

Quad Cities Nuclear Power Station

Annual Assessment Open House

Reactor Oversight Process – CY 2014

Nuclear Regulatory Commission – Region III

Cordova, Illinois

May 21, 2015

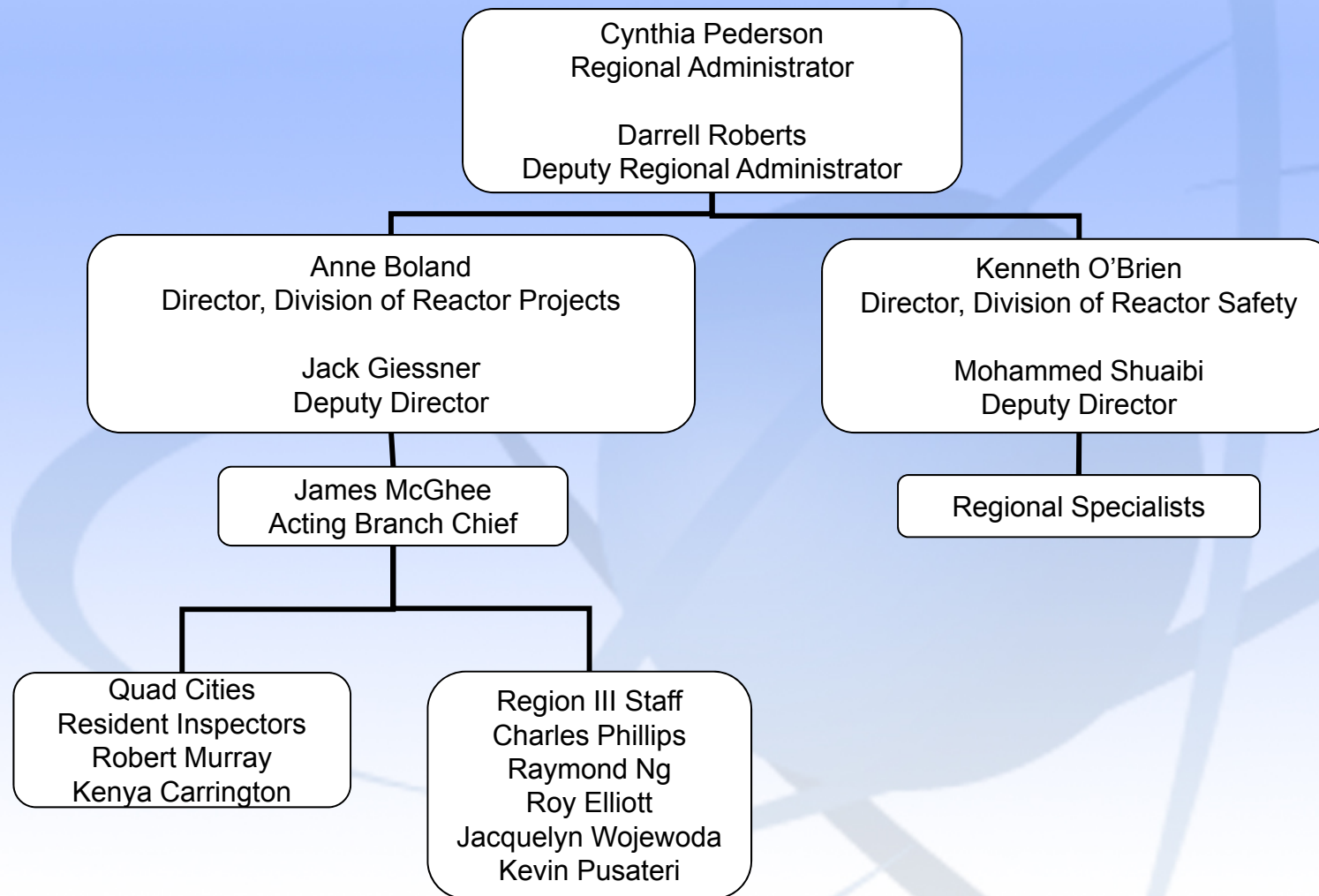


Purpose of Today's Open House

- **A public forum for discussion of the licensee's performance in 2014**
- **NRC will address the performance issues identified in the annual assessment letter**
- **NRC will discuss the Reactor Oversight Process and the inspection activities at Quad Cities Nuclear Power Station**



