Arena and Subarena Objectives, Bases, and Goals

This summary outlines the objectives, bases, and goals that the staff of the U.S. Nuclear Regulatory Commission (NRC) has developed for the agency's three regulatory arenas (i.e., reactor safety, materials safety, and waste management) and their component subarenas. Specifically, this summary discusses the following regulatory arenas and subarenas:

- Reactor Safety Arena
  - Operating Reactors Subarena
  - Research and Test Reactors Subarena
  - New Light-Water Reactors Subarena
  - Advanced Non-Light-Water Reactors Subarena

- Materials Safety Arena
  - Fuel Cycle Subarena
  - Byproduct Material Subarena

- Waste Management Arena
  - Spent Fuel Storage and Transportation Subarena
  - High-Level Waste Repository Safety Subarena
  - Low-Level Waste and Decommissioning Subarena

The reader should note that inherent differences in the complexities and risks associated with the NRC's various regulated licensed activities (e.g., a nuclear power plant versus a sealed radioactive source) result in differences in the objectives, bases, and goals for the related arenas and subarenas. For example, in the reactor arena, a common set of objectives is typically not practical when considering operating reactors, new light-water reactors (LWRs), advanced non-LWRs, and non-power reactors.

Reactor Arena Objectives, Bases, and Goals	
Subarena: Operating Reactors	(Lead Office: NRR)

Objective:

Make continuing, incremental improvements in rulemaking, licensing, and oversight of operating reactors, while focusing on implementing existing risk-informed and performance-based activities.

This objective focuses on activities that are already in progress to risk-inform the operating reactor subarena, including completed rulemaking activities, guidance documents, and implementation of some initiatives.

The NRC will revisit and update this objective (as appropriate) once the industry has implemented the currently planned activities and feedback becomes available. Effectiveness reviews, conducted as part of the Risk-Informed and Performance-Based Plan (RPP), will also provide input for use in updating this objective in the future.

Bases:

The risk-informed initiatives currently in progress were originally selected using screening criteria similar to those presented in the RPP. Consequently, the five activities (listed below) that support the goals for this subarena satisfy the following screening criteria:

- The risk-informed initiatives that are currently underway help to improve the effectiveness and efficiency of the NRC's regulatory process, including improved safety and reduction of unnecessary regulatory burden.
- Information and analytical models of operating reactors, particularly for at-power operations, exist and are fairly mature.
- The cost-beneficial nature of several of the risk-informed initiatives is evidenced by their voluntary adoption by licensees.
- No factors have been identified to date that would motivate changing the regulatory approach in the areas where risk-informed activities are already underway. Stakeholder feedback substantiates that there is no immediate need to initiate any new risk-informed initiatives, and that the NRC should focus on completing currently identified activities and allowing the industry time to implement those activities.
- Goals and activities to meet the objective for this subarena will be performance-based, to the extent that they meet the following four criteria:

  (1) measurable parameters to monitor performance
  (2) objective criteria to assess performance
  (3) flexibility to allow licensees to determine how to meet the performance criteria
  (4) no immediate safety concern as a result of failure to meet the performance criteria

Reactor Arena Objectives, Bases, and Goals (continued)	
Subarena: Operating Reactors (continued)	(Lead Office: NRR)
Bases: (continued) Risk-informed activities for operating reactors occur in five broad categories: (1) applicable regulations (2) licensing process (3) revised oversight process (4) regulatory guidance (5) risk analysis tools, methods, and data The activities in these categories are derived from the Commission's policy statements and guidance, and include revisions to technical requirements in the regulations; risk-informed technical specifications; a new framework for inspection, assessment, and enforcement actions; guidance on other risk-informed applications (e.g., in-service inspections); and improved standardized plant analysis risk models.	
Goals: The following goals are derived from the Commission's policy statements and guidance, which reflect the current phase of NRC and industry development, as well as the current implementation of risk-informed activities: • Finish the development of current risk-informed regulations (e.g., 10 CFR 50.46a rulemaking) and associated regulatory/staff guidance. • Implement existing NRC risk-informed activities [e.g., risk-informed technical specifications and pilots for 10 CFR 50.69 and the National Fire Protection Association (NFPA) Standard 805]. • Encourage the industry to implement risk-informed rules and approved/endorsed activities. • Continue making incremental improvements to the established licensing, rulemaking, and oversight activities. • Modify/update established activities to account for lessons learned.	

