U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

NRC000007

Prairie Island Annual Assessment Meeting

Reactor Oversight Program - 2009

Nuclear Regulatory Commission - Region III

Red Wing, MN

May 20, 2010

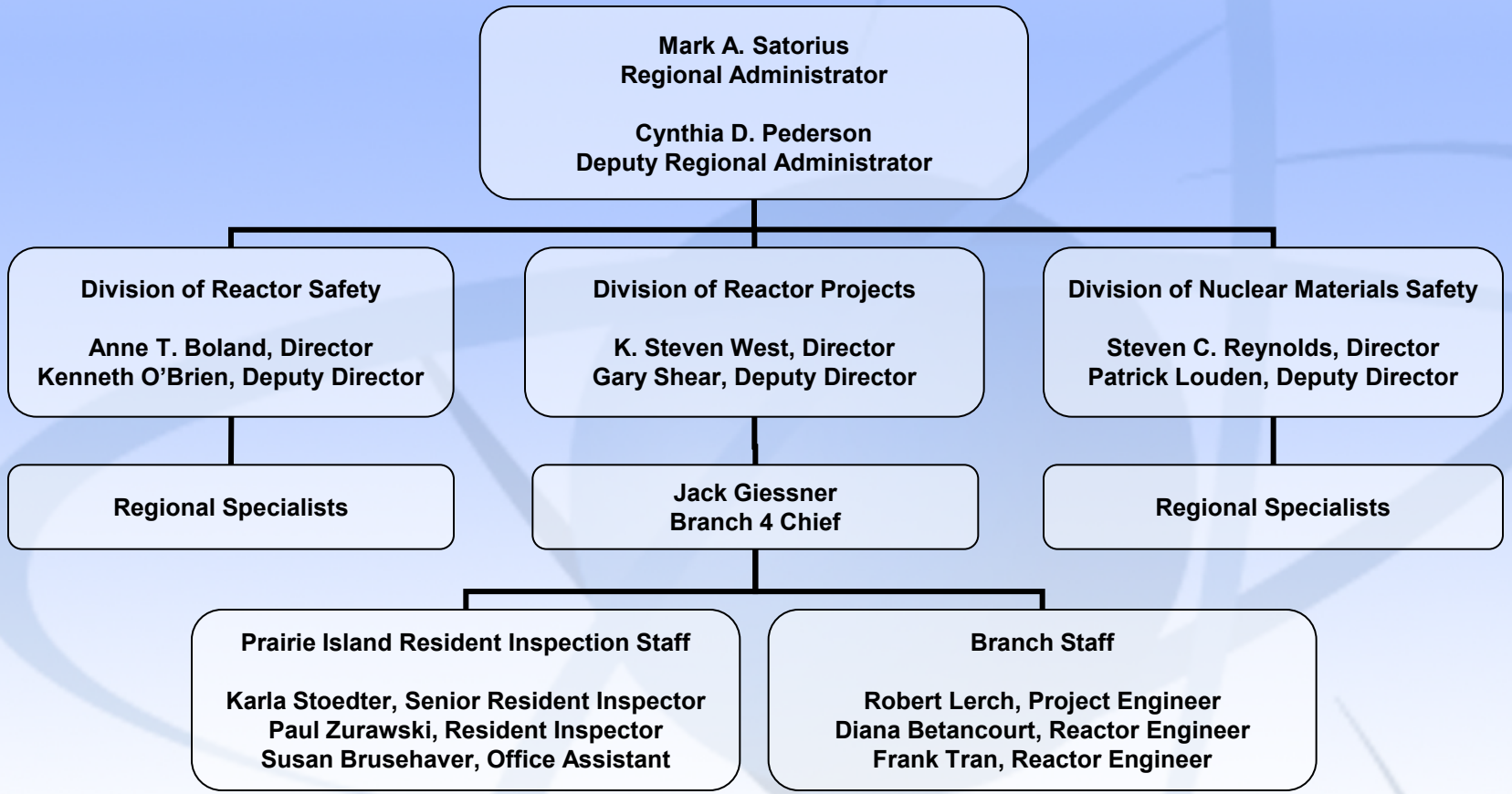
Purpose of Today's Meeting

- A public forum for discussion of the licensee's performance in 2009
- NRC will address the performance issues identified in the annual assessment letter
- Licensee will be given the opportunity to respond and inform the NRC of new or existing programs to maintain or improve performance

