Meeting to Discuss the Revised Fuel Cycle Oversight Process

US NRC Region II

Atlanta, Georgia

July 28-30,2009

Agenda

July 28, 2009

1:00 p.m.	**Introductions and Opening Remarks**
1:10 p.m.	**Progress Overview - Revised Fuel Cycle Oversight Process (RFCOP)**
1:30 p.m.	**Regulatory Framework and Cornerstone Definitions**
2:30 p.m.	**Questions and Discussions with Members of the Public**
2:45 p.m.	**Break**
3:00 p.m.	**Performance Deficiency**
3:45 p.m.	**Action Matrix Concepts and Inputs**
4:15 p.m.	**Considerations for Performance Indicator Development**
4:30 p.m.	**Next Steps for the RFCOP Development**
4:45 p.m.	**Questions and Discussion with Members of the Public**
5:00 p.m.	**Adjourn**

Agenda

July 29, 2009

8:30 a.m.	**Introductions and Opening Remarks**
8:45 a.m.	**Emergency Preparedness Cornerstone Workshop - Significance Determination Process and Performance Indicator Development**
10:30 a.m.	**Break**
10:45 a.m.	**Emergency Preparedness Workshop Continues**
11:45 a.m.	**Questions and Discussion with Members of the Public**
noon	**Lunch**
1:00 p.m.	**Emergency Preparedness Workshop Continues**
3:00 p.m.	**Break**
3:10 p.m.	**Emergency Preparedness Workshop Continues**
4:45 p.m.	**Questions and Discussion with Members of the Public**
5:00 p.m.	**Adjourn**

