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

Update to Radiation Safety Significance Determination Process

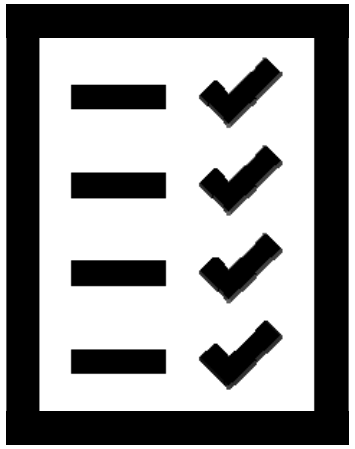
October 21, 2020

David Garmon
Health Physicist
NRR/DRA/ARCB

ADAMS Accession No. ML20290A462

Agenda

- Meeting preliminaries
- Principles of Good Regulation
- Background of Significance Determination Process (SDP)
- Why is this update required?
- Updates being considered
- Discussion
- Questions/Feedback



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

Principles of Good Regulation

The NRC adheres to the following Principles of Good Regulation

Independence: Nothing but the highest possible standards of ethical performance and professionalism should influence regulation. However, independence does not imply isolation. All available facts and opinions must be sought openly from licensees and other interested members of the public. The many and possibly conflicting public interests involved must be considered. Final decisions must be based on objective, unbiased assessments of all information, and must be documented with reasons explicitly stated.

Openness: Nuclear regulation is the public's business, and it must be transacted publicly and candidly. The public must be informed about and have the opportunity to participate in the regulatory processes as required by law. Open channels of communication must be maintained with Congress, other government agencies, licensees, and the public, as well as with the international nuclear community.

Clarity: Regulations should be coherent, logical, and practical. There should be a clear nexus between regulations and agency goals and objectives whether explicitly or implicitly stated. Agency positions should be readily understood and easily applied.

