

# ***Annual Assessment Meeting for the Palisades Nuclear Plant***

Reactor Oversight Process – 2011

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**Nuclear Regulatory Commission - Region III  
South Haven Michigan  
March 21, 2012**



# ***Purpose of Today's Meeting***

- **A public forum for discussion of the licensee's performance in 2011**
- **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**

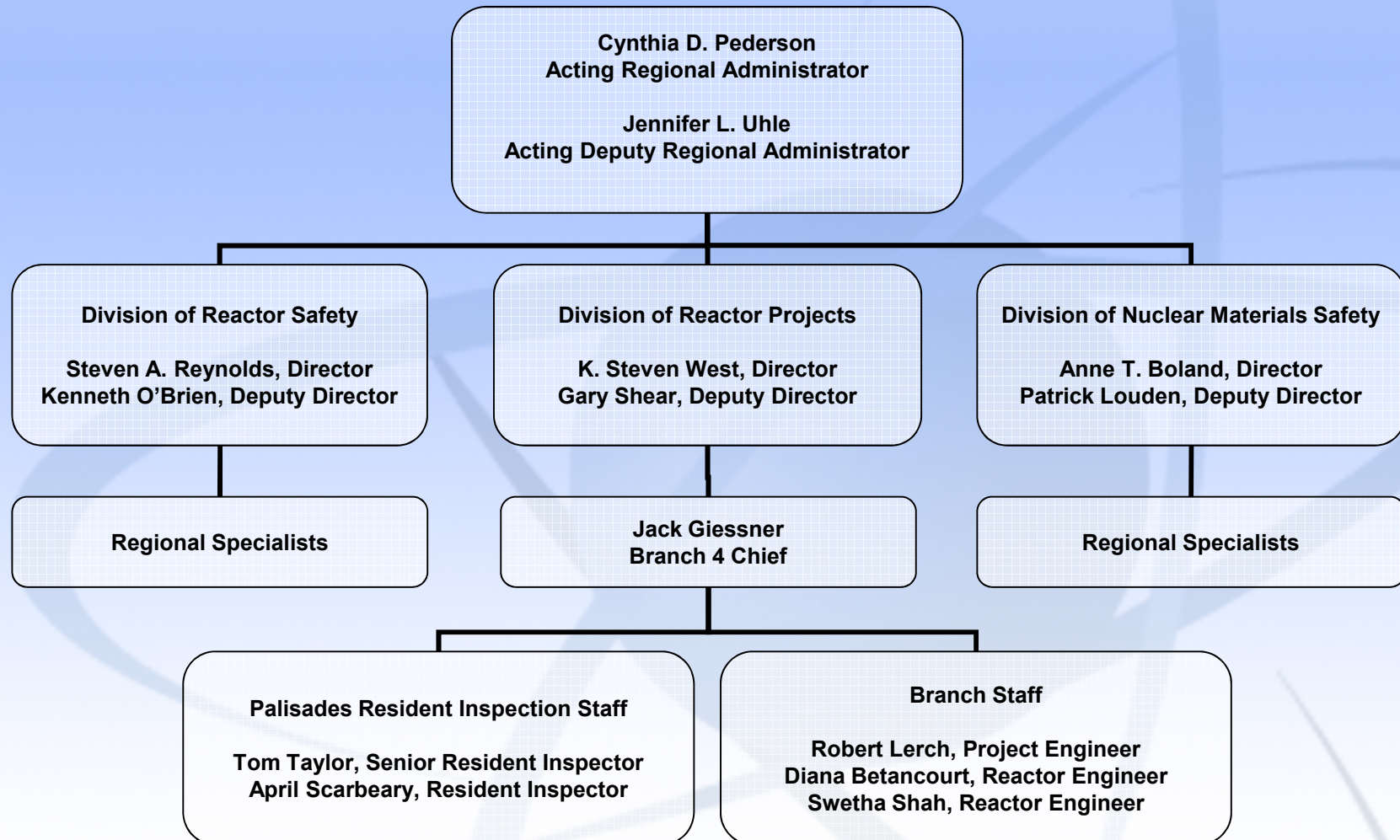


# ***Agenda***

- **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***

**License and regulate nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment.**

- Establishing rules and regulations**
- Issuing licenses**
- Providing oversight through inspection, enforcement, and evaluation of operational experience**
- Conducting research to provide support for regulatory decisions**
- Responding to events and emergencies**





