

EMBARKING ON THE ARTIFICIAL INTELLIGENCE JOURNEY

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NAVIGATING the
NUCLEAR FUTURE

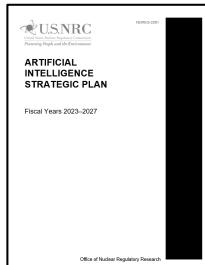


Artificial Intelligence (AI) Landscape and the NRC

NUCLEAR INDUSTRY (EXTERNAL)

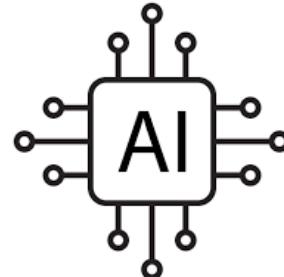


Industry wants to use AI



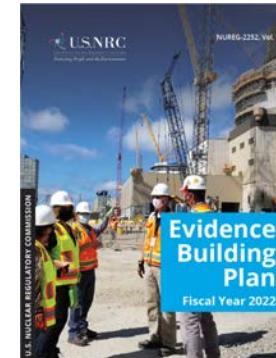
AI Strategic Plan to prepare staff to review AI

OTHER CONSIDERATIONS AND OPPORTUNITIES (EXTERNAL)



Executive Order 13960 and OMB reporting requirements for implementing agencies

Wide range of AI meetings, conferences, and activities



INTERNAL TO THE NRC

NRC Evidence Building Priority Questions



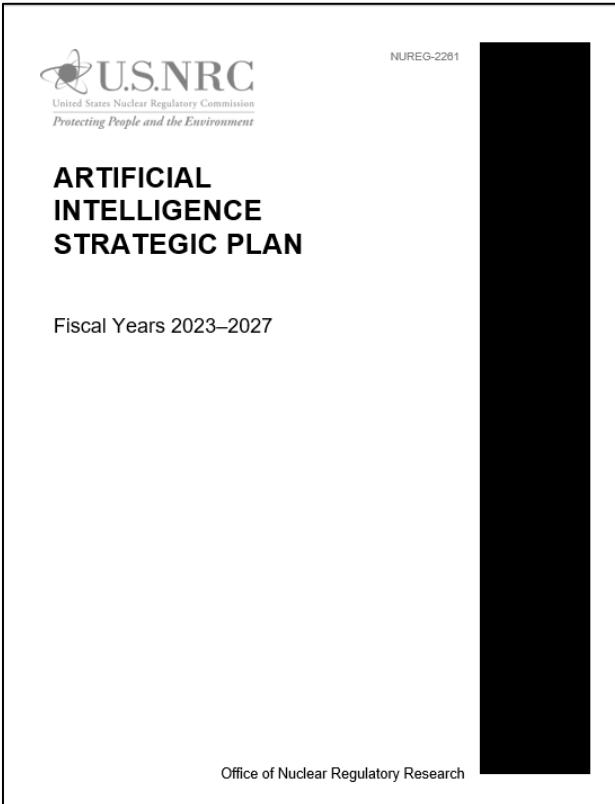
Internal interest in researching AI-based tools ranging from AI embedded in commercial applications to custom programming



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Final AI Strategic Plan Is Now Complete



Vision: Continue to keep pace with technological innovations to ensure the safe and secure use of AI in NRC-regulated activities

The AI Strategic Plan consists of five strategic goals:

- Goal 1: Ensure NRC Readiness for Regulatory Decision-Making
- Goal 2: Establish an Organizational Framework to Review AI Applications
- Goal 3: Strengthen and Expand AI Partnerships
- Goal 4: Cultivate an AI-Proficient Workforce
- Goal 5: Pursue Use Cases to Build an AI Foundation Across the NRC

Appendix B on acknowledging internal uses of AI





Executing the AI Strategic Plan

AI Organizational Framework

- AI Steering Committee: expected to be formalized in spring 2023
- AI Community of Practice: expected to be launched in spring 2023

Data Science and AI Regulatory Applications Workshops

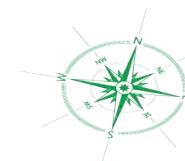
- Expected in summer 2023
 - Scoping Regulatory Engagement Levels and Common Terminology
- Future workshop
 - Regulatory Gaps and Considerations

AI Implementation Plan

- Draft AI Implementation Plan: expected in summer 2023
- Final AI Implementation Plan: expected in fall 2023

Strengthening Readiness through AI Research

- AI regulatory gap analysis
- AI use cases for the regulatory framework
- Survey of AI tools and methods for safety evaluation
- AI standards identification





Gaining Valuable Information to Benchmark AI Activities

Maintaining Awareness



NIST AI risk management framework standards development



Data science and AI regulatory applications workshops

Communication Forums



Public meetings to inform key activities



National laboratories,
vendors, and academic
AI-focused workshops
and seminars



GSA-sponsored AI Community of Practice

Working Partnerships



EPA



NRC/DOE-EPRI MOUs on data science, AI, and operating experience



US-Canada-UK trilateral engagement on AI



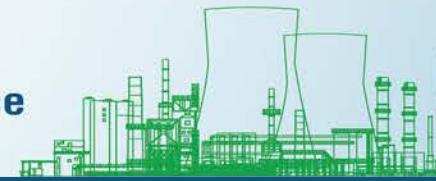
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Moving Forward: 2023 and Beyond

- Continued safety and security in the nuclear industry is paramount
- Embrace new and innovative ways to meet the NRC's mission
- Maintain strong partnerships with domestic and international counterparts
- Engage with the NRC early and often





Connect With Us

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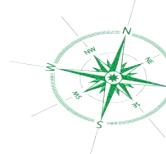
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