



United States Nuclear Regulatory Commission

Protecting People and the Environment

**Action Plan
Risk-Informed Decision-Making
Operating Reactor Business Line**

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- January 23, 2018 (ML18005A911). Reformatted action plan to include strategic framework (process) for completing the NRR RIDM project; finalized the eight NRR RIDM tasks.
- May 4, 2018 (ML18116A023). Incorporates details on the risk-informed initiatives and impact of preliminary NRC Transformation Team activities; provides details on Phase 2 and the pilot program; provides update on the action plan schedule, including milestones and metric to complete Phase 1; provides preliminary results of the Task 2 cafés with staff and managers and online questionnaire.

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Table of Contents

1.0	BACKGROUND	- 1 -
2.0	NRR RIDM PROJECT INPUTS	- 1 -
2.1	Mission Statement and Supporting Objectives	- 2 -
2.2	SECY-17-0112 Strategies	- 2 -
2.3	NRR RIDM Tasks.....	- 3 -
2.4	NRR RIDM Project Framework	- 3 -
3.0	NRR RIDM TEAM	- 6 -
3.1	Project Management Structure	- 6 -
4.0	NRR RIDM PROJECT PROCESS	- 10 -
4.1	Phase 1: Evaluation and Analysis to Generate Recommendations	- 10 -
4.1.1	Step 1: Finalize Scope of Tasks	- 10 -
4.1.2	Step 2: Data Collection.....	- 10 -
4.1.3	Step 3: Analyze and Evaluate Data.....	- 11 -
4.1.4	Step 4: Findings and Recommendations Reports	- 11 -
4.2	Phase 2: Implementation of the Recommendations	- 11 -
4.2.1	Step 1: Prioritization of Recommendations	- 11 -
4.2.2	Step 2: Assignment of Recommendations	- 12 -
4.3.3	Step 3: Implementation of Recommendations.....	- 12 -
4.3.4	Step 4: Pilot Program	- 12 -
5.0	NRR RIDM SCOPE OF WORK	- 13 -
5.1	NRR RIDM Task 1	- 16 -
5.1.1	NRR RIDM Task 1 Scope.....	- 16 -
5.1.2	NRR RIDM Task 1 Document Review.....	- 16 -
5.1.3	NRR RIDM Task 1 Interdependencies	- 17 -
5.1.4	NRR RIDM Task 1 Expected Outcome	- 17 -
5.2	NRR RIDM Task 2	- 17 -
5.2.1	NRR RIDM Task 2 Scope.....	- 17 -
5.2.2	NRR RIDM Task 2 Document Review.....	- 18 -
5.2.3	NRR RIDM Task 2 Interdependencies	- 18 -
5.2.4	NRR RIDM Task 2 Expected Outcome	- 19 -
5.3	NRR RIDM Task 3	- 19 -
5.3.1	NRR RIDM Task 3 Scope.....	- 19 -
5.3.2	NRR RIDM Task 3 Document Review.....	- 19 -

5.3.3	NRR RIDM Task 3 Interdependencies	- 20 -
5.3.4	NRR RIDM Task 3 Expected Outcome	- 20 -
5.4	NRR RIDM Task 4	- 20 -
5.4.1	NRR RIDM Task 4 Scope.....	- 20 -
5.4.2	NRR RIDM Task 4 Document Review.....	- 20 -
5.4.3	NRR RIDM Task 4 Interdependencies	- 21 -
5.4.4	NRR RIDM Task 4 Expected Outcome	- 22 -
5.5	NRR RIDM Tasks 5-8	- 22 -
6.0	COMMUNICATION PLAN	- 23 -
6.1	Key Messages.....	- 23 -
6.2	Audience and Stakeholders	- 24 -
6.2.1	Internal Stakeholders	- 24 -
6.2.2	External Stakeholders	- 24 -
6.3	Communication Tools	- 24 -
6.3.1	Internal Communication Tools.....	- 24 -
6.3.2	External Communication Tools.....	- 25 -
7.0	MILESTONES	- 25 -
7.1	Current Status	- 26 -
7.2	Overall Schedule.....	- 27 -
8.0	PROJECT'S SUCCESS CRITERIA	- 29 -
9.0	CONTROL PROCESS	- 29 -
10.0	QUESTIONS AND ANSWERS	- 29 -
11.0	CONTACT.....	- 30 -
12.0	REFERENCES.....	- 31 -