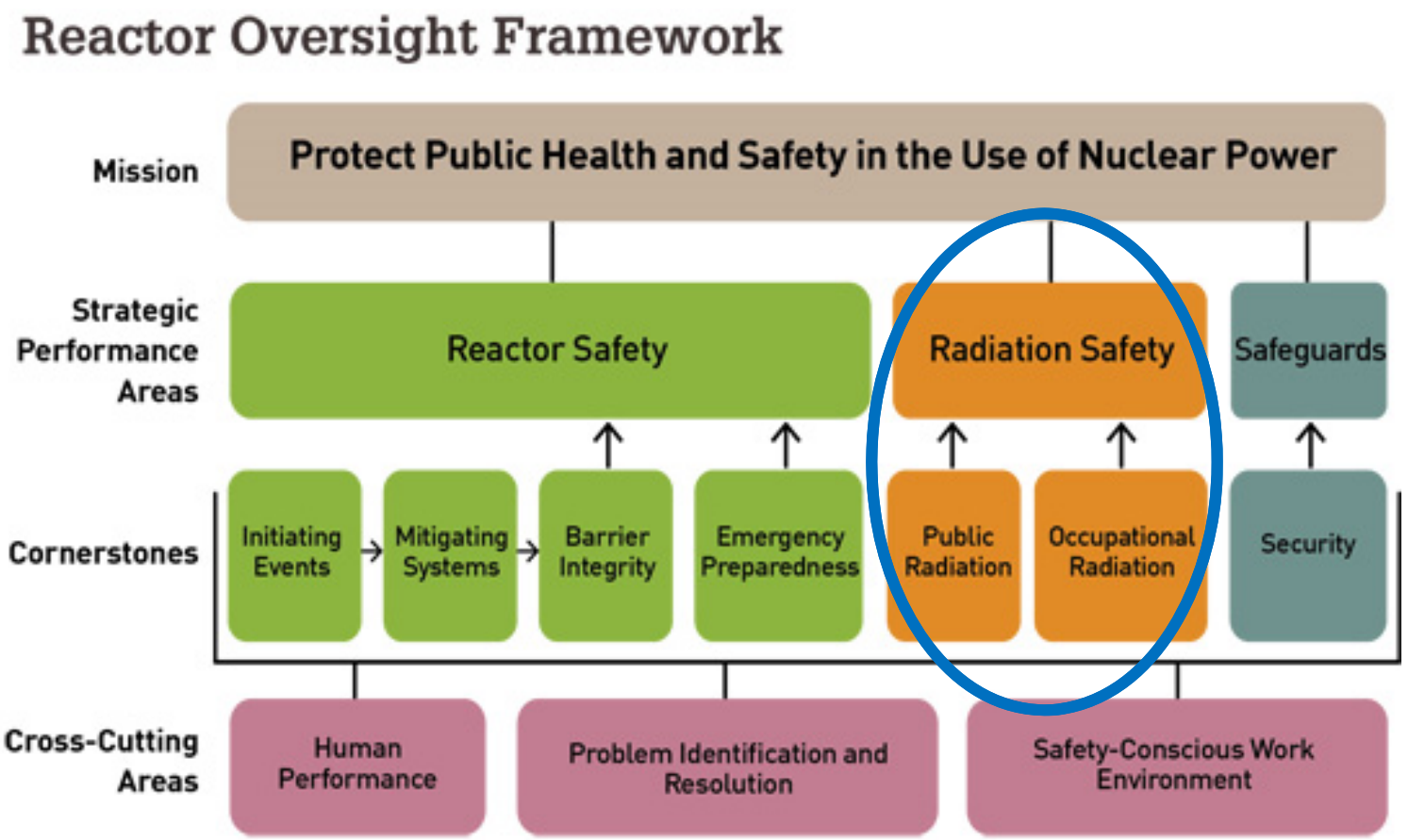
Efficiency: The American taxpayer, the rate-paying consumer, and licensees are all entitled to the best possible management and administration of regulatory activities. The highest technical and managerial competence is required, and must be a constant agency goal. NRC must establish means to evaluate and continually upgrade its regulatory capabilities. Regulatory activities should be consistent with the degree of risk reduction they achieve. Where several effective alternatives are available, the option which minimizes the use of resources should be adopted. Regulatory decisions should be made without undue delay.

Reliability: Regulations should be based on the best available knowledge from research and operational experience. Systems interactions, technological uncertainties, and the diversity of licensees and regulatory activities must all be taken into account so that risks are maintained at an acceptably low level. Once established, regulation should be perceived to be reliable and not unjustifiably in a state of transition. Regulatory actions should always be fully consistent with written regulations and should be promptly, fairly, and decisively administered so as to lend stability to the nuclear operational and planning processes.

