 6(b)(ii)	DOL shall also encourage adoption of these practices.
Issue guidance on complying with legal requirements for employers that deploy AI to monitor or augment employees' work.	DOL	April 27, 2024 (180 days)	6(b)(iii)	Including complying with protections ensuring worker compensation for time worked under 29 U.S.C. §201 et seq.

Source: CRS analysis of Executive Order 14110. Executive Office of the President, "Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence," 88 *Federal Register* 75191, November 1, 2023, at https://www.federalregister.gov/documents/2023/11/01/2023-24283/safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence.

Note: For a list of acronyms, please see the **Appendix**.

Section 6(c) also directs NSF to prioritize available resources to support AI-related education and AI-related workforce development through existing programs, and to consult with other federal agencies to further allocate resources for such purposes.

Consideration of AI Bias and Civil Rights

The E.O. recognizes that AI models may perpetuate biases and that their implementation may lead to civil rights violations. This section includes a focus on equity and civil rights considerations with use of AI in the criminal justice system and the administration of federal government programs and benefits. Actions related to this policy area are prescribed in Section 7 of the E.O. There are nine requirements involving eight federal entities. **Table 4** lists these requirements. Numerous requirements in this section of E.O. 14110 reference requirements and deliverables from E.O. 14074, "Advancing Effective, Accountable Policing and Criminal Justice Practices to Enhance Public Trust and Public Safety."[5]

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[5] Executive Office of the President, "Advancing Effective, Accountable Policing and Criminal Justice Practices to Enhance Public Trust and Public Safety," 87 *Federal Register* 32945-32963, May 31, 2022.

Table 4. Requirements and Deliverables in Section 7 on AI Biases and Civil Rights

Ascending by Section Citation

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Convene agencies and regulators to discuss how they can use their authorities to prevent algorithmic and AI-related discrimination.	DOJ	January 28, 2024 (90 days)	7.1(a)(ii)	They shall also consider improving external stakeholder engagement and developing additional training, guidance, and resources.
Report on the use of AI in the criminal justice system.	DOJ (DHS, OSTP)	October 29, 2023 (365 days)	7.1(b)	The report is to the President. The report is to address uses by police, prosecutors, and courts; and recommend best practices for safeguards and use limits for AI.
Identify and publish best practices to recruit law enforcement (LE) professionals with AI expertise and train LE professionals about responsible application of AI.	OPM	April 27, 2024 (180 days)	7.1(c)(i)	OPM is the chair of the Interagency Working Group on Policies, Best Practices for Federal Law Enforcement Agencies. This working group is responsible for this deliverable.
Review practices identified in 7.1(c)(i) and, if necessary, develop recommendations for state and local law enforcement agencies.	DOJ (DHS)	July 26, 2024 (270 days)	7.1(c)(ii)	Extends to tribal law enforcement agencies.
Assess departmental capacity to investigate cases related to AI involving the deprivation of rights by governmental agencies acting under actual or perceived authorities.	DOJ	October 29, 2024 (365 days)	7.1(c)(iii)	Pursuant to 18 U.S.C. §242.
Publish a plan addressing states' and localities' use of automated or algorithmic systems in distributing public benefits and services funded by the department.	HHS	April 27, 2024 (180 days)	7.2(b)(i)	The plan should promote equitable administration of benefits, including assessments, disclosure, and monitoring of systems and processes to appeal denials.
Issue guidance to state, local, tribal, and territorial public benefits administrators on the use of automated or algorithmic systems in distributing benefits.	USDA	April 27, 2024 (180 days)	7.2(b)(ii)	The guidance should also address the use of automated or algorithmic systems in providing customer support for benefits programs funded by USDA.
Publish guidance for federal contractors on preventing bias in AI systems used in hiring.	DOL	October 29, 2024 (365 days)	7.3(a)	
Issue guidance on AI use in housing decisions.	HUD	April 27, 2024 (180 days)	7.3(c)	

Note: For a list of acronyms, please see the **Appendix**.

Section 7.1(a)(ii) encourages independent regulatory agencies to consider participating in DOJ's civil rights efforts. Additionally, Section 7.3(b) encourages the Federal Housing Finance Agency (FHFA) and the Consumer Financial Protection Bureau (CFPB) to consider using their authorities to govern industry use of AI in underwriting, valuation, and appraisal processes in housing markets.