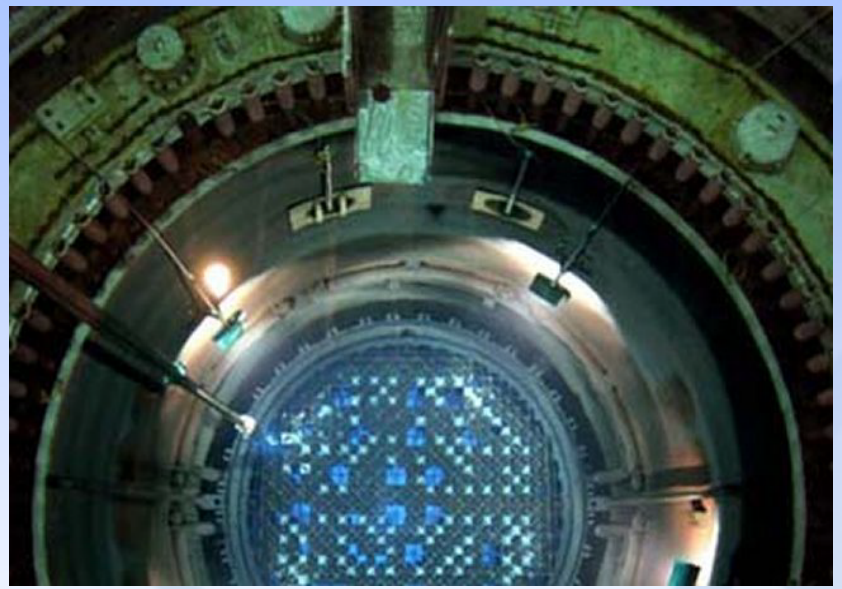
Agenda

- Introduction
- Review of Reactor Oversight Process
- National Summary of Plant Performance
- Discussion of Plant Performance Results
- Licensee Response and Remarks
- NRC Closing Remarks
- Break
- NRC available to address public questions

Region III Organization



Our Mission



- To license and regulate the nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment.

Some Nuclear Facts

- 104 nuclear power plants supply about 20 percent of the electricity in the U.S.
- Nuclear materials are used in medicine for diagnosis and cancer treatment.
- Nuclear materials are widely used in industry, such as in density gauges, flow measurement devices, radiography devices, and irradiators.

The NRC Regulates

- Nuclear reactors - commercial power reactors, research and test reactors, new reactor designs
- Nuclear materials - nuclear reactor fuel, radioactive materials for medical, industrial, and academic use
- Nuclear waste – transportation, storage and disposal of nuclear material and waste, decommissioning of nuclear facilities
- Nuclear security – physical security of nuclear facilities and materials from sabotage or attacks

What We Don't Do

- Regulate nuclear weapons, military reactors, or space vehicle reactors
- Own or operate nuclear power plants
- Regulate some radioactive materials, such as naturally occurring radon

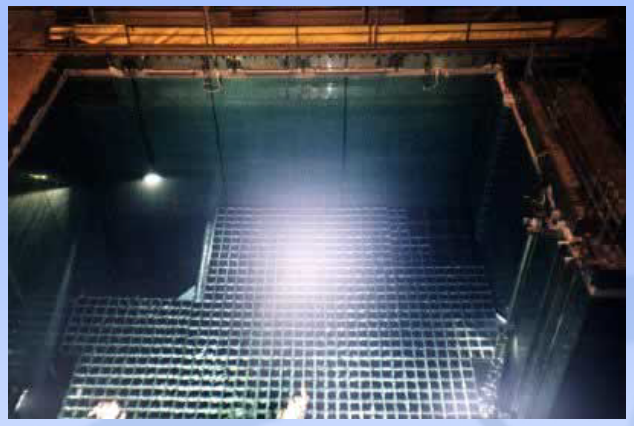
How We Regulate

- Establish rules and regulations
- Issue licenses
- Provide oversight through inspection, enforcement, and evaluation of operational experience
- Conduct research to provide support for regulatory decisions
- Respond to events and emergencies