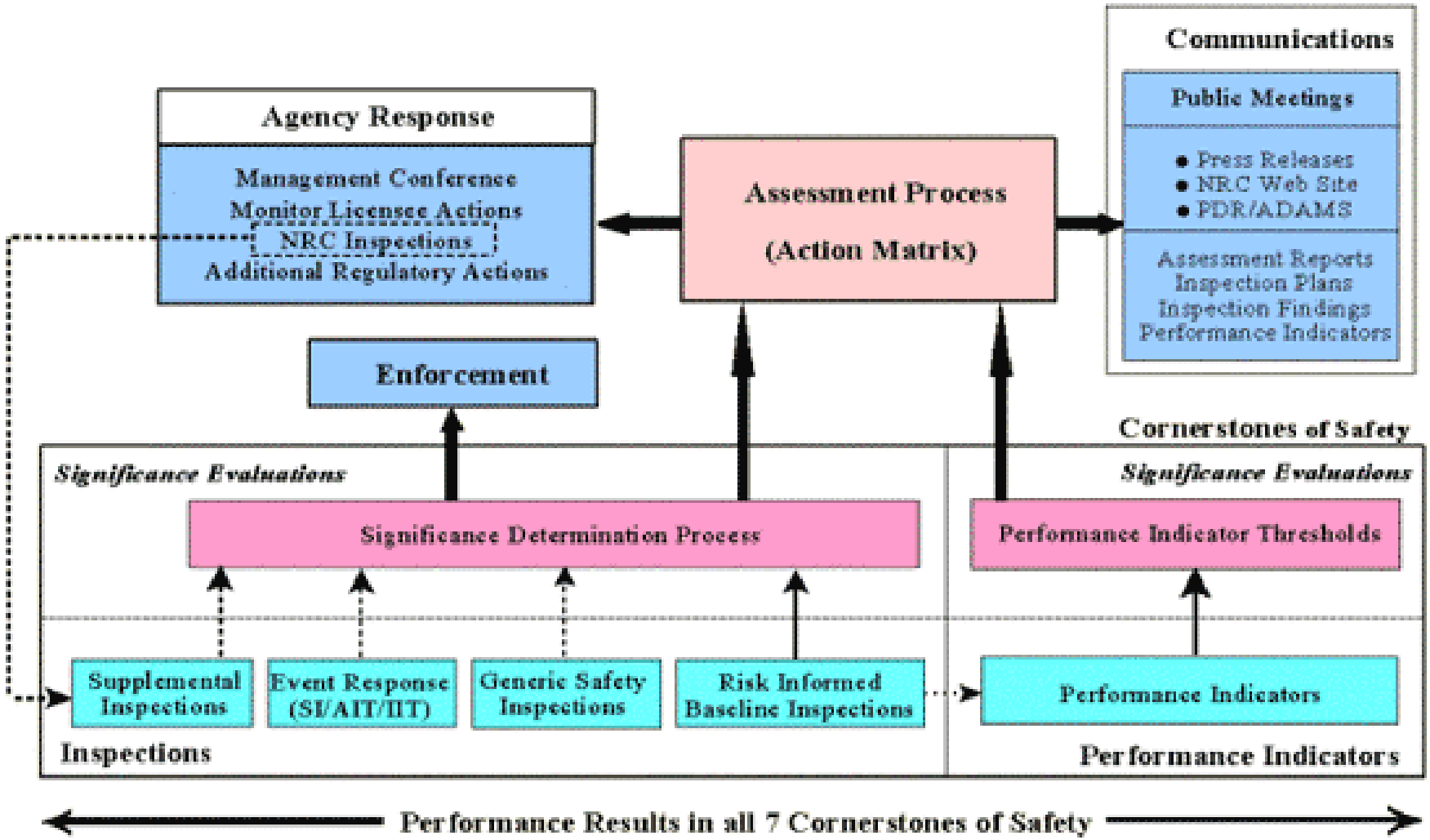
NRR Letter dated October 15, 2019: https://www.nrc.gov/docs/ML1926/ML19260E683
NRC Values: https://www.nrc.gov/about-nrc/values.html

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

Radiation Safety Cornerstones



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


Communications
Public Meetings
• Press Releases
• NRC Web Site
• PDR/ADAMS
Assessment Reports
Inspection Plans
Inspection Findings
Performance Indicators
Agency Response
Management Conference
Monitor Licensee Actions
NRC Inspections
Additional Regulatory Actions
Assessment Process
(Action Matrix)
Enforcement
Cornerstones of Safety
Significance Evaluations
Significance Determination Process
Significance Evaluations
Performance Indicator Thresholds
Supplemental Inspections
Event Response (SI/AIT/IIT)
Generic Safety Inspections
Risk Informed Baseline Inspections
Performance Indicators
Inspections
Performance Indicators
Performance Results in all 7 Cornerstones of Safety

Significance Determination Process

- How the NRC categorizes inspection findings
- Purposes
  - Determine and Communicate Risk
  - Guide inspection resources

Documents we will be discussing

1. Inspection Manual Chapter (IMC) 0609
2. IMC 0609, Appendix C – Occupational Radiation Safety SDP
3. IMC 0308, Attachment C – Technical Basis for Occupational Radiation Safety SDP
4. IMC 0609, Appendix D – Public Radiation Safety SDP
5. IMC 0308, Attachment D – Technical Basis for Public Radiation Safety SDP