Consumer Protection

The E.O. instructs agencies to enforce existing technology-agnostic authorities in an effort to minimize harms to consumers, and to identify needed authorities related to AI. Actions related to this policy area are prescribed in Section 8 of the E.O. There are nine requirements in this section involving five federal entities. **Table 5** lists these requirements.

Table 5. Requirements and Deliverables in Section 8 on Consumer Protection

Ascending by Section Citation

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Establish an HHS AI Task Force.	HHS (DOD, VA)	January 28, 2024 (90 days)	8(b)(i)	Within a year of its creation, the task force shall issue a plan for federal actions regarding the responsible adoption of AI in the health and human services sector.
Develop a strategy to assess AI quality, including the development of an AI assurance policy and infrastructure needs.	HHS	April 27, 2024 (180 days)	8(b)(ii)	
Consider actions to advance industry understanding of, and compliance with, federal nondiscrimination laws as they relate to AI for health and human service providers receiving federal funding.	HHS	April 27, 2024 (180 days)	8(b)(iii)	Actions may include providing technical assistance about obligations under discrimination and privacy laws as related to AI use and potential consequences of noncompliance, and issuing guidance in response to complaints.
Establish an AI safety program to monitor and improve AI deployment in health care through a common framework to identify AI-associated clinical errors and guidelines to avoid such harms.	HHS (DOD, VA)	October 29, 2024 (365 days)	8(b)(iv)	In partnership with Patient Safety Organizations.
Develop a strategy for the use of AI and AI-enabled tools in drug development.	HHS	October 29, 2024 (365 days)	8(b)(v)	

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Task the Nontraditional and Emerging Transportation Technology (NETT) Council to assess the need for guidance regarding AI use in transportation.	DOT	November 29, 2023 (30 days)	8(c)(i)	DOT shall further direct the NETT Council to support transportation-related AI pilot programs, assess outcomes to inform regulatory actions, and establish a DOT Cross-Modal Executive Working Group.
Task DOT FACA committees to provide advice on safe and responsible AI use in transportation.	DOT	January 28, 2024 (90 days)	8(c)(ii)	
Task the Advanced Research Projects Agency–Infrastructure (ARPA-I) to explore research and development projects for AI use in transportation.	DOT	April 27, 2024 (180 days)	8(c)(iii)	
Develop resources, policies, and guidance for AI use in education.	ED	October 29, 2024 (365 days)	8(d)	Shall include development of an AI toolkit for educators.

Source: CRS analysis of Executive Order 14110. Executive Office of the President, "Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence," 88 *Federal Register* 75191, November 1, 2023, at https://www.federalregister.gov/documents/2023/11/01/2023-24283/safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence.

Note: For a list of acronyms, please see the **Appendix**.

Additionally, Section 8(a) encourages independent regulatory agencies to consider using their authorities to protect American consumers from fraud, discrimination, and threats to privacy and to address other risks that may arise from the use of AI, including risks to financial stability; and to consider rulemaking, as well as emphasizing or clarifying where existing regulations and guidance apply to AI. Section 8(e) encourages the Federal Communications Commission (FCC) to consider actions related to how AI will affect communications networks and consumers, including its potential for spectrum management, and encourages efforts to combat unwanted robocalls and robotexts.

Privacy

The E.O. calls for the evaluation and mitigation of privacy risks—potentially exacerbated by AI—associated with the collection, use, and retention of Americans' data. Actions related to this policy area are prescribed in Section 9 of the E.O. There are six requirements in this section involving nine federal entities. **Table 6** lists these requirements.

