IAEA Training Course

U. S. NRC Inspection Program and Oversight Process

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Topics

- NRC Mission, Mandate, and Strategic Goals
- NRC Organization and Office Functions
- Regulatory Functions
- Inspection Program
- Enforcement Policy
- Reactor Oversight Process

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Mission and Mandate

Mission:

"The NRC's mission is to regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, to promote the common defense and security, and to protect the environment."

Mandate Derived From:

- **Atomic Energy Act of 1954**
- **Energy Reorganization Act of 1974**

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NRC Strategic Goals

- **Safety**
  - **Ensure protection of public health and safety and the environment.**
- **Security**
  - **Ensure the secure use and management of radioactive materials.**
- **Openness**
  - **Ensure openness in our regulatory process.**
- **Effectiveness**
  - **Ensure that NRC actions are effective, efficient, realistic, and timely.**
- **Management**
  - **Ensure excellence in agency management to carry out the NRC's strategic objective.**

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Principles of Good Regulation

INDEPENDENT

OPEN

EFFICIENT

CLEAR

RELIABLE

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NRC Organization and Office Functions

- **NRC is headed by five Commissioners appointed by the President and confirmed by the Senate for five-year terms. One Commissioner is designated as Chairman by the President.**

- **NRC is headquartered in Rockville, MD, with four Regional offices.**

- **Licensing Function**
  - **Agency reviews and issues licenses for the construction and operation of commercial nuclear power plants, research reactors, and it licenses the possession and use of nuclear materials for medical, industrial, and research purposes.**

- **Inspection and enforcement**
  - **NRC conducts various kinds of inspections and investigations designed to assure that nuclear plant activities are conducted safely in strict compliance with terms of the license and agency regulations, and enforces compliance as necessary.**

- **Regulatory Research**
  - **NRC provides independent expertise and information for making timely regulatory judgments, anticipating problems of potential safety significance, and resolving safety issues.**

Major NRC Offices

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- **Office of Nuclear Reactor Regulation**
  - **Primary responsibilities are to ensure effective regulation and safe operation of the Nation's current fleet of over 100 commercial nuclear power plants.**
  - **Key functions: rulemaking, licensing, inspection, assessment and oversight.**
  - **Regional offices implement the inspection and enforcement aspects.**

- **Office of New Reactors**
  - **Established in 2007 to prepare for an expected series of applications for new reactor licenses.**
  - **Responsible for review and issuance of standard design certifications, early site permits, construction permits, and operating licenses.**

- **Office of Nuclear Regulatory Research**
  - **Plan, recommend, and implement programs of nuclear regulatory research and resolution of safety issues at nuclear power plants**
  - **Coordinate research activities within and outside the agency, including participating on national and international committees and conferences.**

- **Office of Nuclear Security and Incident Response**
  - **Develops overall policy and provides direction for security at nuclear facilities and is the agency's safeguards, security and response interface with other governmental agencies.**