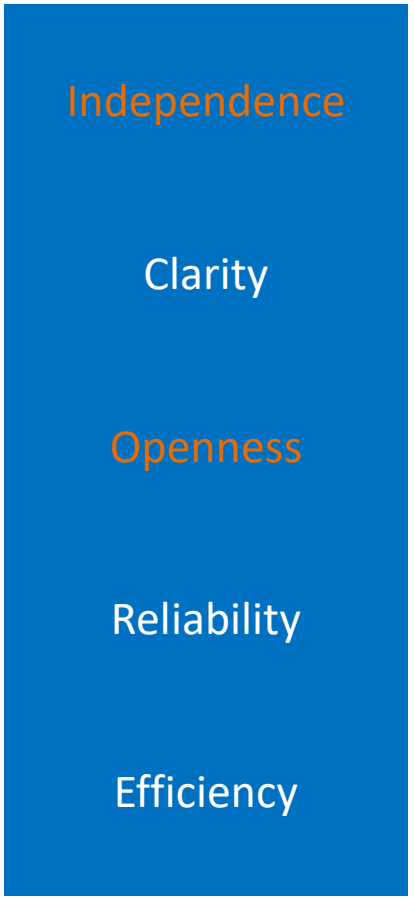
https://www.nrc.gov/reading-rm/doc-collections/insp-manual/manual-chapter/

Why are we updating the SDP?

- To address situations where incorrect packaging is used in transport
- To incorporate Part 37
- To clarify guidance for certain transportation findings
- To update basis documents

Review of recent activity

- Published draft revision to App D in 2018 (ML18178A100)
  - Added guidance for addressing use of incorrect packages in transport
  - Refined regulatory basis statements
  - Refined process for package breaches during transport
- Received comments from NEI (ML18264A305)



Updates being considered

- Using the 2018 draft as a starting point
- Incorporation of Part 37 into the SDP
- Addition of guidance to help dispositioning transportation inspection findings
- Additional background information in basis documents