Table 6. Requirements and Deliverables in Section 9 on Privacy

Ascending by Section Citation

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Identify commercially available information procured by agencies.	OMB	No date assigned	9(a)(i)	Particular focus on personally identifiable information (PII). National security purposes are excluded.
Evaluate agency standards and procedures associated with agency use of commercially available information to inform ways to mitigate privacy and confidentiality risks.	OMB (FPC, ICSP)	No date assigned	9(a)(ii)	Evaluation to include looking at collection, processing, maintenance, use, sharing, and disposition of data that contains PII.
Solicit public comment on changes to federal guidance related to privacy and mitigating AI-related risks.	OMB (DOJ, CEA, OSTP)	April 27, 2024 (180 days)	9(a)(iii)	Take additional steps to act on feedback in implementing changes to federal guidance (Section 9(a)(iv)).
Create guidance for agencies to follow when they evaluate the use of privacy-enhancing technologies.	NIST	October 29, 2024 (365 days)	9(b)	
Fund the creation of a Research Coordination Network for advancing privacy research.	NSF (DOE)	February 27, 2024 (120 days)	9(c)(i)	Particular focus on deploying and scaling privacy-enhancing technologies.
Work with agencies to identify opportunities to incorporate privacy-enhancing technologies into their operations.	NSF	June 26, 2024 (240 days)	9(c)(ii)	Prioritize use-inspired research, including through engagements with the Research Coordination Network.

Source: CRS analysis of Executive Order 14110. Executive Office of the President, "Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence," 88 *Federal Register* 75191, November 1, 2023, at https://www.federalregister.gov/documents/2023/11/01/2023-24283/safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence.

Note: For a list of acronyms, please see the **Appendix**.

Federal Use of AI

The E.O. requires the Office of Management and Budget (OMB) to establish an interagency council to coordinate AI use by federal agencies and develop guidance on AI governance and risk management activities for agencies. The section acknowledges the ubiquity of generative AI (GenAI) tools, and directs agencies to provide access with safeguards in place. This section calls for additional agency hiring and training activities to increase the AI workforce capacity across the federal government. Actions related to this policy area are prescribed in Section 10 of the E.O. There are 29 requirements in this section involving 40 federal entities. **Table 7** lists these requirements.

Table 7. Requirements and Deliverables in Section 10 on Federal Use of AI

Ascending by Section Citation

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Convene and chair an interagency council on federal use of AI.	OMB	December 29, 2023 (60 days)	10.1(a)	OSTP is the vice chair of the council. CFO Act agencies (31 U.S.C. §902(b)) and DNI are members.
Issue guidance to agencies on AI use.	OMB & OSTP (Interagency council members from 10(a))	March 28, 2024 (150 days, and periodically thereafter)	10.1(b)	Guidance shall address appropriate and effective testing, use, and documentation of AI; advancing innovation; and managing AI-related risks.
Designate a Chief Artificial Intelligence Officer.	CFO Act Agencies	May 27, 2024 (60 days from guidance)	10.1 (b)(i)	This requirement shall be part of OMB's guidance from 10.1(b).
Create Artificial Intelligence Governance Boards within the agencies.	CFO Act Agencies	May 27, 2024 (60 days from guidance)	10.1 (b)(iii)	Another mechanism may be substituted for this board. This requirement shall be part of OMB's guidance from 10.1(b).
Specify minimum risk management practices for government use of AI that impact people's rights or safety.	OMB	No date specified	10.1 (b)(iv)	
Develop AI strategies and pursue high-impact AI use cases.	CFO Act Agencies	No date specified	10.1(b)(vii)	This requirement shall be part of OMB's guidance from 10.1(b).
Establish a system to track agency AI progress.	OMB	May 27, 2024 (60 days from OMB guidance and periodically thereafter)	10.1(c)	
Develop guidelines, tools, and practices to support implementation of the minimum risk-management practices described in the OMB guidance.	NIST (OMB, OSTP)	June 26, 2024 (90 days from OMB guidance)	10.1 (d)(i)	
Develop means to ensure that agency contracts for AI system and services procurement align with OMB guidance.	OMB	September 24, 2024 (180 days from OMB guidance)	10.1 (d)(ii)	The means should also advance aims from the Advancing American AI Act (P.L. 117-263, Div. G, Title LXXII, Subtitle B, §7224(d)(1)).