Agenda

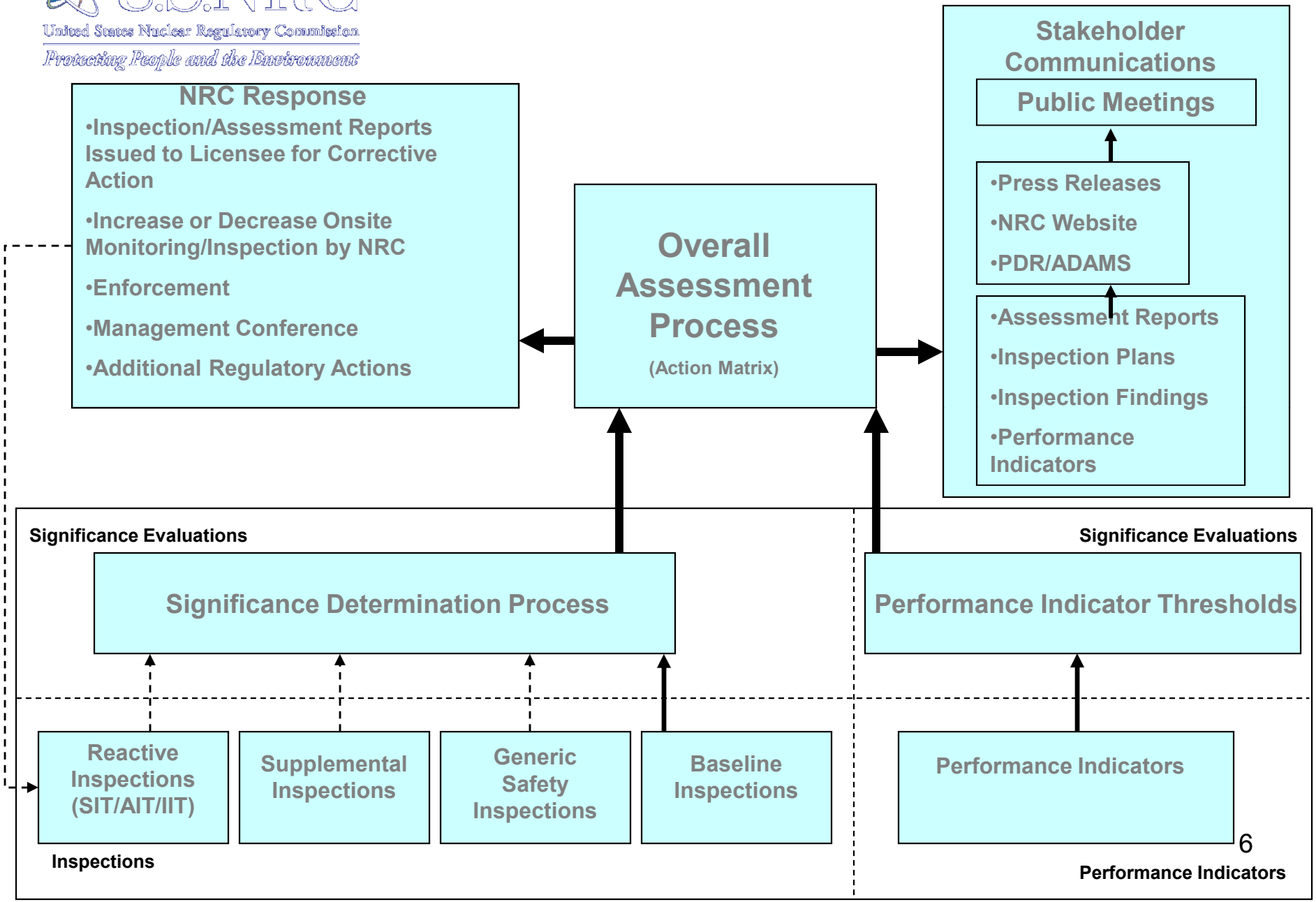
July 30, 2009

8:30 a.m.	**Introductions and Opening Remarks**
8:45 a.m.	**Workshop on Nuclear Criticality Safety (NCS) Cornerstone - Significance Determination Process and Performance Indicator Development and Cornerstone**
10:30 a.m.	**Break**
10:45 a.m.	**NCS Workshop Continues**
11:45 a.m.	**Questions and Discussion with Members of the Public**
noon	**Lunch**
1:00 p.m.	**NCS Workshop Continues**
3:00 p.m.	**Break**
3:10 p.m.	**NCS Continues**
4:45 p.m.	**Questions and Discussion with Members of the Public**
5:00 p.m.	**Adjourn**

Objectives – Day One

- **Alignment on Regulatory Framework and Cornerstones**
- **Progress on common understanding of Performance Deficiency definition**
- **Common understanding of Action Matrix**
- **Common understanding of PI development concepts**
- **Determine next steps for project**

Fuel Cycle Facility Oversight Process



Cornerstones

Regulatory Framework – Cornerstones and Cross Cutting Areas

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

NRC MISSION

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.

STRATEGIC PERFORMANCE AREAS

- **Safety**
  - **Facility Operational Safety**
  - **Radiological Materials Safety**
- **Security**

CORNERSTONES

- Emergency Preparedness
- Chemical Process Safety
- Fire Protection
- Criticality Safety
- Public Radiation Safety
- Occupational Radiation Safety
- Information Security
- Physical Security
- Material Control and Accounting

CROSS-CUTTING AREAS

- **Sa**fety Conscious Work **Environment**
- Human **Performance**
- Problem **Identification** and Resolution

What is a Cornerstone?

- A central or key element of the NRC's oversight process that is essential for safe operation of a fuel cycle facility.

- Acceptable licensee performance in each cornerstone provides reasonable assurance that licensees are operating their facilities safely and securely.

Bases for Cornerstone Selected

- Cornerstones identified allow NRC to meet its mission
- Cornerstones are based on key safety and security elements at fuel cycle facilities
- 10 CFR Part 70 (Subpart H) requires ISAs to address several cornerstones including:
  - emergency preparedness
  - chemical process safety
  - radiation safety
  - fire protection
  - criticality safety

Bases for Cornerstones (Continued)

- Licensee safety and security programs have implemented controls in these cornerstone areas
- Cornerstones make the regulatory framework understandable to stakeholders
- Cornerstones best represent current NRC baseline inspections

Facility Operational Safety Cornerstones

- Emergency Preparedness – verifies the licensee's ability to respond to events that could threaten the facility to protect workers, the public and the environment.
- Chemical Process Safety – ensures that chemical process upsets do not affect the safe handling of radioactive materials and that workers, the public, and the environment are protected from chemical hazards from radioactive materials and hazardous chemicals produced from radioactive materials.

Facility Operational Safety Cornerstones

- Fire Protection – ensures that fires are prevented or do not affect the safe handling and storage of radioactive materials.

- Criticality Safety – ensures that inadvertent nuclear criticality events are prevented and criticality alarm system reliably detects the minimum criticality accident of concern resulting in prompt evacuation.

Radiological Materials Safety Cornerstones

- Public Radiation Safety – ensures that the public and the environment are protected from unintended exposure to radioactive material that could adversely affect public health.

- Occupational Radiation Safety – ensures the protection of workers from unintended exposure to radioactive material that could adversely affect worker health.

Security Cornerstones

- Information Security – verifies that the licensee effectively controls classified and restricted material and information, unclassified controlled nuclear information, and safeguards information to prevent unauthorized disclosure, modification, loss or theft.
- Physical Security – ensures that the radioactive material is protected from sabotage or theft.
- Material Control and Accounting (MC&A) – ensures that the licensee knows the location, form, and amount of special nuclear material under their control.

Performance Deficiency

Potential Performance Deficiency Definition

- An issue that is the result of a licensee not meeting a requirement or standard where the cause was reasonably within the licensee's ability to foresee and correct, and that should have been prevented. A performance deficiency can exist if a licensee fails to meet a self-imposed standard.