NRC Organization

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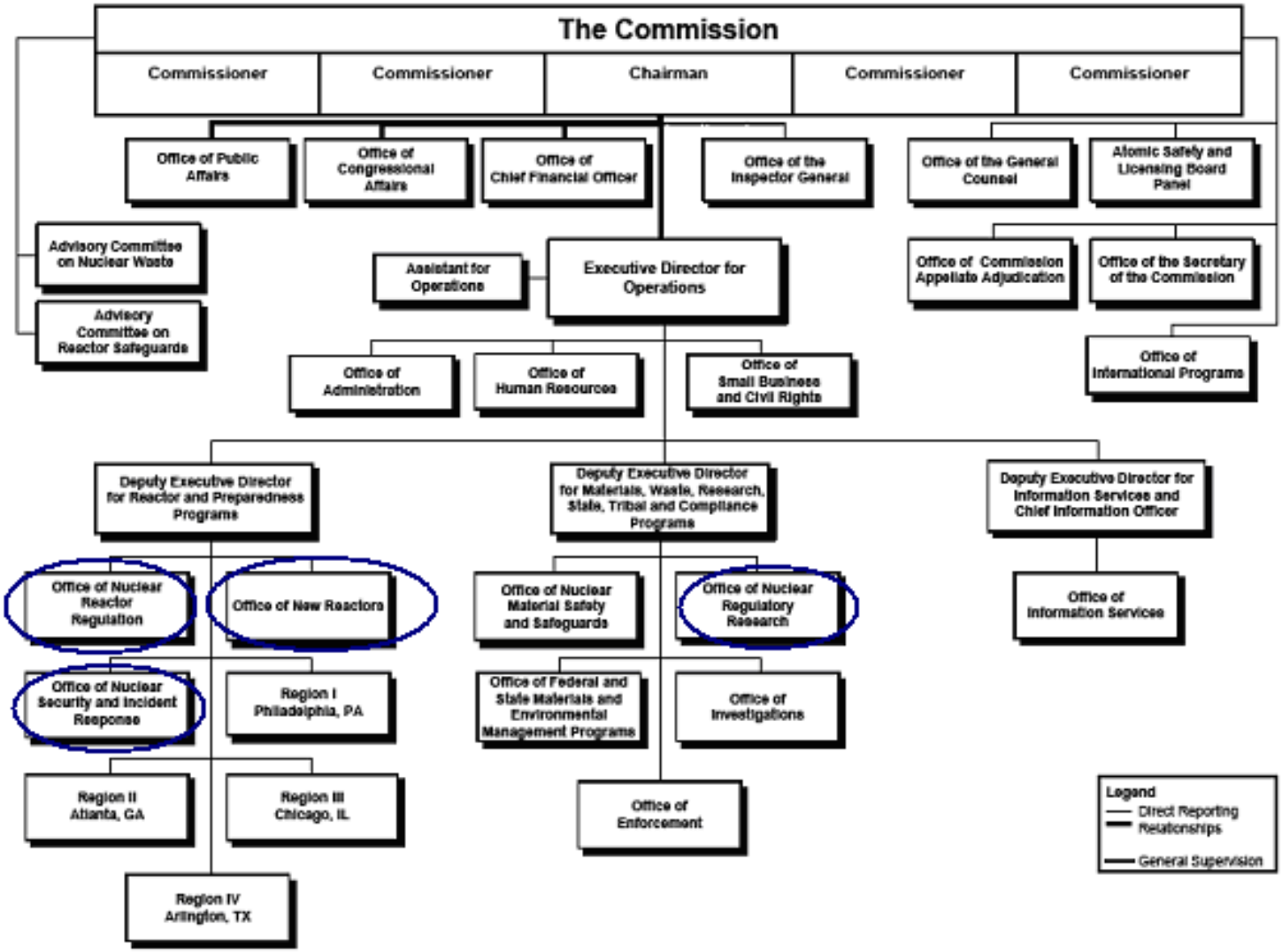
Home > About NRC > Our Organization > NRC Organization Chart

Nuclear Regulatory Commission Organization Chart [View Text Version]