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Issue instructions to agencies for the collection, reporting, and publication of agency AI use cases.	OMB	No date specified	10.1(e)	Pursuant to the Advancing American AI Act (P.L. 117-263, §7225(a)). These instructions shall include, as appropriate, an expansion of agencies' reporting on how they are managing risks from AI uses.
Develop a framework to incorporate AI in FedRAMP.	GSA & OMB (Federal Secure Cloud Advisory Committee)	January 28, 2024 (90 days)	10.1 (f)(ii)	The framework shall initially prioritize generative AI technologies.
Develop guidance for federal employee use of generative AI.	OPM & OMB	April 27, 2024 (180 days)	10.1 (f)(iii)	
Consider prioritizing funding for projects related to AI.	Technology Modernization Board	November 29, 2023 (30 days)	10.1(g)	This board administers the Technology Modernization Fund within GSA.
Facilitate access to AI vendors through government-wide acquisition vehicles or tools.	GSA & OMB (DOD, DHS, DNI, NASA)	April 27, 2024 (180 days)	10.1(h)	Specified types of AI capabilities shall include generative AI and specialized computing infrastructure. Excludes AI components of national security systems.
Plan to surge AI talent in the federal government.	OSTP & OMB (APNSA, APEA, APDP, DGPC)	December 14, 2023 (45 days)	10.2(a)	Shall include identifying priority mission areas and types of AI talent to implement this E.O.
Create and convene an AI and Technology Talent Task Force.	DCOSP, OSTP, OMB (NCD)	December 14, 2023 (45 days)	10.2(b)	The task force is to accelerate and track the hiring of AI talent in the federal government.
Track, report progress on, and make recommendations on increasing AI capacity across the federal government.	AI and Technology Talent Task Force	April 27, 2024 (180 days)	10.2 (b)(i)	Recommendations are to the President. The task force shall also convene a cross-agency forum for AI professionals to share best practices and improve retention.
Develop and implement plans to support the rapid recruitment of AI talent in the federal government.	USDS, Presidential Innovation Fellowship, USDC, OPM, Agencies	December 14, 2023 (45 days)	10.2(c)	
Conduct a review of hiring authorities and workplace flexibilities needed to recruit AI talent.	OPM (OMB)	December 29, 2023 (60 days)	10.2 (d)(i)	Shall include direct-hire authorities.

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Consider the use of the excepted service appointments to recruit AI talent.	OPM (OMB)	December 29, 2023 (60 days)	10.2 (d)(ii)	
Coordinate a pooled-hiring action to support AI talent recruitment.	OPM (OMB)	January 28, 2024 (90 days)	10.2 (d)(iii)	
Issue guidance to agencies on using existing pay flexibilities or incentive pay programs for AI, AI-enabling, and key technical positions.	OPM (OMB)	February 27, 2024 (120 days)	10.2 (d)(iv)	
Issue guidance to agencies on increasing the employment of AI, data, and technology talent from nontraditional academic backgrounds.	OPM (OMB)	April 27, 2024 (180 days)	10.2 (d)(v)	
Establish an interagency working group composed of experts in human resources and AI to inform hiring practices.	OPM (OMB)	April 27, 2024 (180 days)	10.2 (d)(vi)	
Review the qualifications for the Senior Executive Service to account for AI expertise.	OPM (OMB)	April 27, 2024 (180 days)	10.2 (d)(vii)	
Review the job description for civil engineers (and other positions) to account for, and ensure adequate, AI expertise.	OPM (OMB)	April 27, 2024 (180 days)	10.2 (d)(viii)	
Develop a position description library for data scientist jobs and a hiring guide for agencies.	CDOC	No date prescribed	10.2(f)	
Implement and/or increase the use of AI training programs among employees.	Agencies	No date prescribed	10.2(g)	Agencies should ensure employees in nontechnical roles are also eligible for AI training programs.
Report on the AI talent gap in national defense, with a focus on hiring and retaining certain noncitizens.	DOD	April 27, 2024 (180 days)	10.2(h)	Report is to the APNSA and President.

Source: CRS analysis of Executive Order 14110. Executive Office of the President, "Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence," 88 *Federal Register* 75191, November 1, 2023, at https://www.federalregister.gov/documents/2023/11/01/2023-24283/safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence.

Note: For a list of acronyms, please see the **Appendix**.

International Leadership

The E.O. declares that the United States should be a global leader in AI development and adoption by engaging with international allies and partners, leading efforts to develop common AI regulatory and accountability principles, and advancing responsible global technical standards for

AI. Actions related to this policy area are prescribed in Section 11 of the E.O. There are six requirements involving seven federal agencies. **Table 8** lists these requirements.