Reactor Arena Objectives, Bases, and Goals (continued)
Subarena: Research and Test Reactors (Lead Office: NRR)
Objective: Implement risk-informed activities to achieve a risk-informed and performance-based regulatory structure for oversight of research and test reactors (RTRs). In revising the Research and Test Reactor Oversight Process (RTROP), the NRC staff intends to develop a risk-informed, performance-based baseline inspection program. Such a program will identify the minimum level of inspection required for an RTR facility, in order to give the NRC sufficient information to determine whether the facility's performance is acceptable. Key inputs to this effort will be a regulatory framework and cornerstones of safety similar to those for power reactors, which define aspects of reactor functions or licensee activities that must be performed in accordance with a certain set of criteria to ensure that the NRC achieves its mission to protect the health and safety of the public. The risk-informed, performance-based RTROP will also include a new Significance Determination Process (SDP), which will characterize inspection findings based on their risk-significance and performance impact for RTRs.
Bases: The risk-informed and performance-based activities (listed below) for this subarena satisfy the following screening criteria: • The new risk-informed, performance-based RTROP will improve the efficiency of the NRC's regulatory process and help to effectively communicate regulatory decisions regarding inspection findings by establishing a revised baseline inspection program and a new RTR SDP. • The NRC does not currently have analytical models of RTRs that are of sufficient quality, but such models could reasonably be developed to support a risk-informed RTROP. • The startup and implementation of this risk-informed, performance-based initiative can be realized at a reasonable cost to the NRC, with little or no financial impact on RTR licensees or the public, and will provide a net benefit by reducing the scope of routine inspection. • There are no apparent factors (e.g., legislative, judicial, adverse stakeholder reaction) that would preclude implementing a risk-informed, performance-based approach to the regulation of RTRs. • Goals and activities to meet the objective for this subarena will be performance-based, to the extent that they meet the following four criteria: (1) measurable parameters to monitor performance (2) objective criteria to assess performance (3) flexibility to allow licensees to determine how to meet the performance criteria (4) no immediate safety concern as a result of failure to meet the performance criteria

Reactor Arena Objectives, Bases, and Goals (continued)	
Subarena: Research and Test Reactors (continued)	(Lead Office: NRR)

Bases: (continued)

At present there is a lack of either plant-specific or generic probabilistic risk assessment (PRA) studies and models for RTR facilities. Consequently, the first step in establishing a risk-informed, performance-based oversight process for this subarena is to develop detailed risk models for existing RTR facilities. Moreover, because of the wide variation in RTR operating power levels and facility designs (which currently include TRIGAs, pool types, tank types, AGNs, an Argonaut, a PULSTAR, and a critical assembly), the NRC staff will need to obtain several generic risk models to provide the prerequisite risk information for RTRs. The development of these generic RTR risk models could be funded through research grants, scholarships, or fellowships to universities that have programs focused on nuclear PRA studies, which could help to fill a critical skill gap related to the NRC's mission. Then, once these studies have been completed, the NRC staff can develop and implement a risk-informed RTR baseline inspection program.

Risk will be factored into the RTR baseline inspection program in the following four ways:

(1) Inspectable areas will be based on their risk-importance in measuring a cornerstone objective.

(2) The inspection frequency, number of activities to inspect, and amount of time to devote to inspecting activities in each inspectable area will be based on risk information.

(3) The selection of activities to inspect in each inspectable area will be based on risk information.

(4) Inspectors will be trained in the use of risk information.

The new risk-informed baseline inspection program will have significant knowledge transfer benefits, in that it will shift the agency's reliance from individual inspectors' experience (in identifying risk- and safety-significant areas for review) to a more programmatic capture of risk and safety focus areas for inspection.

The new RTR SDP will characterize inspection findings based on their risk-significance and performance impact. Toward that end, the RTR SDP will assign a color band (green, white, yellow, or red) to each inspection finding to reflect its risk-significance (similar to the color banding used for power reactors).

Because of the current lack of RTR facility-specific PRAs, the NRC staff has not yet proposed risk-informed and performance-based rulemaking, licensing, or oversight activities for RTRs. However, the staff will revisit these functions upon completion of the PRA models (discussed above).

Goals:

The NRC recognizes that models need to be developed before the staff can make significant progress in risk-informing the RTROP. This is reflected in the following goals:

- Develop generic risk models for existing RTR facilities (not before 2012) based upon allocation of the requisite funding in the 2010 budget.
- Develop a risk-informed, performance-based RTR baseline inspection program and a new RTR SDP (3 years after model development).

