



Graded Approach to an Integrated Regulatory Program

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Integrated Regulatory Program

- **Step 1:** Identify the combination of functions and/or the suit of facilities that need to be simultaneously addressed under the regulatory program.

Regulatory Functions

- Rulemaking
- Authorizations
- Review and Assessment
- Inspection
- Enforcement
- Communication/Consultation with Interested Parties

Licensees

- Nuclear Power Plants
 - Construction
 - Operating
 - Decommissioning
- Research & Test Reactors
- Fuel Cycle Facilities
- Materials licensees



U.S. Licensees

Licensees	Numbers
Nuclear Power Plants	
Operating	94
Under Construction	2
Decommissioned	25
Research and Test Reactors	31
Under Construction	2
Fuel Cycle Facilities	10
Materials	
NRC	2209
Agreement States	16455

New Reactors

- 6 Early Site Permits
- 6 Design Certifications
 - NuScale SMR application under review
- 14 Construction/Operating Licenses (6 terminated)

Integrated Regulatory Program

- **Step 2:** Determine which factors are applicable to the decision, and how those factors are ranked.
 - Statutory requirements (organizational structure, budget)
 - Number and type of licensees
 - Regulatory body experience
 - Emergency response
 - Licensee performance
 - Urgency
 - Emergent work

Integrated Regulatory Program

- **Step 3:** Integrate the applicable factors into the decision-making process.
 - How are resources allocated to accomplish all regulatory functions efficiently for all licensees in a graded approach?
 - Budget!
 - How are resources reallocated in response to events, licensee performance, emergent work?

Budget

- NRC budget development
 - Regulatory body experience - 46 years
 - Baseline budgeting – start with most recent approved budget, adjust for known and anticipated increases or decreases in work.

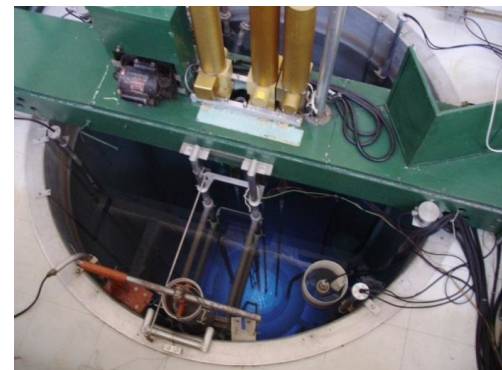
Budget

- Example – Operating NPP inspection resource requirements
 - 2 resident inspectors at every site (3 at 3-unit sites) (56 sites)
 - Region-based and HQ inspectors for security, rad protection, emergency preparedness

Inspection Area	Hours
71111 (Reactor Safety) Procedures	1286
71114 (EP) Procedures	88
71124 (Radiation Protection) Procedures	142
71130 (Security) Procedures	278
Other Procedures (71151, 52, 53)	505
Plant Status	699
Total Hours	2998

Budget

- Example – RTR inspection resource requirements
 - No resident inspectors
 - 31 sites
 - Inspection requirements significantly less than for NPPs due to lower risk to public (most conducted annually or biennially)
 - 10 dedicated inspectors
 - 13 staff dedicated to licensing



Budget

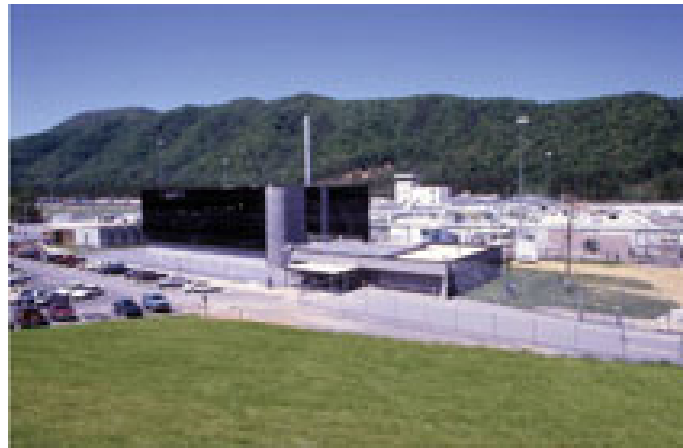
- Recent budget requested 1755 staff for reactor safety
 - Licensing – 100
 - Technical reviewers; risk analysts – 220
 - New reactors (licensing and inspection) – 285 (17 dedicated to inspection of Vogtle 3&4 (2-unit AP1000))
 - Oversight program – 70
 - Enforcement – 21
 - Inspectors
 - Security inspectors



Budget

Office of Nuclear Material Safety and Safeguards provides the regulatory functions for spent fuel storage and transportation, nuclear materials users, decommissioning and low-level waste, and fuel facility business lines, as well as rulemaking.

- 462 staff



Resource Summary

Business Line	Staff Requested
Operating Reactors	1470
New Reactors	285
Spent Fuel Storage and Transportation	102
Nuclear Materials Users	201
Decommissioning and Low-Level Waste	86
Fuel Facilities	73

Adjusting Resources

Emergent work may require reprioritizing or shedding other budgeted work

Factors

- Source of emergent work
- Due dates
- Negative impact to performance metrics

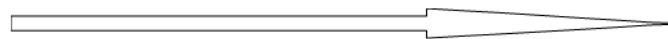
Adjusting Resources

Licensee performance

- Declining performance leads to increased inspection
 - Graded approach based on level of performance
- Potential increase in licensing actions
- Increase in enforcement actions

Licensee Response	Regulatory Response	Degraded Performance	Multiple/Repetitive Degraded Cornerstone	Unacceptable Performance
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Column 1 Column 2 Column 3 Column 4 Column 5



- Increasing safety significance
- Increasing NRC inspection efforts
- Increasing NRC/licensee management involvement
- Increasing regulatory actions



Adjusting Resources

Event Response

- 9/11
 - Creation of Office of Nuclear Security and Incident Response (NSIR)
~200 staff
 - Increased security inspections from 98 hours annually to 278 hours
 - Increased regulation (10 CFR 50.54(hh)(1)) – mitigation from potential aircraft threat

Adjusting Resources

Event Response

- Fukushima
 - EOC staffed around the clock
 - Urgency due to very high degree of stakeholder and public concern
 - Regulations – several Orders issued to operating NPPs, eventually codified within the regulations
 - Inspections – seismic and flooding

Adjusting Resources

Risk-Informed Decision-Making

- Risk insights are considered together with other factors to establish requirements that better focus licensee and regulatory attention on design and operational issues commensurate with their importance to public health and safety.
- Applies to NRC rulemaking, licensing, inspection, assessment, enforcement, and other decision-making.



Questions