1.0 BACKGROUND

On May 11, 2017, the U.S. Nuclear Regulatory Commission (NRC, the Commission) was briefed on risk-informed regulatory activities by nuclear industry representatives and the NRC staff. The briefing included a status of the NRC's and industry's risk-informed initiatives and an overview of successes and areas of focus for advancing risk-informed regulation.

On June 12, 2017, the Office of Nuclear Reactor Regulation (NRR) senior leadership met to discuss how NRR should enhance how it integrates risk into its decision-making procedures and processes and increase the staff's understanding of risk and risk tools and developed a mission statement, supporting objectives, and tasks that the staff should complete to enhance the integration of risk into our decision making procedures and processes.

On June 26, 2017, the Commission issued staff requirements memorandum (SRM) -M170511 (Reference 1) in response to the May 11, 2017 meeting and directed the staff to provide the Commission with an information paper discussing its plans for increasing staff capabilities to use risk information in decision-making activities.

On June 29, 2017, the Director of NRR issued a memorandum to NRR management (Reference 3) to summarize the June 12, 2017 meeting and task them to continue the development and inclusion of risk considerations in licensing reviews. In addition, this memorandum tasked NRR management with actions to disposition related recommendations from a differing professional opinion (DPO) panel review (References 4, 5, and 6) regarding two emergency license amendments issued on December 23, 2016 (Reference 7), and January 4, 2017 (Reference 8), for Palo Verde Nuclear Generating Station (Palo Verde), Unit 3, involving diesel generator allowed outage times (AOTs).

The staff responded to SRM-M170511 by SECY-17-0112 on November 13, 2017 (Reference 2), which provided the staff's proposal for increasing its capability to use risk information in decision making and described challenges towards further progress in risk informed decision-making (RIDM) and measures that the staff is taking to overcome these challenges.

Separately, by memorandum dated January 25, 2018 (Reference 10), the NRC's Executive Director for Operations (EDO) tasked the staff (i.e., the Transformation Team) to identify potential transformation(s) to the NRC's regulatory framework, culture, and infrastructure. This Transformation Team received internal and external stakeholder feedback on the need for consistent and expanded use of RIDM. Specifically, the Transformation Team received feedback from stakeholders on the need for a systematic, consistent approach to utilizing RIDM in licensing to scale the breadth and depth of review and more fully leverage existing internal and external information.

This NRR RIDM action plan implements the staff's proposal contained in SECY-17-0112 and the tasks outlined in the June 29, 2017, NRR director memorandum. Additionally, the RIDM action plan has been revised to reference the feedback received by the Transformation Team. This action plan is a living document and will be updated quarterly or as needed. The NRC staff used LIC-502, Revision 3, "Procedure for Development, Implementation, and Management of Action Plans," dated March 23, 2017 (Reference 9), with variations to create this action plan. The NRR RIDM team is additionally available to support other NRC office activities to enhance RIDM in their programs.

2.0 NRR RIDM PROJECT INPUTS

Multiple inputs, as described below, were used to develop the NRR RIDM project.

2.1 Mission Statement and Supporting Objectives

As stated above, the NRR senior leadership met on June 12, 2017, to discuss how NRR should enhance how it integrates risk into its decision-making procedures and processes and increase the staff's understanding of risk and risk tools and developed a mission statement, supporting objectives, and tasks that the staff should complete to enhance the integration of risk into our decision making procedures and processes. The mission statement and supporting objectives for this project are summarized below:

Mission Statement: Enhance the integration of risk information into the organization's decision-making practices and processes to improve the technical basis for regulatory activities, increase efficiency, and improve effectiveness.

