

U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

Salem and Hope Creek Annual Assessment Meeting

2008 Reactor Oversight Process

Nuclear Regulatory Commission – Region I



Purpose of Today's Meeting

- Discuss PSEG's performance at Salem and Hope Creek during 2008
- Provide PSEG the opportunity to respond to the NRC's assessment and to discuss improvement initiatives
- Provide an opportunity for discussion between the public and the NRC on plant performance and the NRC's role in ensuring safe plant operations



NRC Representatives

Regional Office

- Arthur L. Burritt, Branch Chief
 - 610-337-5069

Resident Office

- Dan Schroeder, Salem Senior Resident Inspector
 - 856-935-5151
- Harry Balian, Salem Resident Inspector
 - 856-935-5151
- Blake Welling, Hope Creek Senior Resident Inspector
 - 856-935-5373
- Amar Patel, Hope Creek Resident Inspector
 - 856-935-5373



Agenda

- NRC Overview and Performance Goals
- Reactor Oversight Process (ROP)
- National Summary of Plant Performance
- Plant Performance Assessment Results
- PSEG Response and Remarks
- NRC Closing Remarks
- Break
- NRC available to address public questions

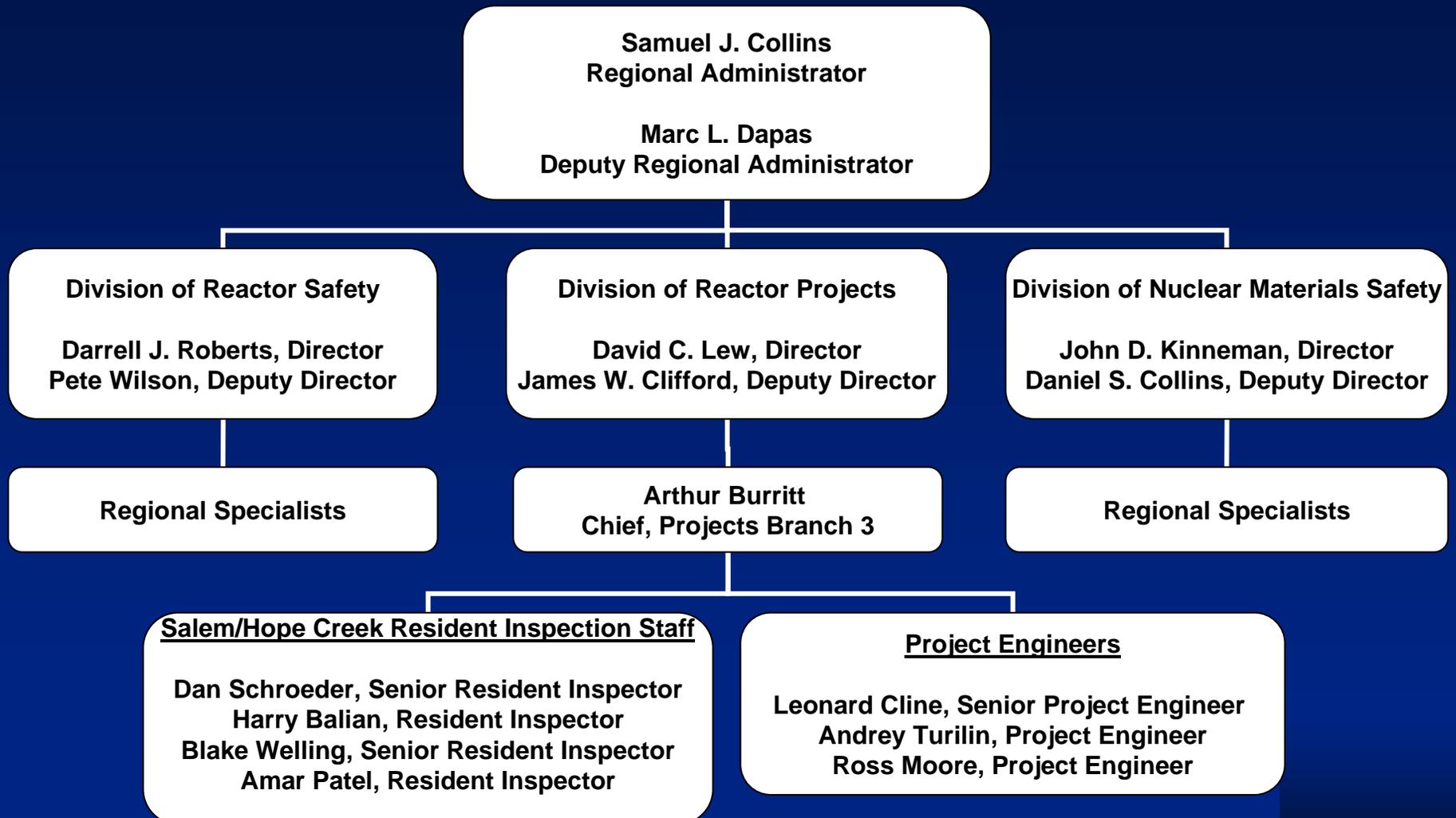


What the NRC Regulates

- Nuclear reactors - commercial power, research, test and new reactor designs
- Nuclear security – physical protection for nuclear facilities and materials
- Nuclear materials - reactor fuel and radioactive materials for medical, industrial, and academic uses
- Nuclear waste – transportation, storage, disposal and facility decommissioning



Region I Organization





NRC Strategic Plan 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



Regulatory Activities

- Rules and Regulations
- Licensing
- Inspection, Enforcement, and Operational Experience
- Research and Testing
- Incident Response

For Power Reactors

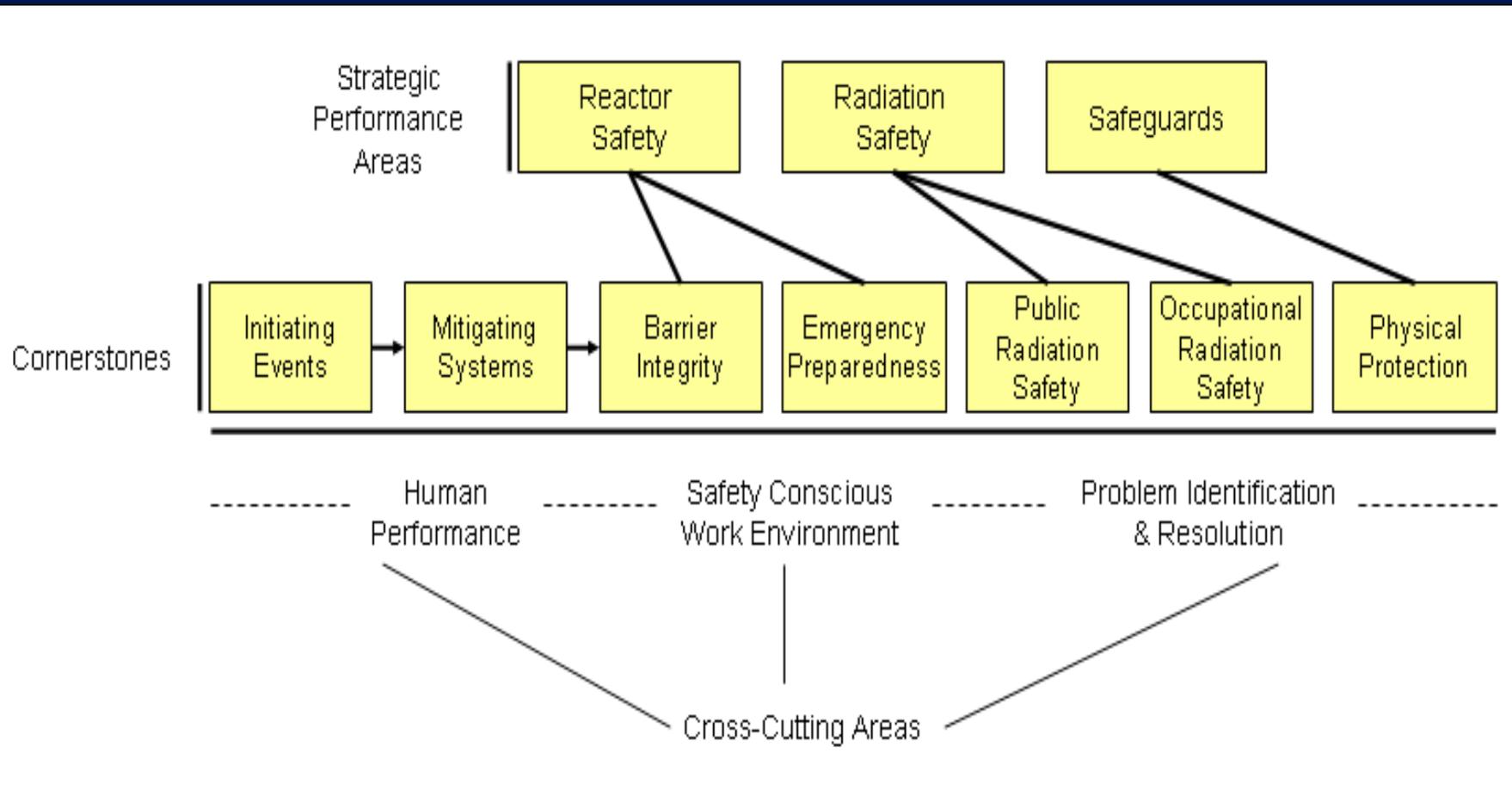
- Perform independent inspections at every commercial reactor site on a daily basis
- License personnel who operate commercial nuclear power plants
- Confirm adequate monitoring of radioactive effluents