# 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



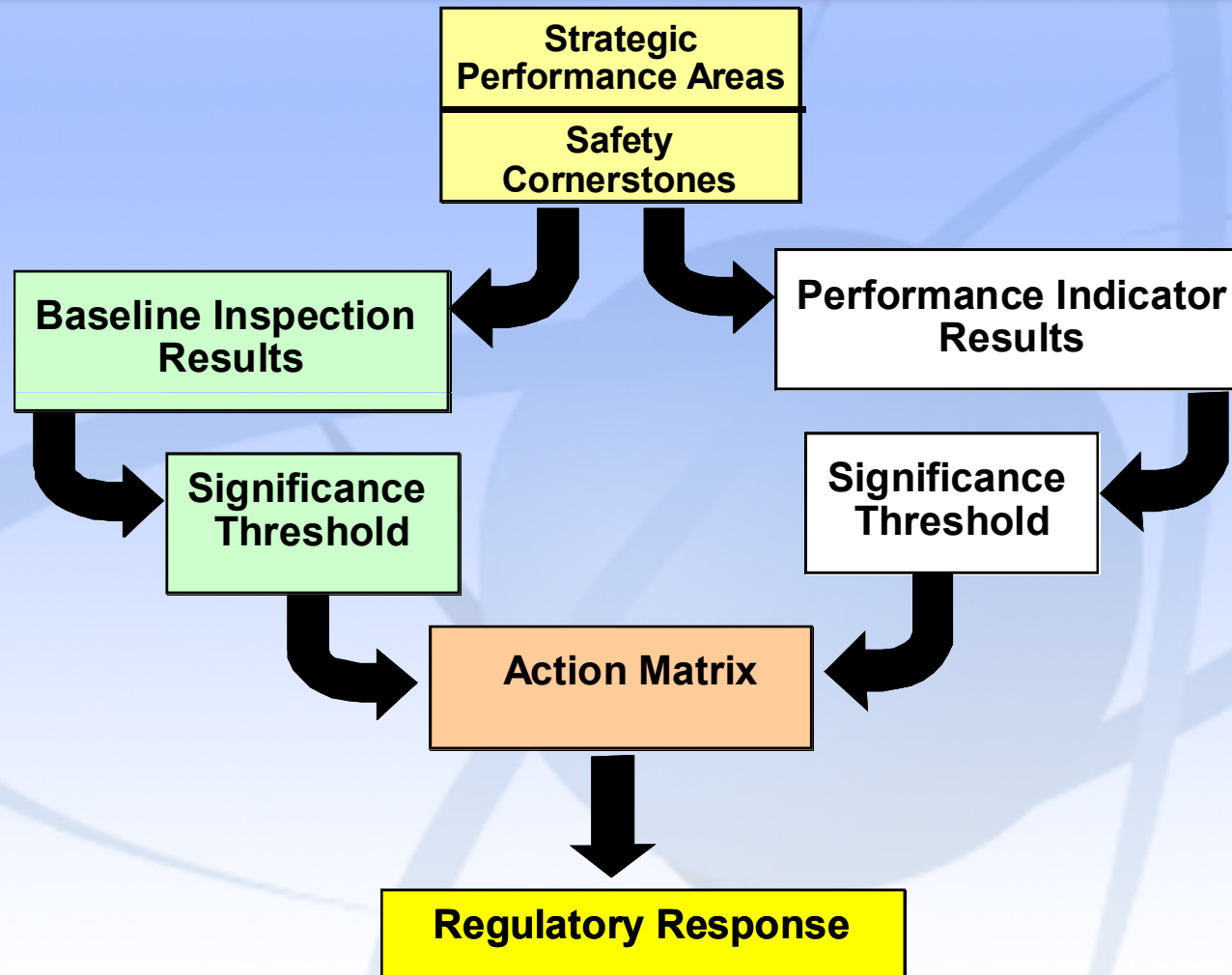
## ***What We Don't Do***

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





# Reactor Oversight Process





# Reactor Oversight Process Cornerstones

## Mission

PUBLIC HEALTH AND SAFETY  
AS A RESULT OF CIVILIAN  
NUCLEAR REACTOR  
OPERATION

## Strategic Performance Areas

REACTOR  
SAFETY

RADIATION  
SAFETY

SAFEGUARDS

## Cornerstones

INITIATING  
EVENTS

MITIGATING  
SYSTEMS

BARRIER  
INTEGRITY

EMERGENCY  
PREPAREDNESS

PUBLIC  
RADIATION  
SAFETY

OCCUPATIONAL  
RADIATION  
SAFETY

SECURITY

## Cross-Cutting Areas

Human Performance--Safety Conscious Work Environment--Problem Identification & Resolution



# ***Significance Threshold of Inspection Findings and Indicators***

## **Safety significance**

**Green (very low)**

**White (low to moderate)**

**Yellow (substantial)**

**Red (high)**

## **NRC Response**

**Routine NRC Inspections**

**Increases NRC oversight**

**Increases NRC oversight**

**Increases NRC oversight**



# ***Action Matrix Concept***

<b>Licensee Response I</b>	<b>Regulatory Response II</b>	<b>Degraded Cornerstone III</b>	<b>Multiple/Rep Degraded Cornerstone IV</b>	<b>Unacceptable Performance V</b>
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**Increasing Safety Significance**