Considerations for Performance Deficiency

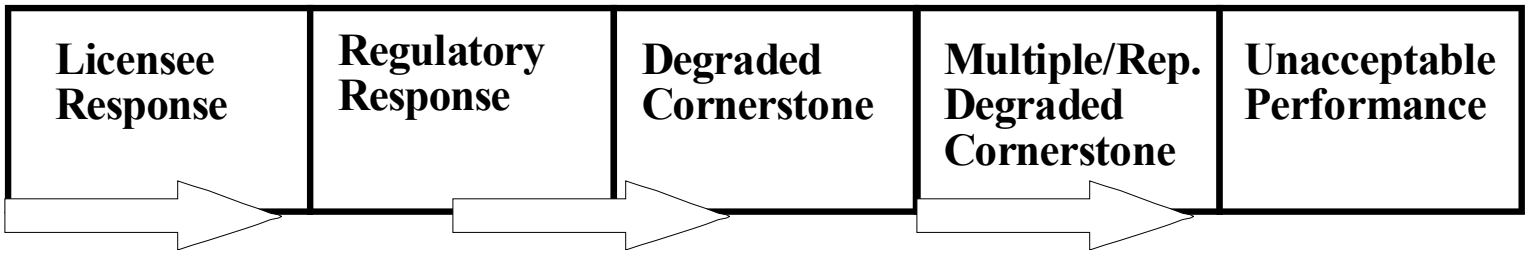
- Fuel cycle facilities create “baseline risk” that is very low through compliance with NRC regulations and self-imposed standards
  - Baseline risk includes degraded conditions not resulting from deficient licensee performance
- Basis for every inspection finding is grounded in deficient licensee performance
- Performance deficiency is not the degraded condition but the proximate cause of the degraded condition
- When regulations and self-imposed standards are not met due to deficient performance - this may have a risk impact above baseline risk and should be basis for a potential finding

Examples of Potential Fuel Cycle Performance Deficiencies not Involving a Regulatory Requirement

- **Emergency Preparedness** – An offsite support organization (fire, hospital, etc.) does not participate in training or drills for more than one year. The requirement is for a licensee to offer the training opportunity, but a licensee is not required to make the support organization participate. During an inspection, the NRC notes that the offsite support organization is not knowledgeable enough of the facility or facility expectations to provided needed support.

Action Matrix

Assessment and Response Concept



Increasing Safety Significance

Increasing NRC Inspection Efforts

Increasing NRC/Licensee Management Involvement

Increasing Regulatory Actions

POTENTIAL ACTION MATRIX - PARTIAL

		Licensee Response Column	Regulatory Response Column	Degraded Cornerstone Column	Multiple/ Repetitive Degraded Cornerstone Column	Unacceptable Performance Column
RESULTS		**All Assessment Inputs (PIs and Inspection Findings) Green**	**1 or 2 White Inputs (in different cornerstones) in a Strategic Performance Area**	**One Degraded Cornerstone (2 White Inputs or 1 Yellow Input) or any 3 White Inputs in a Strategic Performance Area;**	**Repetitive Degraded Cornerstone, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or 1 Red Input**	**Overall Unacceptable Performance; Plants Not Permitted to Operate Within this Band, Unacceptable Margin to Safety**
RESPONSE	**Inspection/ Regulatory Actions**	Continue Baseline Inspections	Supplemental inspection only	Supplemental inspection Plant may be discussed at AARM	Supplemental inspection DFI/CAL/Order Plant discussed at AARM	Order to Modify, Suspend or Revoke licensed activities Plant discussed at AARM
	INCREASING SAFETY SIGNIFICANCE ---------->					

Performance Indicator Development

- Provide objective indication of key attributes of licensee performance in each of the cornerstones
- Relevant to the licensee, easy to measure and collect
- Be deterministic in nature
  - If non-deterministic or subjective then the Technical Basis must be very robust
- Provide immediate/reliable performance level indications and/or identify negative trends
- Must be leading identifying negative trends <u>before</u> adverse outcomes occur
- Understood/owned by those whose performance is being measured and amenable to intervention/ influence

Next Steps

- What is the right frequency for these meetings? More than one meeting per month too much?
- Should we have workshop type meetings in parallel using the cornerstone-by-cornerstone approach?
- Which cornerstone should be next? Radiation safety cornerstones may be good choices followed by chemical safety.
  - Suggest two cornerstones per month

Next Steps (Continued)

- NRC plans to develop/revise draft program documents for industry comment. Key documents include:
  - IMC 2600 – Inspection Program
  - IMC 2604 – Assessment Process (LPR)
  - IMC 0616 – Inspection Report Documentation
  - IMC XXXX – FCOP SDP
  - IMC XXXX – FCOP Basis Document
  - MD 8.3 – Revision for Reactive Inspections
  - IP XXXXX – Corrective Action Program Inspection
  - IP XXXXX – Supplemental Inspections

First Day Wrap-Up

- Common understanding of FCOP Process?
- Common understanding of Framework and Cornerstones?
- Progress on common understanding of Performance Deficiency definition?
- Common understanding of Performance Indicator concepts?
- Progress on common understanding of Action Matrix?
- Common understanding on next steps?