Reactor Arena Objectives, Bases, and Goals (continued)	
Subarena: New Light-Water Reactors	(Lead Office: NRO)

Objective:

Implement risk-informed and performance-based activities to address the PRA elements of Title 10, Part 52, of the *Code of Federal Regulations* (10 CFR Part 52), and to increase the effectiveness and efficiency of the design certification, licensing, and oversight activities that the NRC staff conducts for new LWRs.

This objective has two main parts:

- First, this objective involves using the plant-specific PRA to implement risk-informed and performance-based programs. For example, the Maintenance Rule (10 CFR 50.65) will utilize the PRA to a great extent. Other examples include initiatives that a new reactor licensee may voluntarily pursue, such as risk-informed technical specification completion time, risk-informed inservice inspection, or special treatment under 10 CFR 50.69.
- Second, this objective involves using risk insights and PRA results to improve the NRC's effectiveness and efficiency in the licensing and oversight processes. For example, the staff will use risk insights, in conjunction with other considerations, to focus its review of a new reactor license application on those aspects that are important to risk. Other examples include developing risk-informed acceptance criteria for applications and adopting a risk-informed approach to sampling the inspection, testing, analysis, and acceptance criteria (ITAAC) to confirm the acceptability of the as-built plant.

Bases:

The risk-informed and performance-based activities (listed below) for this subarena satisfy the following screening criteria:

- The stated objective will help to improve the effectiveness and efficiency of the NRC's regulatory process, while increasing nuclear plant safety and reducing unnecessary regulatory burden.
- The bases for developing a risk-informed and performance-based regulatory structure for licensing and oversight of new LWRs are articulated in several Commission documents, policy statements, and processes (including the 10 CFR Part 52 rulemaking).

Reactor Arena Objectives, Bases, and Goals (continued)	
Subarena: New Light-Water Reactors (continued)	(Lead Office: NRO)

Bases: (continued)

- Goals and activities to meet the objective for this subarena will be performance-based, to the extent that they meet the following four criteria:

  (1) measurable parameters to monitor performance
  (2) objective criteria to assess performance
  (3) flexibility to allow licensees to determine how to meet the performance criteria
  (4) no immediate safety concern as a result of failure to meet the performance criteria

An applicant for a combined operating license (COL) for a new LWR is required to perform a PRA. The NRC staff expects such PRAs to be used for the following purposes:

- Identify risk-informed safety insights.
- Demonstrate how risk compares to the Commission's goals.
- Assess the balance between accident prevention and mitigation.
- Identify and address vulnerabilities, reduce risk contributors, and select among design alternatives during the design phase.
- Demonstrate that the plant design represents a reduction in risk (compared to existing operating plants).
- Demonstrate that the design addresses the requirements in 10 CFR 50.34(f), as they relate to Three Mile Island (TMI).

PRA results and insights are used to support the following programs (among others):

- Regulatory Treatment of Non-Safety Systems (RTNSS)
- Inspection, test, analysis, and acceptance criteria (ITAAC)
- Reliability Assurance Program (RAP)
- Future aspects of regulatory oversight, technical specifications, the Maintenance Rule (10 CFR 50.65), and others

Reactor Arena Objectives, Bases, and Goals (continued)	
Subarena: New Light-Water Reactors (continued)	(Lead Office: NRO)

Goals:

The following goals are derived from the Commission's policy statements and guidance, which reflect the current phase of NRC and industry development, as well as the current implementation of risk-informed activities:

- Ensure (during the design certification phase) that the applicant used risk-informed safety insights to select among alternative features, operational strategies, and design options to reduce or eliminate the significant risk contributors of existing operating plants.
- Ensure that the risk associated with the design compares favorably with the Commission's goals of less than 1E-04/year for core damage frequency (CDF) and less than 1E-06/year for large release frequency (LRF).
- Using the results and insights from the PRA, ensure that the COL applicant supported the RTNSS process, including the identification of structures, systems, and components (SSCs).
- Using the results and insights from the PRA, ensure that the COL holder supported regulatory oversight processes, as well as programs associated with plant operations (such as technical specifications, reliability assurance, human factors, and Maintenance Rule implementation).
- Using the results and insights from the PRA, ensure that the applicant identified and supported the development of specifications and performance objectives for plant design, construction, inspection, and operation (such as the ITAAC, RAP, technical specifications, and COL action items and interface requirements).