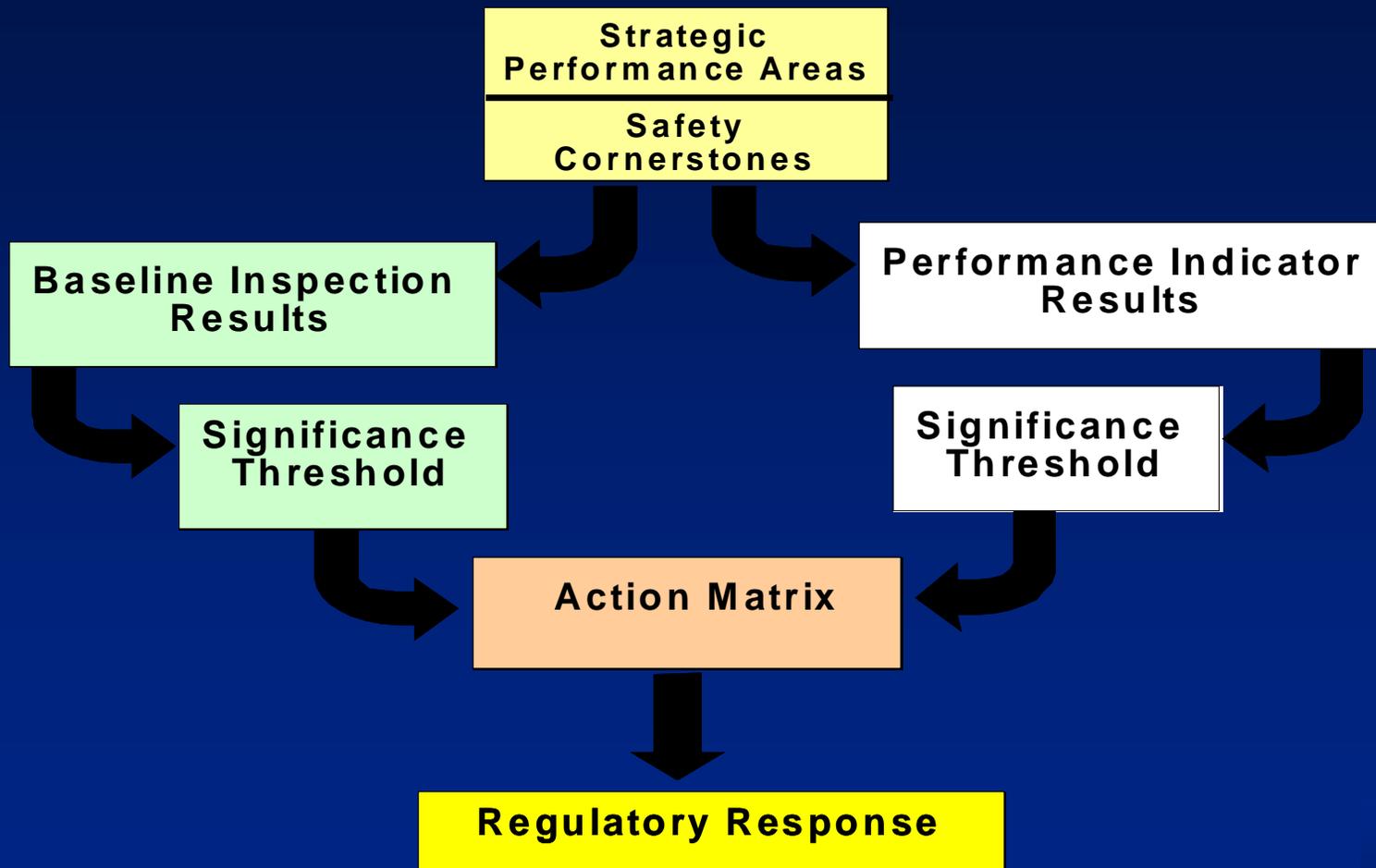
For Power Reactors

- Perform inspections and exercises to test security programs
- Coordinate with other federal agencies to assess potential threats
- Staff a 24 hour Emergency Operations Center
- Provide on-site NRC presence during events