Independence

Clarity

Openness

Reliability

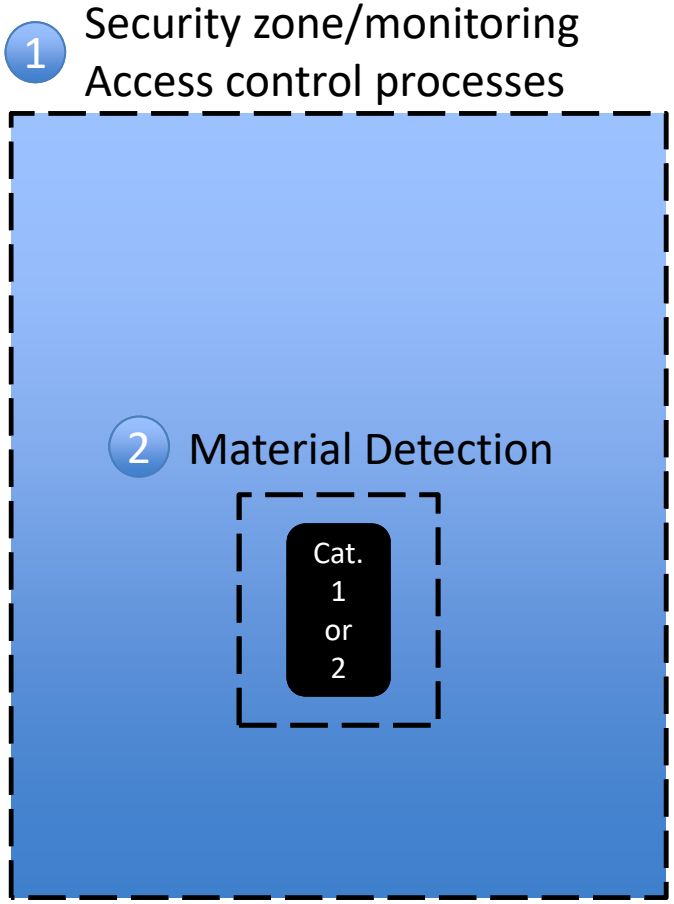
Efficiency

Review of 2018 Draft

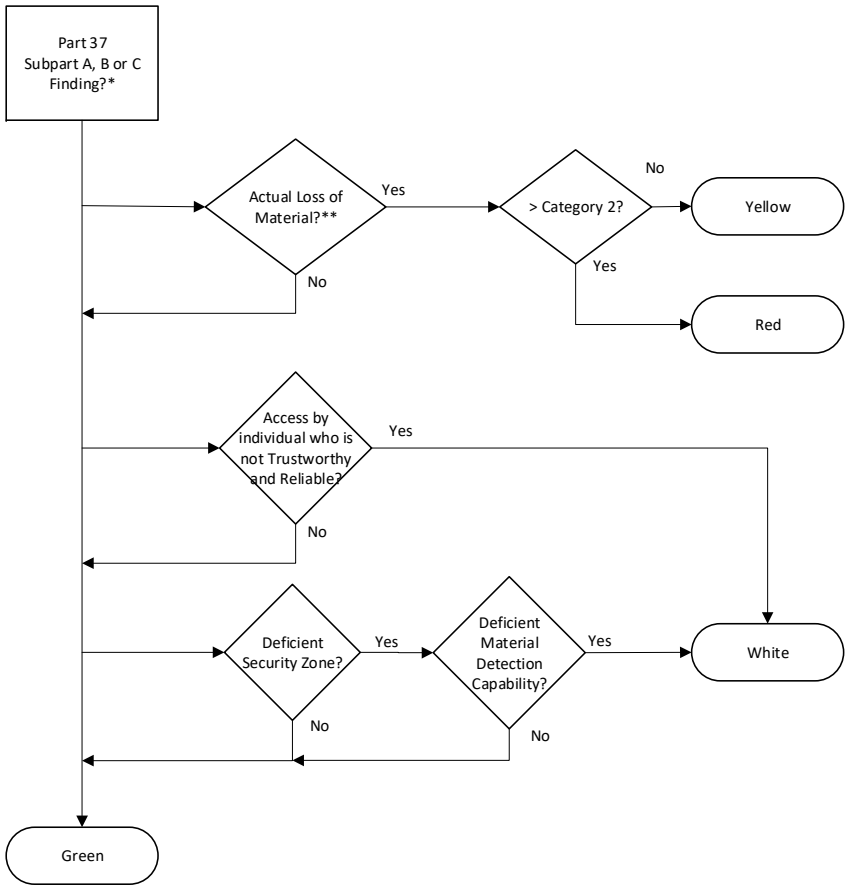
- Refer to ML18178A100 and ML18264A305
- Highlights
  - Clarifies when findings involving excepted material shipments should be dispositioned in SDP
  - Addition of guidance for incorrect packaging of material, how to comply with survey requirements and package breach scenarios

Part 37

- Provides reasonable assurance of the security of category 1 or category 2 quantities of radioactive material by protecting these materials from theft or diversion
- Rule provides defense-in-depth and redundancy
- Power reactor-specific considerations
  - EGM 2014-001
  - RIS 2015-15