Assurance of Plant Safety

- Require "defense-in-depth"
- Require long-term maintenance of equipment
- Require continual training of operators
- Verify compliance with regulations

What We Do – Nuclear Waste



- The NRC regulates:
  - Storage of spent reactor fuel in fuel pools or dry storage casks

What We Do – Nuclear Security

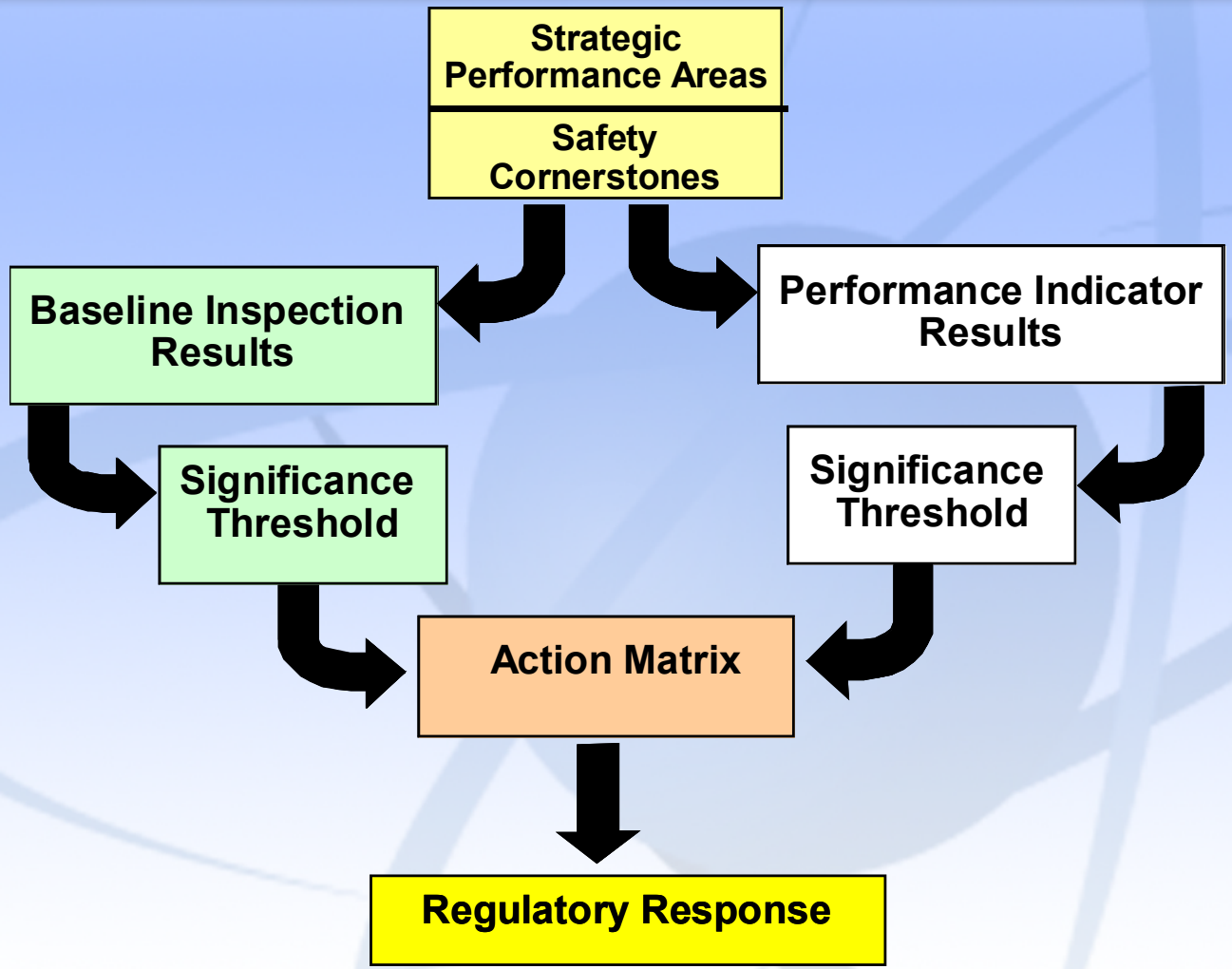
- NRC Requires:
  - Well-armed and well-trained security forces,
  - Surveillance and perimeter patrols,
  - State-of-the-art site access equipment and controls,
  - Physical barriers and detection zones, and
  - Intrusion detection systems and alarm stations.