Supporting Objectives:

1. Develop and refine applicable processes and procedures to integrate risk information in a manner that complements traditional regulatory approaches and supports the defense-in-depth philosophy;
2. Increase the staff's ability to understand and effectively apply risk information through education and training initiatives; and
3. Develop and implement a communication strategy that increases awareness of our plans and successes in using risk information.

2.2 SECY-17-0112 Strategies

SECY-17-0112 identified current challenges that could inhibit progress in RIDM and five overarching strategies to help overcome those challenges. The set of strategies described in the paper represent a multifaceted approach to overcoming identified challenges. The five strategies identified in SECY-17-0112 are:

- Strategy I:** Evaluate and update RIDM guidance to foster a collaborative review process and a broadened understanding of risk and risk insights.
- Strategy II:** Develop a graded approach for using risk information in licensing reviews.
- Strategy III:** Enhance mandatory training requirements related to RIDM for managers and staff.
- Strategy IV:** Advance NRC and industry risk-informed initiatives.
- Strategy V:** Enhance communication on risk informed activities.

A two-phased approach is being used to complete this project. The NRC staff considers Strategies I and II as Phase 1 activities (Evaluation) due to the necessary steps of collecting data, and evaluating and analyzing the data to support the development and the updating of guidance/training. Strategy III is considered Phase 2 activities (Implementation) due to the dependency on the outcome of the Phase 1 activities. Strategies IV and V are considered cross-cutting since these items are associated with communication. Additional details on the framework are discussed below in Section 2.4.

2.3 NRR RIDM Tasks

This action plan initially contains eight NRR RIDM tasks. The successful completion of these tasks is expected to enhance the integration of risk information into regulatory decision-making practices and processes; improve the technical basis for regulatory activities; and increase the efficiency, effectiveness, and consistency of RIDM. Table 1 summarizes the eight NRR RIDM tasks. Specific details on each of the tasks are provided in Section 5.0, “NRR RIDM Scope of Work,” of this action plan.

Recognizing that this action plan is a living document, there is a potential that NRR RIDM tasks may need to be revised or added to the scope of this project. Therefore, this action plan defines a process for revising or adding tasks and updating the action plan to reflect the revisions. This process is explained in Section 9.0, “Control Process,” of this action plan.

2.4 NRR RIDM Project Framework

Because of the varied inputs into the RIDM project, the staff developed a framework to define the hierarchy and relationship between the NRR RIDM mission, NRR supporting objectives, SECY-17-0112 strategies, NRR RIDM tasks, and the cross-cutting item of communication.