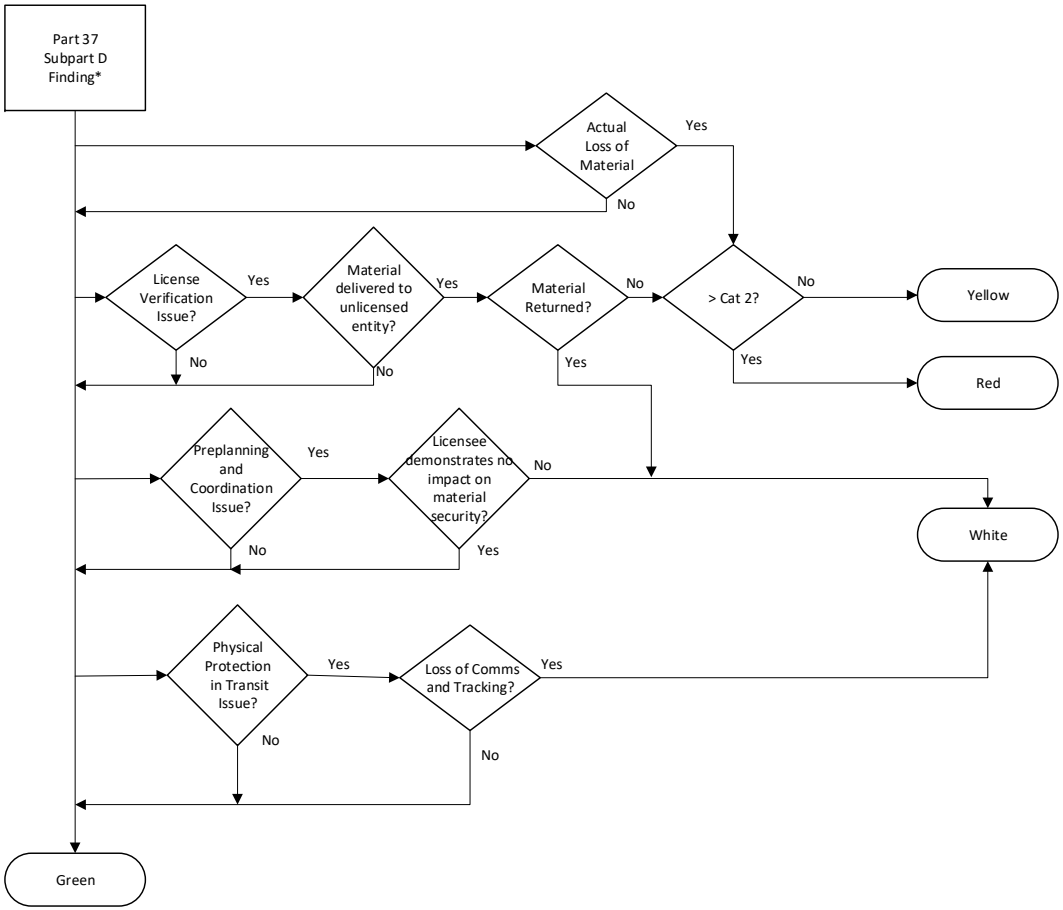


Draft Part 37 SDP Diagram (1 of 2)



*Failures to conduct an investigation or notify the NRC when required by Part 37 shall be dispositioned IAW the NRC Enforcement Policy
**Consult with NRC Office of Investigations prior to dispositioning findings associated with actual cases of theft, diversion or sabotage of radioactive materials

Draft Part 37 SDP Diagram (2 of 2)



*Failures to conduct an investigation or notify the NRC when required by Part 37 shall be dispositioned IAW the NRC Enforcement Policy

Still Under Development

- Part 37
  - Guidance for findings that occur in the PA
  - How/if to incorporate other licensee processes that control access (e.g., general building security, areas controlled for radiation safety purposes etc.)
- Additional transportation guidance to ensure that outcomes accurately communicate significance
- Basis language
  - As low as is reasonably achievable (ALARA)
  - Radioactive effluents (“failure to implement effluent program”)

Looking Ahead

- Continue development and vetting with staff
- Continue providing updates and receiving external feedback through monthly ROP public meetings
- Considering another focused public meeting in December/January

November 2020	December 2020/January 2021	February 2021
• Internal comment/resolution	• Publish for February implementation • Commission notification	• SDP Effective

Independence

Clarity

Openness

Reliability

Efficiency

Discussion

Questions/Feedback

David Garmon
david.garmon@nrc.gov