NRC Performance Goals

- Safety: Ensure adequate protection of public health and safety and the environment.

- Security: Ensure adequate protection in the secure use and management of radioactive materials.

Reactor Oversight Process



Examples of Baseline Inspections

• Equipment Alignment	~80 hrs/yr
• Triennial Fire Protection	~250 hrs every 3 yrs
• Operator Response	~125 hrs/yr
• Emergency Preparedness	~80 hrs/yr
• Rad Release Controls	~110 hrs every 2 yrs
• Worker Radiation Protection	~95 hrs/yr
• Corrective Action Program	~250 hrs every 2 yrs
• Corrective Action Case Reviews	~60 hrs/yr

Significance Threshold

Performance Indicators

Green: Only Baseline Inspection
White: Increases NRC oversight
Yellow: Increases NRC oversight
Red: Increases NRC oversight

Inspection Findings

Green: Very low safety issue
White: Low to moderate safety issue
Yellow: Substantial safety issue
Red: High safety issue

Action Matrix Concept

Licensee Response	Regulatory Response	Degraded Cornerstone	Multiple/Rep. Degraded Cornerstone	Unacceptable Performance

Increasing Safety Significance

Increasing NRC Inspection Efforts

Increasing NRC/Licensee Management Involvement

Increasing Regulatory Actions

National Summary of Plant Performance

Status as of 12/31/2009

Licensee Response	79
Regulatory Response	24 ⇦
Degraded Cornerstone	1
Multiple/Repetitive Deg. Cornerstone	0
Unacceptable	0
Total	104

National Summary

- Performance Indicator Results (total for CY 2009)
  - Green 7039
  - White 18
  - Yellow 0
  - Red 0
- Total Inspection Findings (total for CY 2009)
  - Green 879
  - White 7
  - Yellow 0
  - Red 0

Prairie Island Assessment Results

January 1 - December 31, 2009

Unit	1Q09	2Q09	3Q09	4Q09
Unit 1	U1 AFW-trip (White)	U1 AFW-trip (White)	U1 AFW-trip (White)	
	Shipping (White)	Shipping (White)	Shipping (White)	Shipping (White)
Action Matrix Column	Regulatory Response	Regulatory Response	Regulatory Response	Regulatory Response
Unit 2	Shipping (White)	Shipping (White)	Shipping (White)	Shipping (White)
			HELB/CCW (White)	HELB/CCW (White)
Action Matrix Column	Regulatory Response	Regulatory Response	Regulatory Response	Regulatory Response

- Unit 1 was in the Regulatory Response Column for all four quarters: 2 White Findings (Mitigating Systems and Public Radiation Safety Cornerstones)
- Unit 2 was in the Regulatory Response Column for all four quarters: 2 White Findings (Mitigating Systems and Public Radiation Safety Cornerstones)

Safety Significant Findings or PIs
January 1 - December 31, 2009

- Radioactive Transportation Shipment White Finding
  - It was finalized in the 1st quarter of 2009 to both units and it involved the transportation of a radioactive shipment that exceeded the Department of Transportation Limits for transportation.
- Component Coolant/High Energy Line Break (HELB) White Finding
  - It was finalized in the 3rd quarter of 2009 to Unit 2 and it involved the possibility of HELB causing piping failure that would have resulted in the failure of another safety system.