U.S. NRC NATIONAL ORGANIZATION MAP

Hierarchy of Documents

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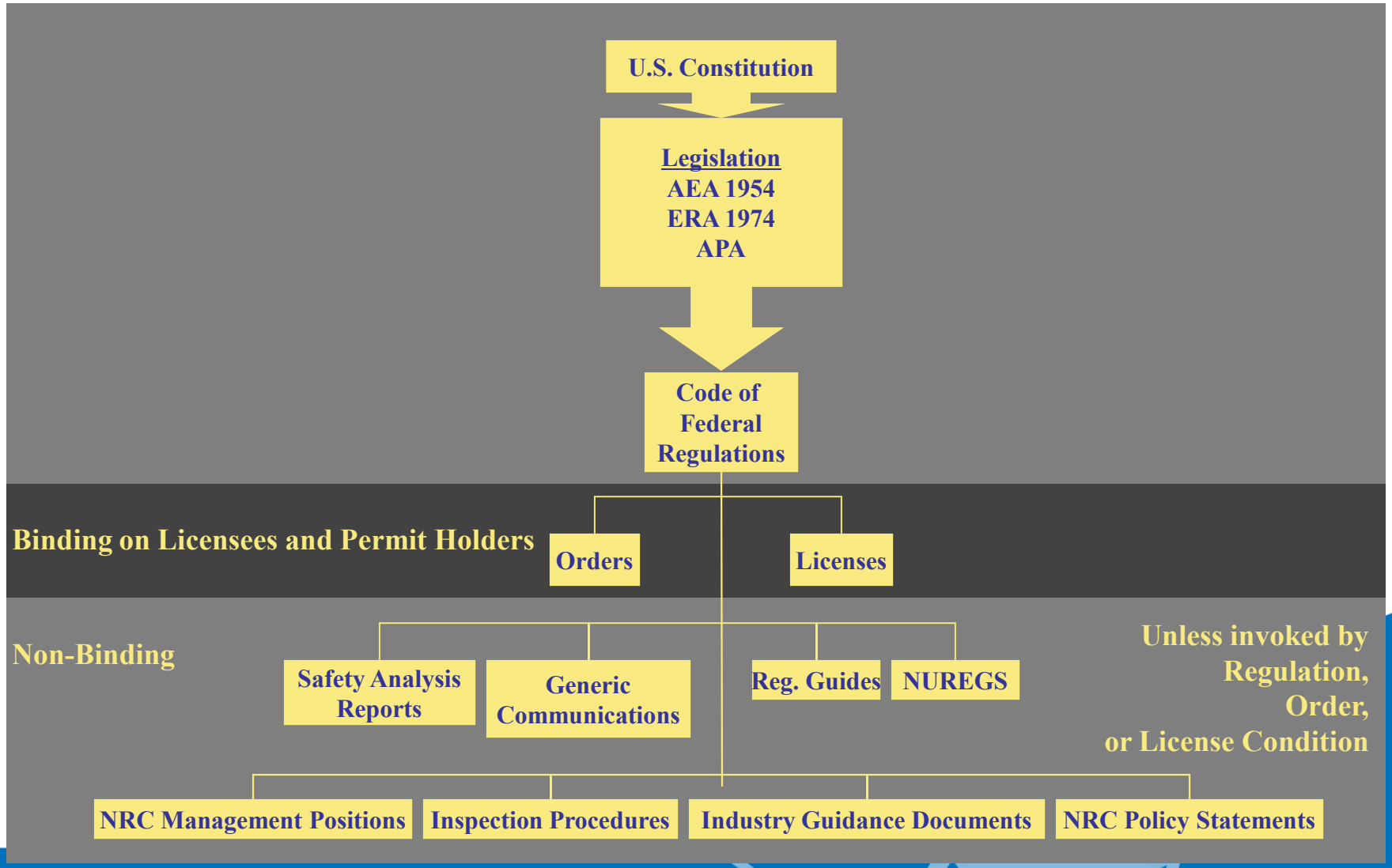

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Regulatory Tools/Regulations

Regulation - "A governmental order having the force of law"

Regulations associated with NRC are in :
Title 10, "Energy," of the Code of Federal Regulations
Chapter 1, "Nuclear Regulatory Commission" , Parts 0-99

Examples of Regulations:
Part 20 - Standards for protection against radiation.
Part 50 - Rules for license application, content of applications, facility design requirements, and reporting of events to the NRC.

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Regulatory Tools/Regulations

- Regulations the "Bead and Butter" of inspectors
- Intimate familiarity with regulations key to inspection
- Compliance is compulsory
  - But - not all regulations apply at all facilities
- Important to establish which regulations apply to facility being inspected

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Regulatory Tools/Enforcement

Enforcement sanctions:

- Notice of Violation
- Civil Penalty
- Order

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Regulatory Tools/Guidance Documents

- Regulatory Guides
- Standard Review Plans
- Inspection Guidance
- Generic Communications
    - *Regulatory Issues Summaries*
    - *Information Notices*
    - *Bulletins*
    - *Generic Letters*

Inspection Program

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- **NRC Headquarters defines the program and monitors regional implementation**

- **Various aspects of site activities are inspected including plant operations, maintenance, testing, emergency preparedness, security, and actions taken to correct problems**

- **The facility license and NRC regulations are the basis for most inspections**

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Inspections

- Inspection Program carried out by the regional offices
- NRC inspectors are NRC employees
- Almost all inspectors have four year degrees
- Inspectors complete an extensive qualification program
- Two to three inspectors assigned full time to each reactor site. They live in the area and work on site each day
- Other inspectors work at each regional office and travel to the reactor sites

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Inspections:

- Verify that activities are properly conducted
- Verify that equipment is properly maintained
- Are performed on sample populations whose sizes are selected in a risk-informed way
- Provide feedback for licensee management for corrective action, when appropriate
- Produce data to allow assessment of licensees' performance

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Inspections:

- **Who decides whether licensee is in compliance with Regulations?**
- **Licensee makes first decision in implementing the regulations**
- **Inspector will make first, but not necessarily final, regulatory determination of compliance**

Inspections:

- Most inspections are conducted by one NRC inspector.
- Some inspections are carried out by NRC teams (e.g. fire protection and engineering)
- All reactor sites receive the "Baseline" level of inspection
- Inspections are documented in inspection reports available to the public (except for physical security information)

NRC Enforcement Policy

http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html

Enforcement
Current Issues
Authority and Regulations
Policy
Program Overview
Process Diagram
Upcoming Conferences
Guidance
Sanctions for Discrimination Against Employees Who Raise Safety Concerns
Alternative Dispute Resolution
Safety Culture
Public Involvement
Contact Us About Enforcement
Related Documents
Significant Enforcement Actions
Notices of Enforcement Discretion
Office of Enforcement Annual Reports
History of Enforcement Policy

Home > About NRC > How We Regulate > Enforcement > Enforcement Policy

Enforcement Policy

NRC's (Enforcement Policy, last updated: 11/28/2008) explains the NRC's policies and procedures in initiating enforcement actions and the responsibilities of the presiding officers and the Commission in reviewing these actions.

This policy statement is applicable to enforcement matters involving the radiological health and safety of the public, including employee health and safety, the common defense and security, and the environment.

In a notice published in the Federal Register on March 16, 2005, the Commission announced its intent to use the NRC public Web site and and the NRC's Agencywide Document Access and Management System (ADAMS) to communicate its "General Statement of Policy and Procedure for NRC Enforcement Actions - Enforcement Policy," to discontinue publication of the paper document, NUREG-1600, and to simplify the official policy statement title. The NRC is taking these actions because the policy statement is available electronically on the NRC public Web site and is widely known as the "NRC Enforcement Policy."

The following links are to recent revisions of the Enforcement Policy, which the NRC issued for public comment.

The following links on this page are to documents in Adobe Portable Document Format (PDF). See our Plugins, Viewers, and Other Tools page for more information. For successful viewing of PDF documents on our site please be sure to use the latest version of Adobe.

- November 28, 2008 Enforcement Policy Revision
  (Revision related to adjustment of civil monetary penalties based on inflation, effective on October 23, 2008.)
- September 10, 2008, Enforcement Policy change
  (The NRC May Grant A Six Month Extension of Discretion for Certain Fire Protection Issues)
- January 7, 2008, Enforcement Policy revision

Enforcement Policy

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For purposes of determining the appropriate enforcement action, violations are normally categorized in terms of four levels of severity to show their relative importance or significance within each of the following eight activity areas:

I. Reactor Operations;
II. Facility Construction;
III. Safeguards;
IV. Health Physics;
V. Transportation;
VI. Fuel Cycle and Materials Operations;
VII. Miscellaneous Matters; and
VIII. Emergency Preparedness.

Licensed activities will be placed in the activity area most suitable in light of the particular violation involved, including activities not directly covered by one of the listed areas, e.g., export license activities.

Within each activity area, Severity Level I has been assigned to violations that are the most significant and Severity Level IV violations are the least significant.