Table 8. Requirements and Deliverables in Section 11 on International Leadership

Ascending by Section Citation

Requirements	Lead Agency (Supporting Agencies)	Due Dates	Section	Notes
Establish a global engagement plan for promoting and developing AI standards.	DOC	July 26, 2024 (270 days)	11(b)(i)	May include efforts on AI terminology, data and privacy best practices, verification and assurance of AI systems, and AI risk management.
Report to the President on priority actions taken pursuant to the plan in 11(b)(i).	DOC	January 22, 2025 (180 days after the plan in 11(b)(i))		Ensure that such efforts are guided by the NIST AI RMF and USG NSS for Critical and Emerging Technology.
Publish an AI in Global Development Playbook.	DOS & USAID (NIST)	October 29, 2024 (365 days)	11(c)(i)	
Develop a Global AI Research Agenda.	DOS & USAID (DOE, NSF)	No date prescribed.	11(c)(ii)	Shall include consideration of AI's potential labor market implications.
Plan for multilateral engagements on encouraging the adoption of AI safety and security guidelines among global and cross-border CI owners and operators.	DHS (DOS)	July 26, 2024 (270 days)	11(d)(i)	
Report on priority actions to mitigate cross-border risks to U.S. critical infrastructure.	DHS (DOS)	January 22, 2025 (180 days of establishing the plan in 11(d)(i))	11(d)(ii)	The report is to the President.

Source: CRS analysis of Executive Order 14110. Executive Office of the President, "Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence," 88 *Federal Register* 75191, November 1, 2023, at https://www.federalregister.gov/documents/2023/11/01/2023-24283/safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence.

Note: For a list of acronyms, please see the **Appendix**.

Appendix. Abbreviations

Abbreviations used in this report are listed below, alphabetically.

AI	Artificial Intelligence
AI RMF	NIST's AI Risk Management Framework
AIM-HEAD	National Institutes of Health Artificial Intelligence/Machine Learning Consortium to Advance Health Equity and Researcher Diversity
APDP	Assistant to the President for Domestic Policy
APEA	Assistant to the President for Economic Affairs
APNSA	Assistant to the President for National Security Affairs (a.k.a. the National Security Advisor)
CBRN	Chemical, Biological, Radiological, and Nuclear
CDOC	Chief Data Office Council
CEA	Council of Economic Advisors
CEQ	Council on Environmental Quality
CFO	Chief Financial Officer
C.F.R.	Code of Federal Regulations
CI	Critical Infrastructure
CISA	Cybersecurity and Infrastructure Security Agency
CSP	Cloud Service Provider
DCOSP	The President's Deputy Chief of Staff for Policy
DGPC	Assistant to the President and Director of the Gender Policy Council
DHS	Department of Homeland Security
DNI	Director of National Intelligence (Office of the)
DOC	Department of Commerce
DOD	Department of Defense
DOE	Department of Energy
DOJ	Department of Justice
DOL	Department of Labor
DOS	Department of State
DOT	Department of Transportation
DPA	Defense Production Act
ED	Department of Education
E.O.	Executive Order
FACA	Federal Advisory Committee Act
FARC	Federal Acquisition Regulatory Council
FedRAMP	Federal Risk and Authorization Management Program
FERC	Federal Energy Regulatory Commission
FPC	Federal Privacy Council

GSA	General Services Administration
HHS	Department of Health and Human Services
HUD	Department of Housing and Urban Development
ISCP	Interagency Council on Statistical Policy
IRA	Independent Regulatory Agencies
IP	Intellectual Property
IT	Information Technology
LE	Law Enforcement
NASA	National Aeronautics and Space Administration
NCD	National Cyber Director
NIFA	National Institute of Food and Agriculture
NIST	National Institute of Standards and Technology
NSF	National Science Foundation
NTIA	National Telecommunications and Information Administration
OMB	Office of Management and Budget
OPPRP	Office of Pandemic Preparedness and Response Policy in the White House
OPM	Office of Personnel Management
OSTP	Office of Science and Technology Policy
PCAST	President's Council of Advisors on Science and Technology
PII	Personally Identifiable Information
P.L.	Public Law
RMF	Risk Management Framework
SRMA	Sector Risk Management Agency
STEM	Science, Technology, Engineering, and Math
Treasury	Department of the Treasury
USAID	United States Agency for International Development
U.S.C.	United States Code
USDA	Department of Agriculture
USDC	United States Digital Corps
USDS	United States Digital Service
USG NSS	United States Government National Standards Strategy
USTPO	United States Patent and Trademark Office
VA	Department of Veterans Affairs

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