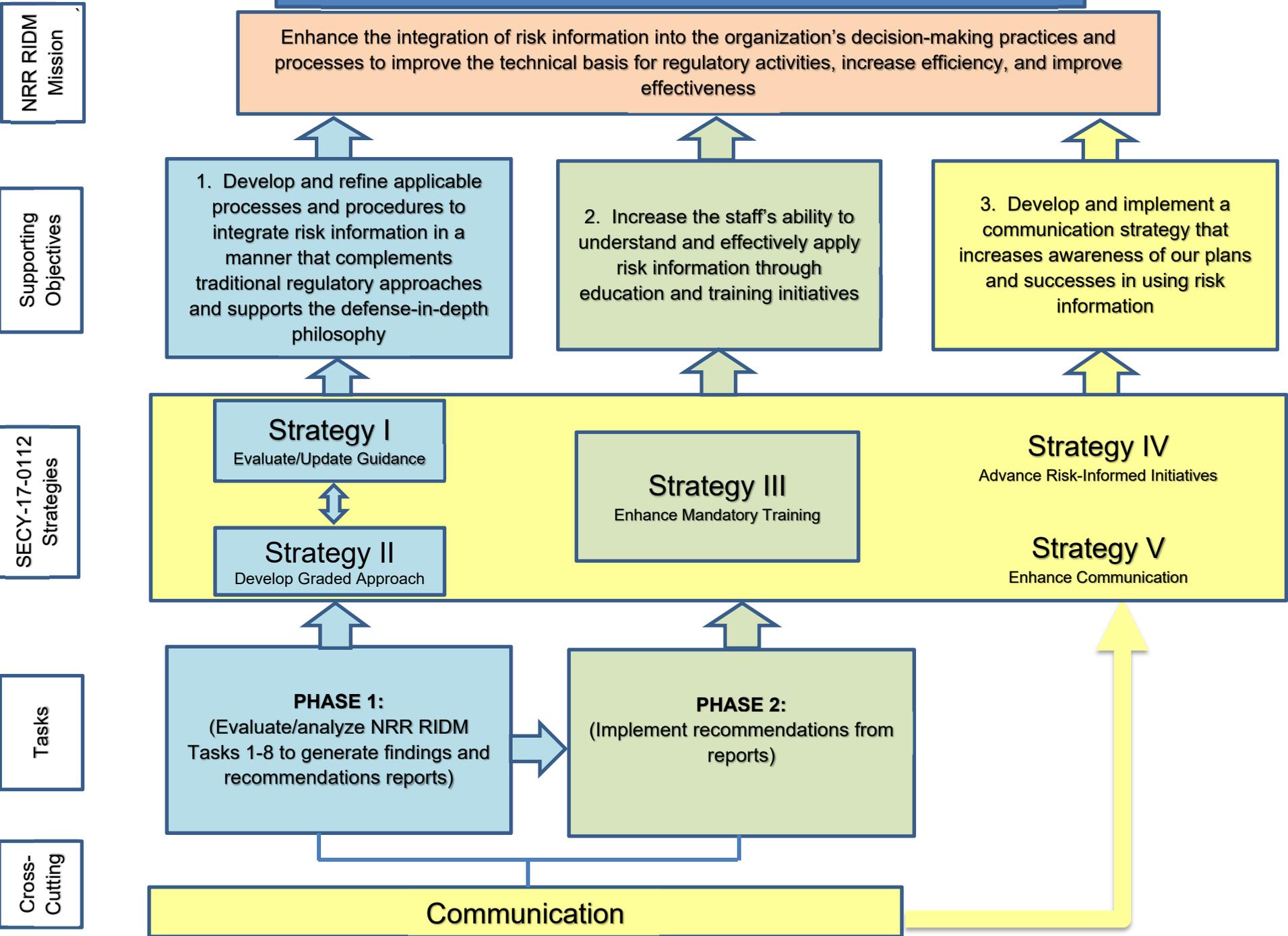
SECY-17-0112 states that there is an overarching change management challenge and culture change that needs to be addressed in order to make progress in RIDM. Therefore, to address this challenge, this action plan utilizes a two-phased approach to complete this project. Phase 1, which includes Strategies I and II of SECY-17-0112, is collecting data and evaluating and analyzing the eight NRR RIDM tasks to generate findings and recommendations reports. Phase 2, which includes Strategy III of SECY-17-0112, is the implementation of the recommendations from the reports, including revising guidance and training staff. Strategies IV and V of SECY-17-0112 are considered cross-cutting due to these items being associated with communication. Details on the phased approach are discussed in Section 5.0, “NRR RIDM Project Process,” of this action plan.

Figure 1 provides a graphical representation of the framework of this project.