Reactor Arena Objectives, Bases, and Goals (continued)	
Subarena: Advanced Non-Light-Water Reactors	(Lead Office: RES)

Objective:

Develop a coherent risk-informed, performance-based regulatory structure for design certification, licensing, and oversight of advanced non-LWRs.

A coherent risk-informed, performance-based regulatory structure would offer significant improvements in effectiveness and efficiency (compared to the structure that has evolved for LWRs). For example, such coherence would ensure that the safety reviews conducted by the NRC consider design and operational aspects in an integrated manner. The bases for developing such a regulatory structure for licensing and oversight of advanced non-LWRs are articulated in numerous Commission documents and policy statements. However, this guidance occurs largely in the context of existing and new LWRs and, consequently, needs to be adapted for advanced non-LWRs.

Bases:

The bases for a coherent risk-informed, performance-based regulatory structure arise from the potential to realize benefits that are captured in the screening criteria that the NRC staff considers in undertaking regulatory improvement initiatives:

- Effectiveness: One hallmark of effectiveness is the ability to model the tradeoffs that are involved in a complex safety review. Sometimes, such tradeoffs are represented as the ability to achieve desired outcomes in the licensing process. A risk-informed, performance-based regulatory structure is inherently better able to do this, especially if it is applied in the early phases of developing a new regulatory structure for non-LWRs.
- Effective Communication: The explicit modeling of decision-making promotes transparency. Sometimes, the traditional prescriptive regulatory structure lack transparency because they tend to emphasize compliance with a prescribed quantity, rather than focusing on the safety function.
- Research: The NRC staff has conducted significant research into the models and methodologies for the risk-informed, performance-based regulatory structure and the products and expertise from this work are available for implementation. Particularly notable examples include NUREG-1860, NUREG/BR-0303, and SECY-05-0138. Specific details will need to be determined and guidance developed based on the particular technology and design aspects of the application.
- Costs: The implementation of a coherent risk-informed, performance-based regulatory structure for advanced non-LWRs will entail a combination of short- and long-term costs. The new regulatory approaches are likely to result in short-term costs. However, when considered in the context of implementing the Commission's strategic objectives, there are sound reasons to expect a significant reduction in the total cost to society.
- Obstacles: There are no apparent factors (e.g., adverse stakeholder reaction) that would preclude implementing a risk-informed, performance-based approach to the design certification, licensing, and oversight of advanced non-LWRs.

Reactor Arena Objectives, Bases, and Goals (continued)	
Subarena: Advanced Non-Light-Water Reactors (continued)	(Lead Office: RES)
Bases: (continued) The NRC developed its strategic planning process as a result of considerable effort (beginning in the late-1990s) to improve the agency's regulatory structure in a forward-looking way, while preserving the gains that the agency had achieved in operating reactor safety. Using the most recent version of the Strategic Plan, development of a coherent risk-informed, performance-based regulatory structure for advanced non-LWRs will involve implementing the strategies that the Commission articulated in the goals of "Safety" and "Effectiveness." Under "Safety" strategies, the Commission directed the staff to "Use sound science and state-of-the-art methods to establish risk-informed and, where appropriate, performance-based regulations." In addition, under "Effectiveness" strategies, the Commission directed the staff to "use performance-based regulation to minimize unnecessarily prescriptive requirements." In addition, the Commission defined "Effectiveness" as the ability to achieve intended outcomes, which is the main thrust of a performance-based approach. These factors continue to be part of the draft Strategic Plan for the Fiscal Year (FY) 2007–2012 that the Commission has issued for public comment. The basic infrastructure for the implementation of a risk-informed, performance-based approach exists at a high-level in Commission documents, such as the "White Paper on Risk-Informed and Performance-Based Regulation." The staff has also developed some specific guidance, including the risk-informed process for implementing the single-failure criterion (SECY-05-0138), but more may need to be developed. In many instances, the high-level documents superficially apply only to existing LWRs; however, more thorough study reveals considerable applicability to all reactor technologies. For example, the Reactor Oversight Process (SECY-99-007 and SECY-99-007A, as well as related staff requirements memorandum) provides a risk-informed, performance-based structure, although it is overlaid on top of existing LWR requirements.	
Goals: The staff's risk-informed and performance-based goals for advanced non-LWRs relate to the following activities: • Conduct the pre-application review of the Pebble-Bed Modular Reactor design, so as to facilitate the submittal of a design certification application which considers risk-informed and performance-based approaches. • Develop a licensing strategy that considers risk-informed and performance-based approaches for the Next-Generation Nuclear Plant prototype that meets the intent of the Energy Policy Act of 2005. • Participate in the Global Nuclear Energy Partnership and bring forth risk-informed and performance-based approaches in support of National policy objectives.	