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



- 99 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**



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**

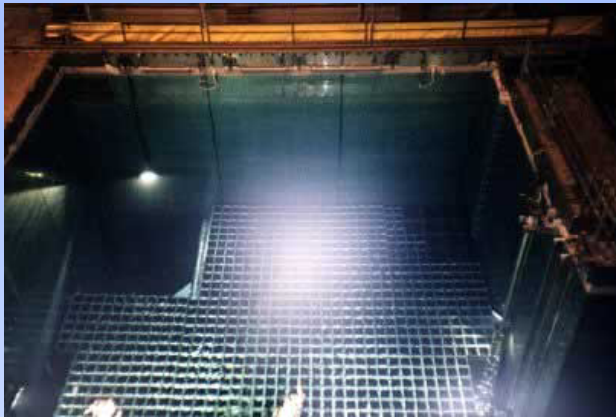


Assurance of Plant Safety

- **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**
 - **Any national spent fuel storage site**



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
 - Intrusion detection systems and alarm stations

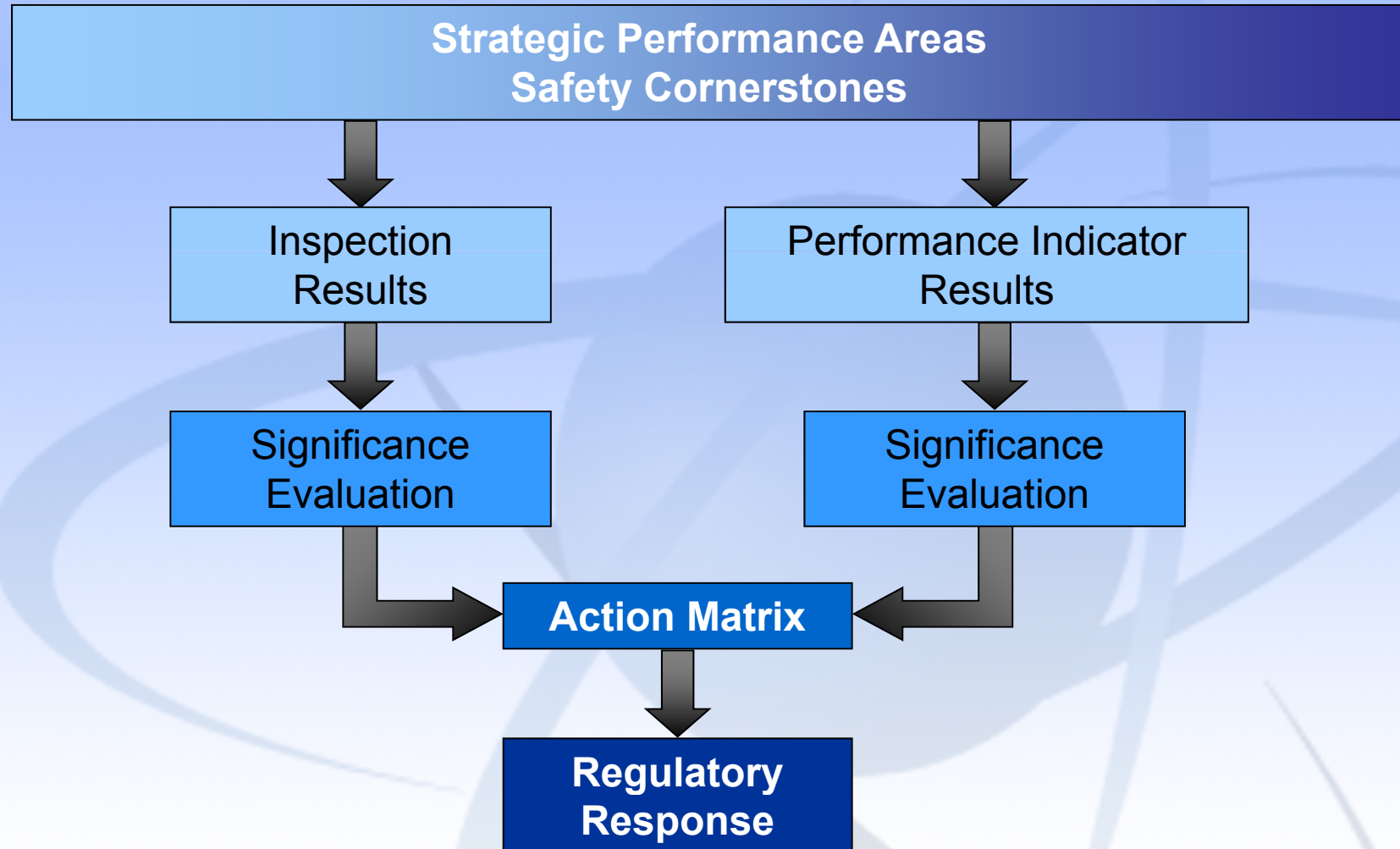


NRC Performance Goals

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



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
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Movement to the Right

- **Increasing Safety Significance**
- **Increasing NRC Inspection Efforts**
- **Increasing NRC/Licensee Management Involvement**
- **Increasing Regulatory Actions**