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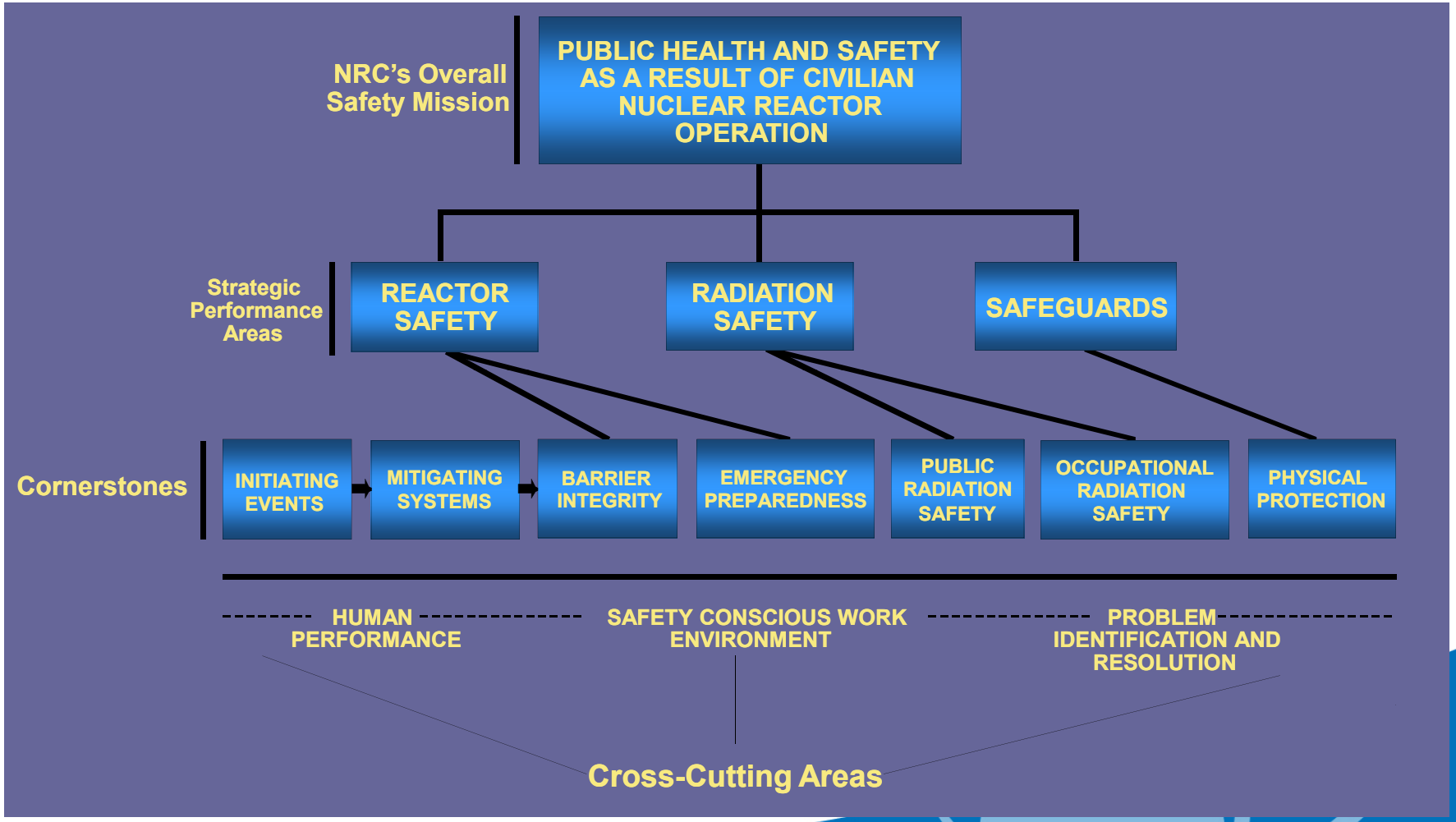
NRC Reactor Oversight Process (ROP)

- **The ROP is the NRC's program to inspect operating nuclear reactors and to assess overall performance**
- **There are two primary inputs to assessing performance:**
  - **Inspection results**
  - **Performance Indicators**
- **Performance Indicators are fixed measures with pre-defined performance thresholds**

Reactor Oversight Process



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REACTOR SAFETY CORNERSTONES

- **Initiating Events – Focus on Minimizing the Occurrences of Events that Could Lead to an Accident**
- **Mitigating Systems – Focus on Assuring the Ability of Safety Systems to Respond And Lessen The Severity of an Accident**
- **Barrier Integrity – Focus on Maintaining Barriers to The Release of Radioactivity in an Accident**
- **Emergency Preparedness – Focus on Plans by Utility and Government to Shelter or Evacuate People in the Event of an Accident**

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RADIATION SAFETY AND SAFEGUARDS CORNERSTONES

- **Public Protection – Focus on Public Protection from Radioactive Exposures due to Routine Reactor Operations.**
- **Occupational Worker Protection – Focus on Protection of Worker Health from Radioactive Exposures due to Routine Reactor Operations.**
- **Physical Protection – Focus on Protection against Radiological Sabotage**