Materials Arena Objectives, Bases, and Goals	
Subarena: Fuel Cycle	(Lead Office: NMSS)

Objective:

For fuel cycle facilities, make continuous improvement in licensing and oversight, and risk-inform new regulations as needed, while performing existing risk-informed functions.

Bases:

SECY-99-100 and SECY-04-0182, as well as the related staff requirements memorandum (SRM), provide the conceptual framework for risk-informing the NRC's fuel cycle activities. Guidance on how to apply this framework is provided in "Risk-Informed Decision-Making for Material and Waste Applications," which is available in the NRC's Agencywide Documents Access and Management System (ADAMS), under Accession No. ML042730524. In particular, individual risk-informed applications must meet the established screening criteria.

The screening criteria applied to the goals (below) of implementing the NRC's revised regulatory requirements, as specified in Title 10, Part 70, of the *Code of Federal Regulations* (10 CFR Part 70), would indicate that the given activity was undertaken to increase confidence in the margin of safety of fuel cycle facilities by requiring the use of a risk-informed approach to identify and manage items that are relied on for safety. Cost/benefit was not a consideration, and technical feasibility was known because two licensees had already implemented such systems. The revision of 10 CFR Part 70 is expected to reduce staff effort, while improving regulatory effectiveness, by providing more frequent updates of licensee design information and related risk information.

Goals:

The staff has established the following goals for risk-informed and performance-based activities in this subarena:

- Implement the revised regulatory requirements of 10 CFR Part 70 by completing the review and approval of integrated safety analyses submitted by all affected facilities.
- Revise the existing licensing guidance to reflect lessons learned from these reviews.
- Complete revision of inspection guidance to make use of the resulting risk information to focus inspections.
- Update the existing risk-informed decision-making guidance to reflect experience.
- Overhaul the Fuel Cycle Oversight Program to make it more risk-informed and performance-based; this will include adopting appropriate approaches from the Reactor Oversight Program.

Materials Arena Objectives, Bases, and Goals (continued)	
Subarena: Byproduct Material	(Lead Office: FSME)

Objective:

Utilize risk information on a case-by-case basis for byproduct material regulation, licensing, and oversight.

Bases:

NUREG/CR-6642, "Risk Analysis and Evaluation of Regulatory Options for Nuclear Byproduct Material Systems," documents the underlying analysis of byproduct material systems. (This report is not publicly available.) Insights from NUREG/CR-6642 and other studies have been incorporated into the NUREG-1556 series, "Consolidated Guidance about Materials Licenses," which provides NRC staff and licensees with information to support various byproduct applications. This material continues to provide input to the agency's risk-informed and performance-based rulemaking, licensing, and oversight activities.

In June 2001, the NRC published NUREG-1717, "Systematic Radiological Assessment of Exemptions for Source and Byproduct Material," which documents the staff's assessment of doses associated with byproduct and source material exemptions. NUREG-1717 also includes dose assessments for certain devices that are currently used under general or specific licenses that have been identified as candidates for use under exemptions. In addition, staff activities identified in SECY-07-0147, "Response to U.S. Government Accountability Office Recommendations and Other Recommendations to Address Security Issues in the U.S. Nuclear Regulatory Commission Materials Program," will address possible revisions to the agency's regulatory framework.

Goals:

The staff has established the following goals for risk-informed and performance-based activities in this subarena:

- Continue making incremental improvement (as practicable) to enhance the risk-informed and performance-based nature of rulemaking and guidance development, licensing, and oversight activities for byproduct materials.
- Encourage the industry and NRC licensees to use a risk-informed and performance-based approach in demonstrating compliance with the NRC's risk/dose criteria.