Reactor Oversight Process



Reactor Oversight Process

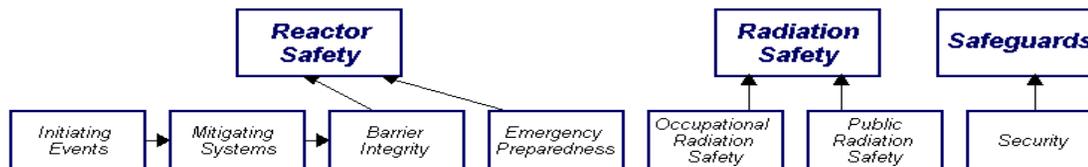




Typical Baseline Inspection Areas

- Equipment Alignment
- Fire Protection
- Operability Training
- Post-Maintenance Testing
- Refueling & Outage Activities
- Surveillance Testing
- Emergency Preparedness Assessment
- Corrective Action Program

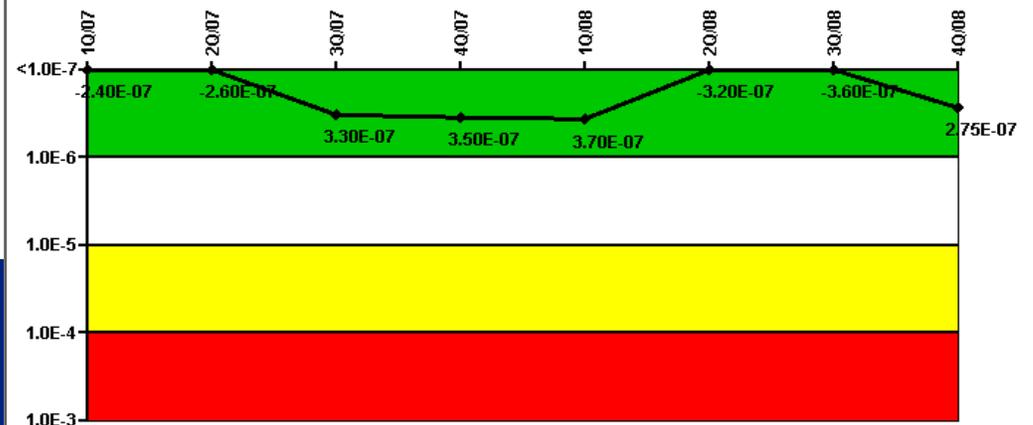
NRC Performance Indicators



Performance Indicators

- Unplanned Scrams (G)
- Safety System Functional Failures (G)
- Reactor Coolant System Activity (G)
- Drill/Exercise Performance (G)
- Occupational Exposure Control Effectiveness (G)
- RETS/ODCM Radiological Effluent (G)
- Unplanned Power Changes (G)
- Emergency AC Power System (G)
- Reactor Coolant System Leakage (G)
- ERD Drill Participation (G)
- Unplanned Scrams with Complications (G)
- High Pressure Injection System (G)
- Alert and Notification System (G)
- Heat Removal System (G)
- Residual Heat Removal System (G)
- Cooling Water Systems (G)

Mitigating Systems Performance Index, Cooling Water Systems



Thresholds: White > 1.00E-6 Yellow > 1.00E-5 Red > 1.00E-4

Significance Threshold

Performance Indicators

- **Green** Baseline Inspection
- **White** Requires additional oversight
- **Yellow** Requires more oversight
- **Red** Requires the most 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



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



Findings and Cross-Cutting Aspects

- Findings are reviewed by inspectors to identify causal factor(s)
- If a causal factor is related to one of the ROP cross-cutting areas and reflects current licensee performance, a cross-cutting aspect is assigned



Substantive Cross-Cutting Issue

- More than three inspection findings in a twelve-month period involve the same cross-cutting aspect
- NRC is concerned with the licensee's plans for or progress in addressing the issue.