Prairie Island Inspection Activities
January 1 - December 31, 2009

- Over 2,758 person-hours of direct inspection
  - 21 Non-Cited Violations (NCV)
  - 2 White Findings with an associated Violation
  - 7 additional Inspection Findings with no associated violation
  - 1 Severity Level III Violation
- January 12 – February 18: License Renewal Inspection
  - Inspection Report 2009006
- April 6 – April 24: Triennial Fire Protection Inspection
  - Inspection Report 2009007
  - Identified 2 NCVs

Prairie Island Inspection Activities
January 1 - December 31, 2009

- August 31 – September 4 : 95001 Supplemental Inspection
  - Inspection Report 2009011
  - Conducted in response to White Violation when the 11 turbine-driven auxiliary feedwater pump (TDAFWP) tripped after 40 seconds of operation following a reactor shutdown on July 31, 2008
- July 20 - August 13: Biennial Problem Identification & Resolution
  - Inspection Report 2009009
  - Identified 3 NCVs
- Unit 1 Outage September 11 to November 23, 2009
- November 30- December 4 : 95001 Supplemental Inspection
  - Inspection Report 2009015
  - Conducted in response to Radioactive Transportation Shipment

Prairie Island Annual Assessment Summary

January 1 - December 31, 2009

- Northern States Power Company, Minnesota operated Prairie Island Units 1 & 2 in a manner that preserved public health and safety

- All cornerstone objectives were met with two White findings identified

Prairie Island Annual Assessment Summary

January 1 - December 31, 2009

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- A Human Performance Substantive Cross-Cutting Issue with four themes was open during this assessment period. The themes are:
  - Systematic Process
  - Conservative Assumptions
  - Procedural Adequacy
  - Procedural Compliance

- On December 1, 2009 a meeting was performed to discuss progress in addressing the Substantive Cross-Cutting Issues.

Prairie Island Annual Assessment Summary

January 1 - December 31, 2009

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- The NRC also asked the licensee to provide their actions to address the issue in a letter.
- For the 2010 Assessment Cycle, the NRC plans baseline inspections at Prairie Island Unit 1 and a supplemental inspection (95001) for Unit 2 in response to a White Finding.

Licensee Response and Remarks

Northern States Power Company, Minnesota Representatives

Open to the Public

- The NRC places a high priority on keeping the public and stakeholders informed of its activities.

- At www.nrc.gov, you can:
  - Find public meeting dates and transcripts;
  - Read NRC testimony, speeches, press releases, and policy decisions; and
  - Access the agency's Electronic Reading Room to find NRC publications and documents.

Contacting the NRC

- Report an emergency
  - (301) 816-5100 (call collect)
- Report a safety concern
  - (800) 695-7403
  - Allegation@nrc.gov
- General information or questions
  - www.nrc.gov
  - Select "What We Do" for Public Affairs

NRC Representatives

- Thomas Wengert, Project Manager, NRR
  - (301) 415-4037
- John "Jack" Giessner, Branch Chief
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- Karla Stoedter, Senior Resident Inspector
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- Paul Zurawski, Resident Inspector
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- Robert Lerch, Project Engineer
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NRC Representatives

- Christine Lipa, Chief, Materials Control, ISFSI, and Decommissioning Branch
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- Viktoria Mitlyng, Public Affairs Officer
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- Prema Chandrathil, Public Affairs Officer
  - (630) 829-9663
- NRC Region III Office Switchboard
  - (630) 829-9500 (800) 522-3025

Reference Sources

- Reactor Oversight Process
  - http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/index.html
- Public Electronic Reading Room
  - http://www.nrc.gov/reading-rm.html
- Public Document Room
  - 1-800-397-4209 (Toll Free)