

NRC Collaboration with DOE on Light Water Reactor Sustainability (LWRS) Program

John McKirgan

Deputy Director, Division of Engineering
Office of Nuclear Regulatory Research
Nuclear Regulatory Commission

NRC-DOE Memorandum of Understanding (MOU)

NRC Roles and Responsibilities

To provide current information on:

- Aging management research activities
- Risk analysis research activities
- Licensing and regulatory reviews of emerging technologies
- Technical information on safety and security analysis

The coordination includes:

- Information exchange meetings
- Support for expert panels
- Demonstrations and pilots
- Jointly sponsored projects

Rules of Interaction Document

- Aims to provide clarification to NRC staff on guidelines for technical and knowledge exchanges with DOE and national laboratories staff
- Make clear for staff when public meeting should be considered
- Interaction document publicly available



[ML23135A227](#)

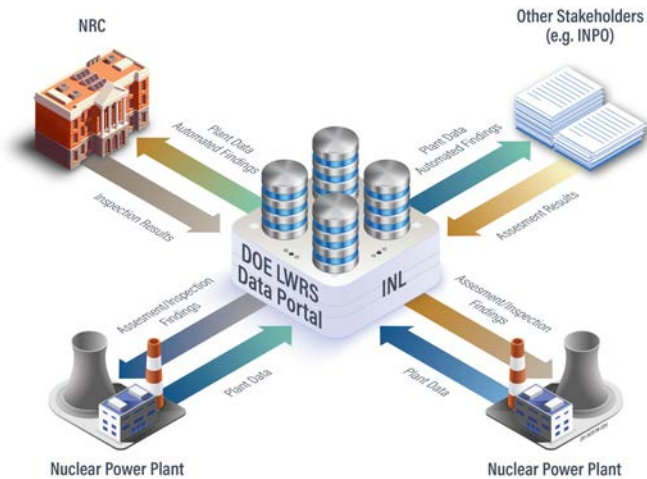
Pathways Collaborations

Plant Modernization

Data Portal for Inspections

Digital Twins

- Papers associated with Characterizing Nuclear Cybersecurity using AI/ML haven't been issued (to be released):
 - Use case description
 - Identify AI/ML Technology
 - Use Case Implementation
- Technical Letter Report: Analyzing the Impact of Using Wireless Technologies for Monitoring Safety-Related Critical Digital Assets - [ML23264A148](#)



Pathways Collaborations

Materials

- **Monthly call to discuss:**
 - Concrete
 - Metals
 - Cables
- **Published documents:**
 - SMiRT Paper “Effects of Neutron Irradiation on the Bond Strength of Steel Embedded in Concrete”



Pathways Collaborations

Risk Informed System Analysis (RISA)

- **Monthly Project Status Updates Meeting**
 - A recurring meeting between INL and NRC R&D teams to discuss projects under the RISA pathway

Physical Security

- Parameters has been established for a monthly or as needed meeting to share and discuss the latest topics on Physical Security Pathway

Pathways Collaborations

Flexible Plant Operations and Generations (FPOG)

- **Monthly Technical Deep Dives Meeting**
- **Technical Expert Group**
- **Documents to be published :**
 - **“Safety and Regulatory Considerations for Industrial Facilities Co-located with Nuclear Power Plant”**

Contact Information

Ramón L. Gascot Lozada
RES/DE LWRS Program Manager
ramon.gascot@nrc.gov
301-415-2004

Jeffery Smith
NRR/DORL LWRS Program Manager
jeffery.smith@nrc.gov
301-415-1057

Thank You for Your Attention