National Summary of Plant Performance

Status as of 03/04/2015

Licensee Response	77
Regulatory Response	17
Degraded Cornerstone	2
Multiple/Repetitive Deg. Cornerstone	2
Unacceptable	0
IMC 0350 Oversight	1
Total	99



National Summary

- Performance Indicator Results for 2014¹
 - Green 6740
 - White 16
 - Yellow 0
 - Red 0
- Total Inspection Findings in 2014²
 - Green 703
 - White 16
 - Yellow 3
 - Red 0

¹ PIs are counted per plant per quarter

² Finding data current as of 1/30/2015



Quad Cities Nuclear Power Station Assessment Results

January 1 - December 31, 2014

- **Units 1 and 2 were in the Licensee Response column of the ROP Action Matrix throughout 2014**
 - **All findings were Green**
 - **All Performance Indicators were Green**
- **There was no substantive cross-cutting issue identified during 2014**



Quad Cities Nuclear Power Station Inspection Activities

January 1 - December 31, 2014

- **Examples of Major Inspection Activities in 2014:**
 - Unit 2 Refueling Outage (April 5 to May 7)
 - Temporary Instruction 189 – Snubber (April 7 to April 9)
 - Initial License Operator Exam (April 28 to May 5)
 - Emergency Preparedness Exercise (August 25 to August 29)
 - Problem Identification & Resolution (September 8 to September 26)
 - Component Design Basis Inspection (November 3 to December 5)
- **Over 2600 hours of direct inspection effort**



Quad Cities Nuclear Power Station Annual Assessment Summary

January 1 - December 31, 2014

- **Exelon operated Quad Cities Nuclear Power Station in a manner that preserved public health and safety**
- **All cornerstone objectives were met**



Quad Cities Nuclear Power Station Annual Assessment Summary

January 1 - December 31, 2014

- **No substantive cross-cutting issue was identified at Quad Cities Nuclear Power Station**
- **NRC plans baseline inspections at Quad Cities Nuclear Power Station in 2015 for both units**



Cross-Cutting

- **Safety Culture Common Language Initiative**
- **Definitions of cross-cutting aspects in IMC 0310 revised**
- **New definitions implemented in 2014**



Quad Cities Fukushima Recommendations Status

- **Mitigating Strategies Order**
 - Requires strategies to cope with a long term loss of safety systems
 - Interim Staff Evaluation of licensee's plan issued
 - Plan audit is ongoing and will be inspected
- **Spent Fuel Pool Instrumentation Order**
 - Requires plants to be able to tell if water is at or above certain levels
 - Installation of the instrument has been completed
 - Inspection to be performed at a later day



Quad Cities Fukushima Recommendations Status

- **Hardened Vents Order**
 - Requires that the hardened vents be capable of operating under severe accident conditions
 - Interim Staff Evaluation of licensee's plan issued
 - Periodic progress update by licensee every 6 months



Quad Cities Fukushima Recommendations Status

- **Flooding and Seismic Walkdowns**
 - Verify that the site can meet its current requirements for hazard protection
 - Walkdowns were complete
 - Staff assessment of flooding and seismic walkdowns issued
- **Flooding and Seismic Hazard Reevaluations**
 - Reevaluate Hazards using present-Day information
 - Flooding and Seismic Reevaluations were submitted
 - Staff assessments are in progress



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
 - 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**



Actions in Response to the Japan Nuclear Accident

- **Actions in response to Japan Nuclear Accident**
Website: <http://www.nrc.gov/reactors/operating/ops-experience/japan-dashboard.html>
- **Mailbox for comments on staff actions:**
JLD_Public.Resource@nrc.gov
- **Office of Public Affairs Point of Contact:**
OPA.resource@nrc.gov or 301-415-8200



NRC Representatives

- **James McGhee, Acting Branch Chief, Region III**
- **Robert Murray, Senior Resident Inspector**
- **Kenya Carrington, Resident Inspector**
- **Kevin Pusateri, Reactor Engineer**

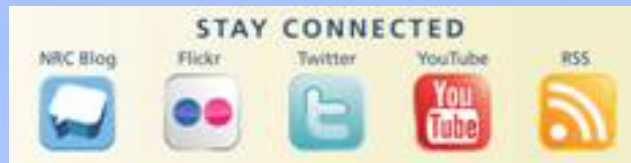


Contacting Region III

- **Viktoria Mitlyng, Public Affairs Officer**
 - (630) 829-9662
- **Prema Chandrathil, Public Affairs Officer**
 - (630) 829-9663
- **NRC Region III Office Switchboard**
 - (630) 829-9500; (800) 522-3025



NRC Social Media Channels



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



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)