

A Proposed Risk Management Regulatory Framework

The report of Commissioner
George Apostolakis' Task Force
Dennis Damon, NRC / FCSS

A Proposed Risk Management Regulatory Framework

Mission

Ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment

Objective

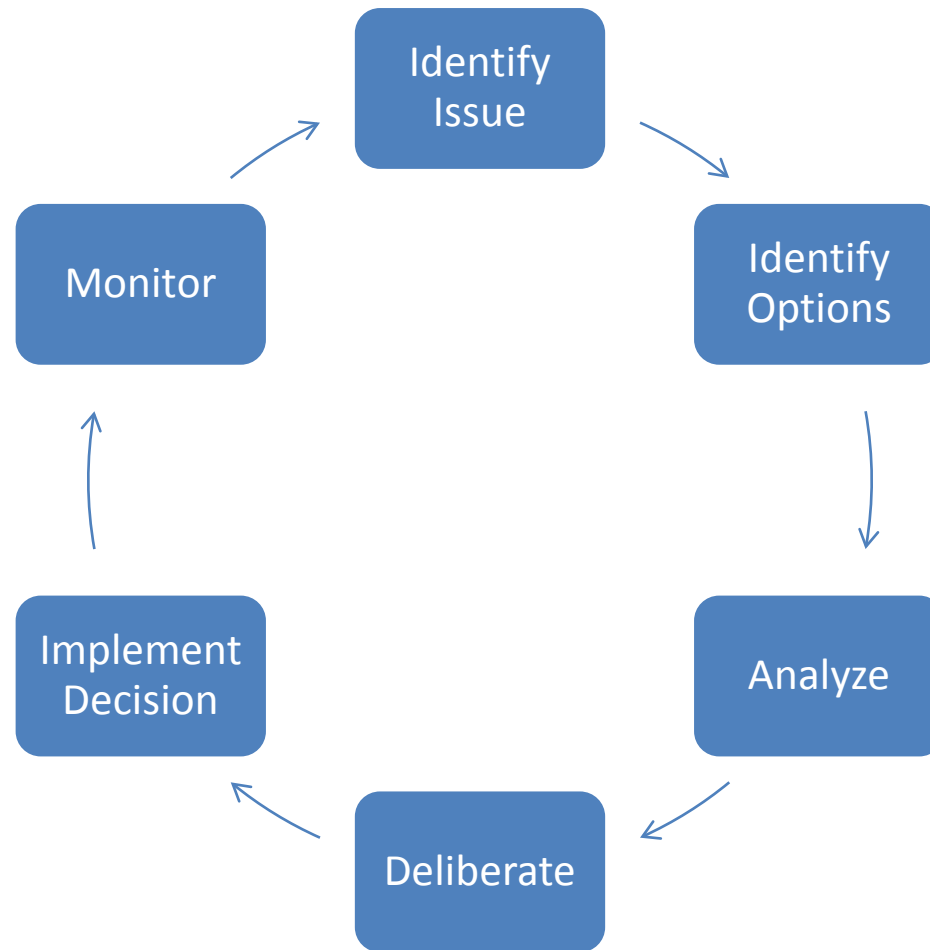
Manage the risks from the use of byproduct, source and special nuclear materials through appropriate performance-based regulatory controls and oversight

RISK MANAGEMENT GOAL

Provide risk-informed and performance-based defense-in-depth protections to:

- **Ensure appropriate barriers, **controls**, and personnel to prevent, contain, and mitigate exposure to radioactive material according to the hazard present, the relevant scenarios, and the associated uncertainties; and**
- **Ensure that the **risks** resulting from the failure of some or all of the established barriers and controls, including human errors, are maintained acceptably low**

