

USNRC RIC 2017

NRC's Overall Vision and Strategy for Non-Light-Water Reactors

March 14, 2017
Session T1
Advanced Reactors: NRC's Readiness

Amy Cabbage, USNRC

USNRC RIC 2017

Outline

- Vision and Strategy
- Implementation Action Plans
- Executing the Vision
- Stakeholder Engagement

2

USNRC RIC 2017

Vision and Strategy

NRC Vision and Strategy: Safely Achieving Efficient and Efficient Non-Light Water Reactor Market Readiness

Technical Readiness
Regulatory Readiness
Communication

DRAFT

3

USNRC RIC 2017

Implementation Action Plans

- The IAPs are planning tools that describe:
 - Work to be done to achieve non-LWR readiness,
 - Resources needed to accomplish the work,
 - How the work should be sequenced,
 - How to prepare the workforce to do the work,
- Near-term (0-5 years)
- Mid-term (5-10 years)
- Long-term (>10 years)

4

USNRC RIC 2017

Implementation Action Plans

```

graph TD
    A[Non-LWR Vision and Strategy] --> B[Implementation Action Plan]
    B --> C[Near-Term 0-5 years]
    B --> D[Mid-Term 5-10 years]
    B --> E[Long-Term >10 years]
    C --> F[Strategy 1 Knowledge, Skills and Capacity]
    C --> G[Strategy 2 Computer Codes]
    C --> H[Strategy 3 Flexible Review Processes]
    C --> I[Strategy 4 Industry Codes and Standards]
    C --> J[Strategy 5 Technology-Inclusive Policy Issues]
    C --> K[Strategy 6 Communication]
  
```

5

USNRC RIC 2017

Near-Term Implementation Action Plan

- Six Strategies
 - Acquire/develop sufficient knowledge, technical skills, and capacity to perform non-LWR regulatory reviews
 - Acquire/develop sufficient computer codes and tools to perform non-LWR regulatory reviews
 - Develop guidance for a flexible non-LWR regulatory review process within the bounds of existing regulations, including the use of conceptual design reviews and staged-review processes

6

USNRC RIC 2017

Near-Term Implementation Action Plan

- Facilitate industry codes and standards needed to support the non-LWR life cycle (including fuels and materials)
- Identify and resolve technology-inclusive policy issues that impact the regulatory reviews, siting, permitting, and/or licensing of non-LWR nuclear power plants (NPPs)
- Develop and implement a structured, integrated strategy to communicate with internal and external stakeholders having interests in non-LWR technologies

7

USNRC RIC 2017

Executing the Vision

Near-Term Implementation Action Plan

Strategy 1 Knowledge, Skills and Capacity	Strategy 2 Computer Codes	Strategy 3 Flexible Review Processes	Strategy 4 Industry Codes and Standards	Strategy 5 Technology-Inclusive Policy Issues	Strategy 6 Communication
ORNL Molten Salt Reactor Training	Evaluation of available tools	Regulatory Roadmap	ASME BPVC Sect. III Div. 5	EP for SMRs and ONTs	NRC DOE Workshops
	Prototype Guidance	ANS Standard 20.1, 20.2, 30.2, 54.1	Insurance	Security	Periodic Stakeholder Meetings
	Non-LWR Design Criteria				NRC DOE GAIN MOU
	Security Design Consideration				International Coordination

8

USNRC RIC 2017

Ongoing Activities

- Advanced Reactor Design Criteria
- Security Design Considerations
- Licensing Roadmap
- Prototype guidance
- Policy issues
- Outreach

9

USNRC RIC 2017

Stakeholder Engagement

- DOE/NRC workshop April 25 & 26, 2017
- Stakeholder meetings every 6 weeks
- Pre-application engagement
- Memorandum of Understanding with DOE
 - Gateway for Nuclear Innovation (GAIN)
- Seeking stakeholder feedback at all steps
- Information from prospective applicants informs budget, schedule and priorities

10

USNRC RIC 2017

Summary

- Vision and Strategy sets high level goals and objectives to achieve readiness
- NRC is moving from planning to execution
- We need your input to inform our actions

11