NRC Response to Substantive Cross-Cutting Issue

- Monitor licensee response
- Evaluate performance based on exit criteria per assessment letter
 - If resolved, then close
 - If unresolved, request licensee respond to issue at a meeting or in writing
 - If unresolved three consecutive assessment periods request licensee safety culture survey



National Summary of Plant Performance (at end of 2008)

Licensee Response	86
Regulatory Response	14
Degraded Cornerstone	3
Multiple/Repetitive Degraded Cornerstone	1
Unacceptable	0
<hr/>	
Total	104



National Summary of Plant Performance

(at end of 2008)

Performance Indicator Results

➤ Green	1762
➤ White	6
➤ Yellow	0
➤ Red	0

Total Inspection Findings

➤ Green	776
➤ White	17
➤ Yellow	2
➤ Red	0



Salem Annual Assessment for 2008

- PSEG operated Salem in a manner that preserved public health and safety and protected the environment
- PSEG performance at Salem fully met all cornerstone objectives
- Salem Units 1 and 2 were in the Licensee Response Column of the Action Matrix for all four quarters of 2008
- NRC plans baseline inspections for the remainder of 2009



NRC Inspection Activities at Salem (for 2008)

- 8103 hours inspection-related activities
- 2 resident inspectors on-site
- 14 regional specialist inspections
- 4 major team inspections:
 - Component Design Basis Inspection
 - Emergency Preparedness Exercise Evaluation
 - Supplemental Inspection for 2007 Yellow PI
 - Special Inspection for 1RF19 Pressurizer Drain Down



Salem PIs / Findings (January 1 – December 31, 2008)

- All **Green** performance indicators
- 24 **Green** findings



Substantive Cross-Cutting Issue Salem

- Procedural adequacy
 - Documented concern with procedure adequacy in March 2008
 - Opened substantive cross cutting issue in March 2009 because PSEG actions taken since theme was identified did not sufficiently improve procedure quality.
- NRC actions
 - Monitor PSEG's efforts through baseline inspection



Salem Assessment Summary

- PSEG operated Salem safely
- Salem Unit 1 and Unit 2 were in the Licensee Response Column of the Action Matrix for all of 2008



Hope Creek Annual Assessment for 2008

- PSEG operated Hope Creek in a manner that preserved public health and safety and protected the environment
- PSEG performance at Hope Creek fully met all cornerstone objectives
- Hope Creek was in the Licensee Response Column of the Action Matrix for all four quarters of 2008
- NRC plans baseline inspections at Hope Creek for the remainder of 2009



NRC Inspection Activities at Hope Creek (for 2008)

- 4784 hours of inspection related activities
- 2 resident inspectors on-site
- 13 regional specialist inspections
- 2 major team inspections:
 - Plant Modifications
 - Emergency Preparedness Exercise Evaluation

Hope Creek Pls / Findings (January 1 – December 31, 2008)

- All **Green** performance indicators
- 11 **Green** findings
1 Severity Level IV violation



Hope Creek Assessment Summary

- PSEG operated the plant safely
- Hope Creek was in the Licensee Response Column of the Action Matrix for all of 2008



Licensee Response and Remarks

Mr. Thomas Joyce
President and Chief Nuclear Officer
PSEG Nuclear



Contacting the NRC

- Report a safety concern:
 - (800) 695-7403
 - Allegation@nrc.gov
- General information or questions:
 - www.nrc.gov
 - Public Affairs Officers:
 - Diane Screnci 610-337-5330
 - Neil Sheehan 610-337-5331



Reference Sources

- Reactor Oversight Process

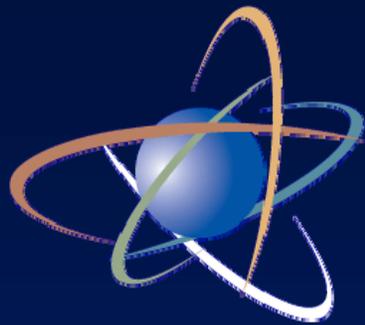
<http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/index.html>

- Public Electronic Reading Room

<http://www.nrc.gov/reading-rm.html>

- Public Document Room

1-800-397-4209 (Toll Free)



U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

End of the Presentation

Nuclear Regulatory Commission

Region I

King of Prussia, Pennsylvania

May 5, 2009