Waste Arena Objectives, Bases, and Goals (continued)
Subarena: Spent Fuel Storage and Transportation (Lead Office: NMSS)
Objective: Utilize risk information on a case-by-case basis to prioritize and address regulatory initiatives in spent fuel storage and transportation.
Bases: SECY-99-100 and SECY-04-0182, as well as the related staff requirements memorandum (SRM), provide the conceptual framework for risk-informing the NRC's waste activities. Guidance on how to apply this framework is provided in "Risk-Informed Decision-Making for Material and Waste Applications," which is available in ADAMS, under Accession No. ML042730524. In particular, individual risk-informed applications must meet the established screening criteria. In this subarena, the NRC staff is limited in its ability to risk-inform the agency's regulatory activities because it is not cost-beneficial to perform risk-assessment of each of the numerous storage or transport designs. As a result, the agency has conducted (or sponsored) risk assessments for a few selected designs. In addition, the staff may apply risk assessments to specific activities on a case-by-case basis, provided that the screening criteria are met. For example, the staff has completed and documented a pilot study PRA of a dry cask storage facility, and determined that the risk from that facility was negligibly small. The goal described below meets the screening criterion for cost/benefit by assessing risk impacts by judgment.
Goals: The staff has established the following goal for risk-informed and performance-based activities in this subarena: • Produce risk-informed updated versions of NUREG-1536, "Standard Review Plan for Dry Cask Storage Systems," and NUREG-1567, "Standard Review Plan for Spent Fuel Dry Storage Facilities."

Waste Arena Objectives, Bases, and Goals (continued)	
Subarena: High-Level Waste Repository Safety	(Lead Office: NMSS)
Objective: Utilize risk information to prioritize and assess licensing information to implement the NRC's existing risk-informed framework for repository safety.	
Bases: Title 10, Part 63, of the *Code of Federal Regulations* (10 CFR Part 63) requires that an applicant for a license for a geologic repository must submit a system performance assessment, showing that the net risk (expected value of dose) is less than a limiting value. Such assessments provide quantitative information on features, events, and processes affecting risk. Consequently, NUREG-1804, "Yucca Mountain Review Plan," states that the NRC staff should use this risk information to focus its review on what is important to this performance criterion. Risk sensitivity studies have also been used to develop risk-informed guidance for inspections, and to model abstraction review strategies. The value of this risk-informed framework is that it will enhance the staff's effectiveness and efficiency in reviewing the license application for the proposed high-level waste repository at Yucca Mountain, Nevada, and provide reasonable assurance of compliance with the regulations. Because the NRC has developed its own independent system performance assessment capability, technical feasibility has been demonstrated. Moreover, the cost of this approach is justified by the staff's enhanced efficiency in completing the review in the timeframe mandated by the statute.	
Goals: The staff has established the following goals for risk-informed and performance-based activities in this subarena: • Develop Version 5.1 of the Total System Performance Assessment (TPA) computer code. • Perform a risk-informed review of the Yucca Mountain repository license application.	

Waste Arena Objectives, Bases, and Goals (continued)
Subarena: Low-Level Waste and Decommissioning (Lead Office: FSME)
Objective: Facilitate the application of risk-informed and performance-based approaches in implementing the NRC's rulemaking, licensing, and oversight functions for low-level waste and decommissioning on a case-by-case basis.
Bases: The NRC staff engages with the agency's licensees and stakeholders (including the public) in making significant decommissioning decisions and implementing significant actions focusing on risk-significance and potential environmental impacts. The NRC's Office of Federal and State Materials and Environmental Management Programs (FSME), in coordination with the Office of Nuclear Regulatory Research (RES) and the Center for Nuclear Waste Regulatory Analysis (CNWRA), is making progress toward developing and evaluating probabilistic environmental models and codes for risk/dose analysis. Use of probabilistic distributions as inputs to uncertain physical and behavior parameters has also been increased. In addition, the agency has updated its decommissioning guidance and conducted training on the use of dose distributions (e.g., peak-of-the-mean, or mean-of-the-peaks) to demonstrate compliance with the dose criteria in Subpart E of Title 10, Part 20, of the *Code of Federal Regulations* (10 CFR Part 20). The NRC also uses probabilistic tools with uncertainty analysis to review and assess dose impacts to demonstrate compliance with the dose criteria set forth in Subpart E of 10 CFR Part 20.
Goals: The staff has established the following goals for risk-informed and performance-based activities in this subarena: • Continue to evaluate current dose modeling approaches for low-level waste and decommissioning, and provide recommendations for a path-forward to enhance the use of risk-informed and performance-based approaches in licensing reviews and regulatory implementation. • Continue making incremental improvement (as practicable) in rulemaking and guidance development, licensing, and oversight, to enhance the use of risk-informed and performance-based approaches. • Encourage the industry and NRC licensees to use a risk-informed and performance-based approach in demonstrating compliance with the NRC's risk/dose criteria.