Performance Indicators By Cornerstones

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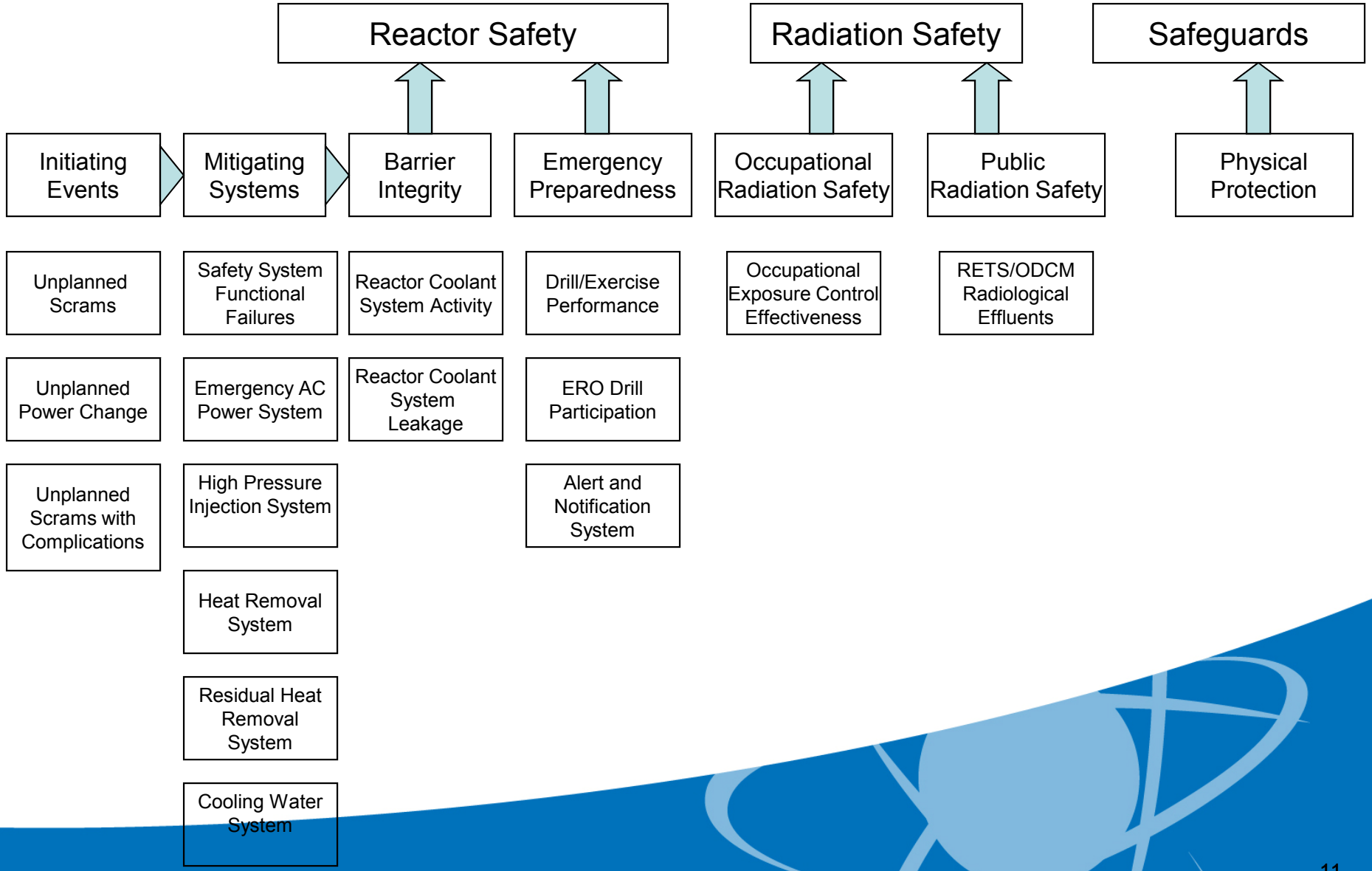

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Assessment of Performance

- Goal is to be objective, predictable, repeatable
- Process defined in 2000 with significant public and industry involvement
- Significance of inspection findings determined via documented "tools" which are available to the public
- Significance is related to the level of risk
- Inspection findings and Performance Indicators are each rated as Green, White, Yellow, or Red

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Regulatory Response

- The level of NRC oversight is determined by utility performance (the outcome of inspections and performance indicators)
- As performance declines the process defines additional regulatory oversight consistent with the level of decline
- All plants receive an annual written assessment of performance and a public meeting near the plant to discuss performance
- The performance of each plant is displayed on the NRC website with links to the supporting documentation