**Increasing NRC Inspection Efforts**

**Increasing NRC/Licensee Management Involvement**

**Increasing Regulatory Actions**



# ***National Summary of Plant Performance***

**Status as of 2/15/2012**

<b>I Licensee Response</b>	<b>88</b>
<b>II Regulatory Response</b>	<b>11</b>
<b>III Degraded Cornerstone → Palisades now</b>	<b>3</b>
<b>IV Multiple/Repetitive Deg. Cornerstone</b>	<b>1</b>
<b>V Unacceptable</b>	<b>0</b>
<b>Total</b>	<b>*103</b>

**\*Fort Calhoun not included - shutdown and requires NRC permission to restart**





# ***National Summary***

- **Performance Indicator Results for 2011**
  - **Green** 6585
  - **White** 9
  - **Yellow** 0
  - **Red** 0
- **Total Inspection Findings in 2011**
  - **Green** 846
  - **White** 13
  - **Yellow** 2
  - **Red** 0



# ***Palisades Assessment Results***

**January 1 - December 31, 2011**

- In the fourth quarter of 2011 NRC placed Palisades in Column III – Degraded Cornerstone Column**



# ***Summary of Safety Significant Findings***

**Plant continues to operate safely, but performance has degraded**

- **Operator leaves his post – Confirmatory Order**
- **An Auxiliary Feed Water pump failed to function – White Finding (low to moderate safety significance)**
- **Service Water pump coupling failure – White Finding (low to moderate safety significance)**
- **Complicated shutdown caused by fault during work on an electric panel - Yellow Finding (substantial safety significance)**



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OCCUPATIONAL  
RADIATION  
SAFETY

SECURITY

SW  
pump  
failure

AF  
pump  
failure

DC bus  
failure

*Protecting People and the Environment*



# ***NRC's Response to Issues 2011***

- **Routine inspections ~ 2500 hours**
- **Additional inspections to address plant issues – over 1000 hours**





# ***Palisades Inspection Activities***

**January 1 - December 31, 2011**

- **Routine Inspections**
- **Special Inspection Team – Service water coupling failure**
- **Special Inspection Team – Complicated shutdown caused by electrical fault**



# ***Assessment Summary***

- **Palisades continues to operate safely**
- **NRC placed Palisades in Column III of the Action Matrix (Degraded Cornerstone) in 4<sup>th</sup> quarter 2011**
- **Substantive Cross-cutting Issues (SCCIs) - three in human performance area**
  - **Conservative Assumptions**
  - **Adequate Procedures**
  - **Effective Oversight**
- **If the NRC determines the plant is not operating safely, we will shut down the plant**



# ***NRC's Response to Issues 2012***

- **NRC will do routine/baseline activity**
- **NRC will do follow-up inspections on all three greater than green findings and confirmatory order**
- **NRC will independently evaluate the issues**
  - **Adequate actions to prevent the issue from occurring again**
  - **Determine if the condition that existed could exist in other equipment**
  - **Determine the root/underlying causes and evaluate if those causes could lead to other events**
  - **Determine if problems with safety culture caused or significantly contributed to the events**



# ***Licensee Response and Remarks***

## **Entergy Nuclear Operations Palisades Nuclear Plant Remarks**



# ***Closing Remarks***

**Cynthia Pederson**  
**Acting Regional Administrator, RIII**





# Questions/Comments





## ***Open to the Public***

- **The NRC places a high priority on keeping the public and stakeholders informed of its activities.**
- **At [www.nrc.gov](http://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](http://www.nrc.gov)
  - Select “What We Do” for Public Affairs



# ***NRC Representatives***

- **Viktoria Mitlyng, Office of Public Affairs, RIII**  
- **(630) 829-9662**
- **John “Jack” Giessner, Branch Chief, Division of Reactor Projects**  
- **(630) 829-9619**
- **Tom Taylor, Senior Resident Inspector**  
- **(269) 764-8971**
- **April Scarbeary, Resident Inspector**  
- **(269) 764-8972**



# 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>
- NRC Information Digest
  - <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1350/>
- Public Document Room
  - 1-800-397-4209 (Toll Free)







# NRC Social Media Channels



- **Blog:** <http://public-blog.nrc-gateway.gov/>
- **Flickr:** <http://www.flickr.com/photos/nrcgov/>
- **Twitter:** <https://twitter.com/#!/nrcgov>
- **YouTube:** <http://www.youtube.com/user/NRCgov>
- **RSS:** <http://www.nrc.gov/public-involve/listserver.html#rss>