Decision-making Process



RMTF Approach

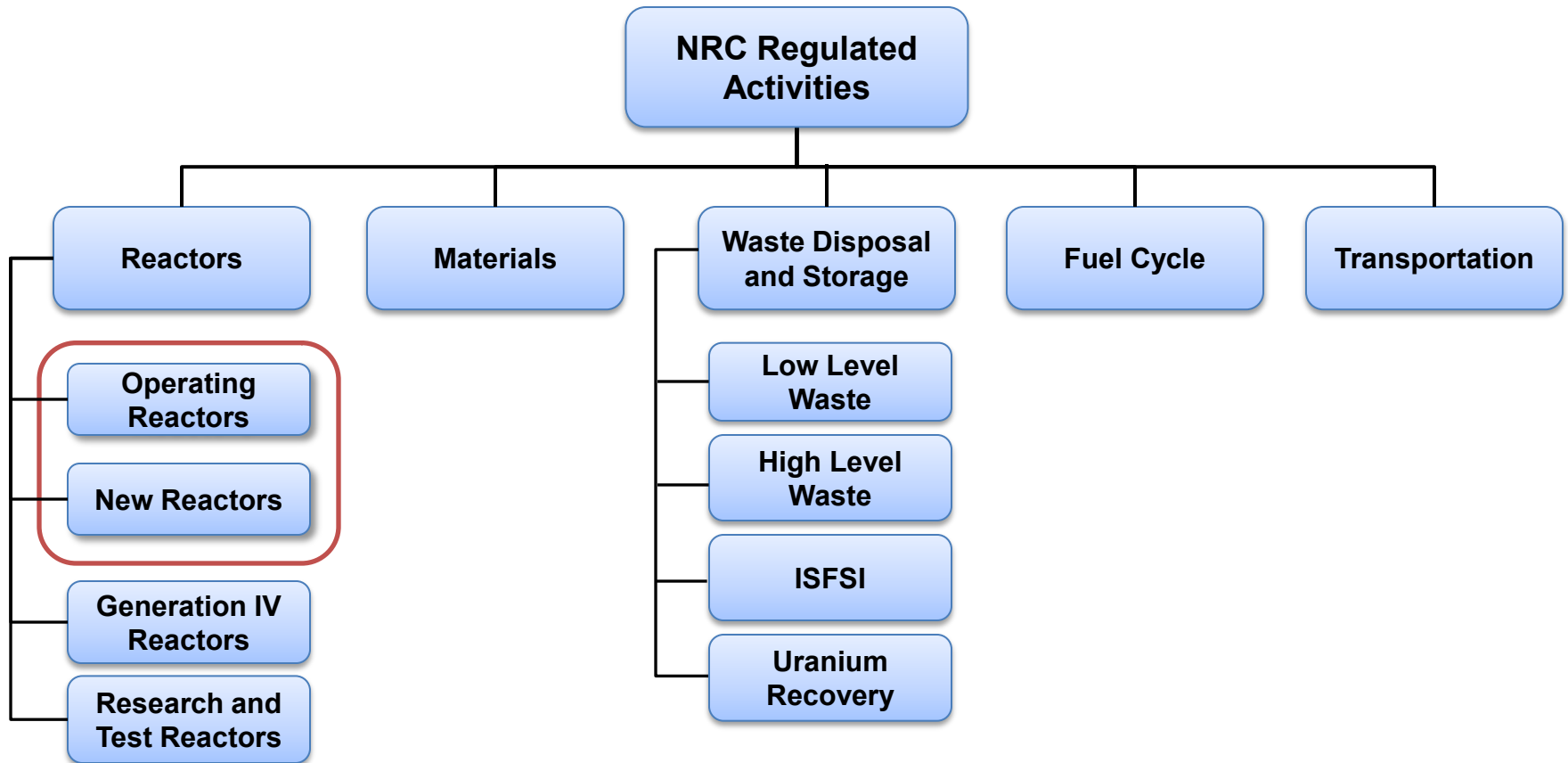
- Provide a vision for a regulatory system 10-15 years in the future
- The approach should build on the experience of the last 20 years and should be evolutionary rather than revolutionary
- The need for a new regulatory approach was also recognized by the Fukushima Near Term Task Force Recommendation 1:

“Establish a logical, systematic, and coherent regulatory framework for adequate protection that appropriately balances defense-in-depth and risk considerations.”

Recommended Policy Statement

The NRC should formally adopt the proposed Risk Management Regulatory Framework through a Commission Policy Statement.

Framework Implementation



Fuel Cycle Findings of the RMTF

- F-1: The current fuel cycle regulatory approach incorporates several elements of the proposed risk management regulatory framework, such as the use of ISAs to identify safety significant items, and the implementation of a revised fuel cycle oversight program as directed by the Commission.

Finding F-1 (continued)

- ISAs themselves embody risk and performance-based concepts:
 - Risk Triplet: Identify what can go wrong, assess consequences, evaluate likelihood
 - This is what ISAs do.
 - Items Relied On For Safety (IROFS) are performance-based, not prescriptive.
 - 10 CFR 70.61 “performance requirements” are performance-based.

Fuel Cycle Findings of the RMTF

- F-2: The concept of defense-in-depth, as embedded in fuel cycle regulatory requirements and practices, is consistent with Commission guidance. Its implementation changes as processes change at the fuel cycle facilities.

(see 10 CFR 70.64(b))

Fuel Cycle Recommendation of the RMTF

- R-1: The fuel cycle regulatory program should continue to evaluate the risk and associated defense-in-depth protection by using insights gained from ISAs. ISAs should continue to evolve to support regulatory decision-making.

Option B

- Option B is recommended by the RMTF report
- “This option would emphasize specific rule and guidance changes over time to implement the proposed risk management regulatory framework as contained in the proposed Commission policy statement.”

Option B (continued)

- Option B mentions:
 - Revision of Fuel Cycle Oversight Program
 - Evolution of ISAs
 - Risk-related staffing and training
 - Development and implementation of methods for prioritizing regulatory activities
 - Development of applicable risk assessment tools

Status

- RMTF report has been submitted to the Chairman
- Status: awaiting Commission direction