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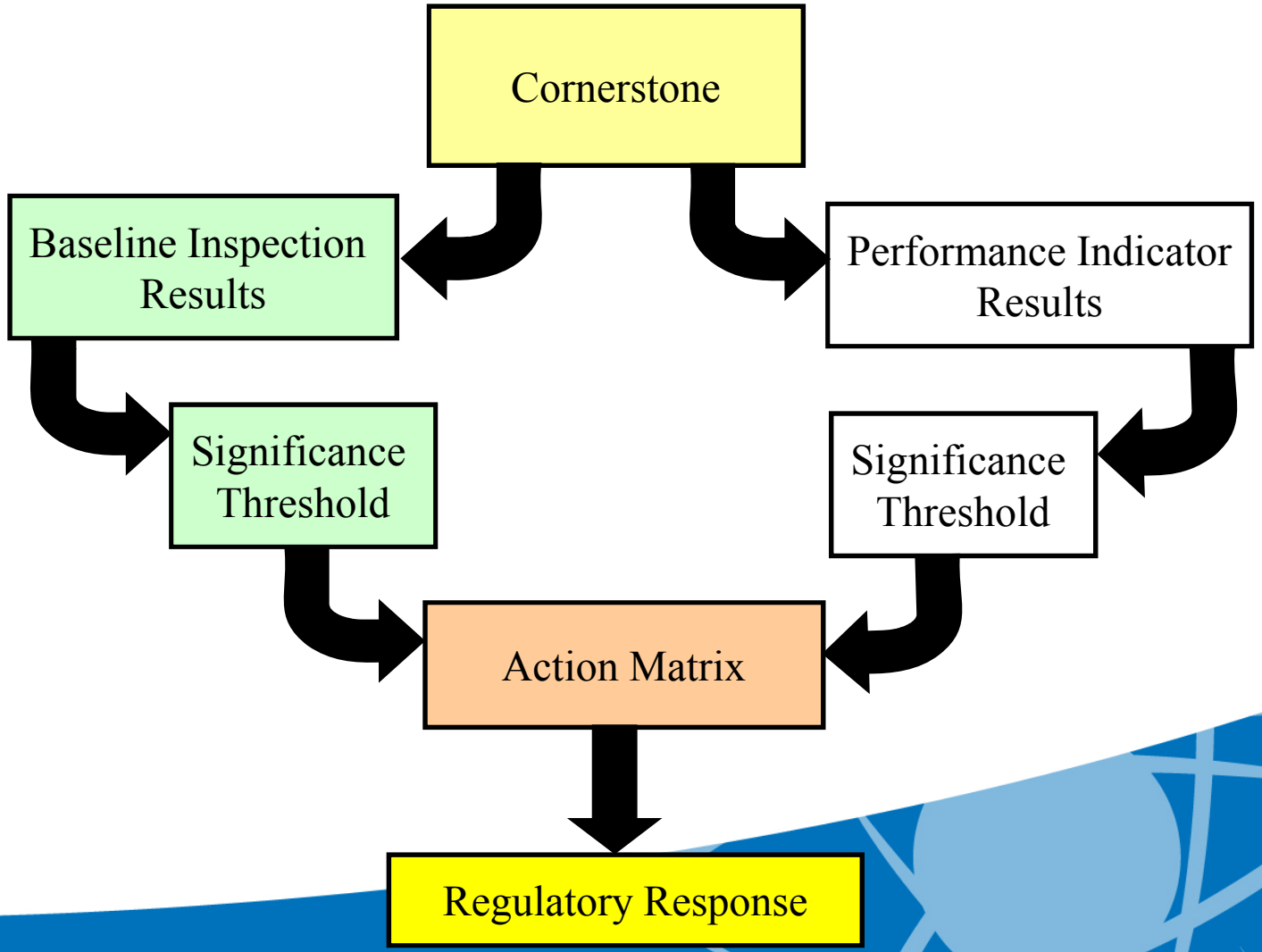
REACTOR OVERSIGHT PROCESS



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Reactor Oversight Program and Performance Measurements

Plant performance measured by:

- Performance Indicators
- Inspections
- Performance Indicators + Inspections = Plant Assessment

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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

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NRC Reactor Oversight Process - Assessment

- **NRC makes available to public results of inspections and Performance Indicators**
- http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/
- www.nrc.gov

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QUESTIONS ?