Table 1: Summary of the NRR RIDM Tasks

NRR RIDM Tasks	Task Description
NRR RIDM Task 1	Expand use of license review teams that would team up risk analysts with technical staff vice relying on sequential or independent reviews. In addition, evaluate the roles/responsibilities for the technical reviewer, risk analyst, and project manager.
NRR RIDM Task 2	Broaden the definition of risk more transparently such that all of the technical staff can see how their work embodies risk considerations—beyond CDF [Core Damage Frequency], LERF [Large Early Release Frequency].
NRR RIDM Task 3	Develop a graded approach for using risk information more broadly in licensing reviews.
NRR RIDM Task 4	Review Branch Technical Position (BTP) 8-8, “Onsite (Emergency Diesel Generators) and Offsite Power Sources Allowed Outage Time [AOT] Extensions” (Reference 11).
NRR RIDM Task 5	Evaluate DPO Panel Recommendations 5 and 6, including evaluating the possibility to leverage the risk-informed notebooks as job aids for the staff.
NRR RIDM Task 6	Evaluate the guidance in the four pertinent documents (Regulatory Guide (RG) 1.174 [Reference 12], RG 1.177 [Reference 13], RG 1.200 [Reference 14], and NUREG-1855 [Reference 15], discussed in DPO Panel Recommendation 7 to determine if better harmonization is appropriate, and provide recommendations on a path forward, if appropriate.
NRR RIDM Task 7	In addition to RG 1.174, determine whether any other pertinent documents or procedures should be updated (e.g., RG 1.177).
NRR RIDM Task 8	<p>Evaluate the use of Large Early Release Frequency (LERF) in various regulatory applications and determine if different approaches are supported:</p> <ul style="list-style-type: none"> • Permanent license amendment versus one-time AOT extension • Significance Determination Process analysis (truncates LERF after 8 days) • Consistency among regions when processing Notices of Enforcement Discretion (NOEDs)

Figure 1: NRR RISK-INFORMED DECISION-MAKING (RIDM) FRAMEWORK



3.0 NRR RIDM TEAM

SECY-17-0112 states that it focuses on RIDM for the reactor program (i.e., operating and new reactors); however, it also discusses that although successful execution of these strategies should benefit both current and future licensees, next generation advanced non-light water reactor developers are increasingly using probabilistic risk assessment (PRA) throughout the design process. Therefore, the current focus of this action plan are the eight NRR RIDM tasks. Although the scope currently focuses on NRR processes, the NRR RIDM team includes staff from the Office of New Reactors (NRO) for awareness and to provide NRO insights on their experiences using RIDM, as well as looking forward to the NRR/NRO merger. Lastly, the NRR RIDM team is available to support other NRC office activities to enhance RIDM in their programs. For example, the NRR RIDM team completed a briefing on the action plan and associated tasks to NRO on April 17, 2018. This action plan has been shared with other offices with the intent to support their efforts to enhance RIDM within their programs, which may include using this action plan as a model to develop a plan that addresses their specific office needs.

Figure 2 provides an overview of the RIDM team. The team's Executive Sponsor is the NRR Deputy Director for Engineering. There are four Senior Executive Service (SES) Champions from the Division of Operating Reactor Licensing (DORL), Division of Risk Assessment (DRA), and Division of Engineering (DE). Each SES Champion and their respective divisions provide oversight on the direction of their assigned task(s). DORL is championing Tasks 1 and 5; DRA is championing Task 3; and DE is championing Tasks 2 and 4 (NOTE: Tasks 6 and 7 were led by DRA and Task 8 was led by DORL, and they were completed before this revision of the action plan was implemented.). Each task is supported by a working group, with each working group having a team lead.

The Risk-Informed Steering Committee (RISC) was formed as an NRC senior management committee that provides strategic direction to the NRC staff to advance the use of risk-informed decision-making in licensing, oversight, rulemaking, and other regulatory areas, consistent with the Commission's PRA Policy Statement (60 FR 42622, August 16, 1995). Membership of the RISC is comprised of SES-level representatives from various NRC organizations, including NRR's Deputy Director for Engineering. The staff plans to utilize the quarterly RISC public meetings to provide updates to industry and members of the public on the progress of the NRR RIDM project. Figure 3 provides the relationship between the RISC and the NRR RIDM team.

3.1 Project Management Structure

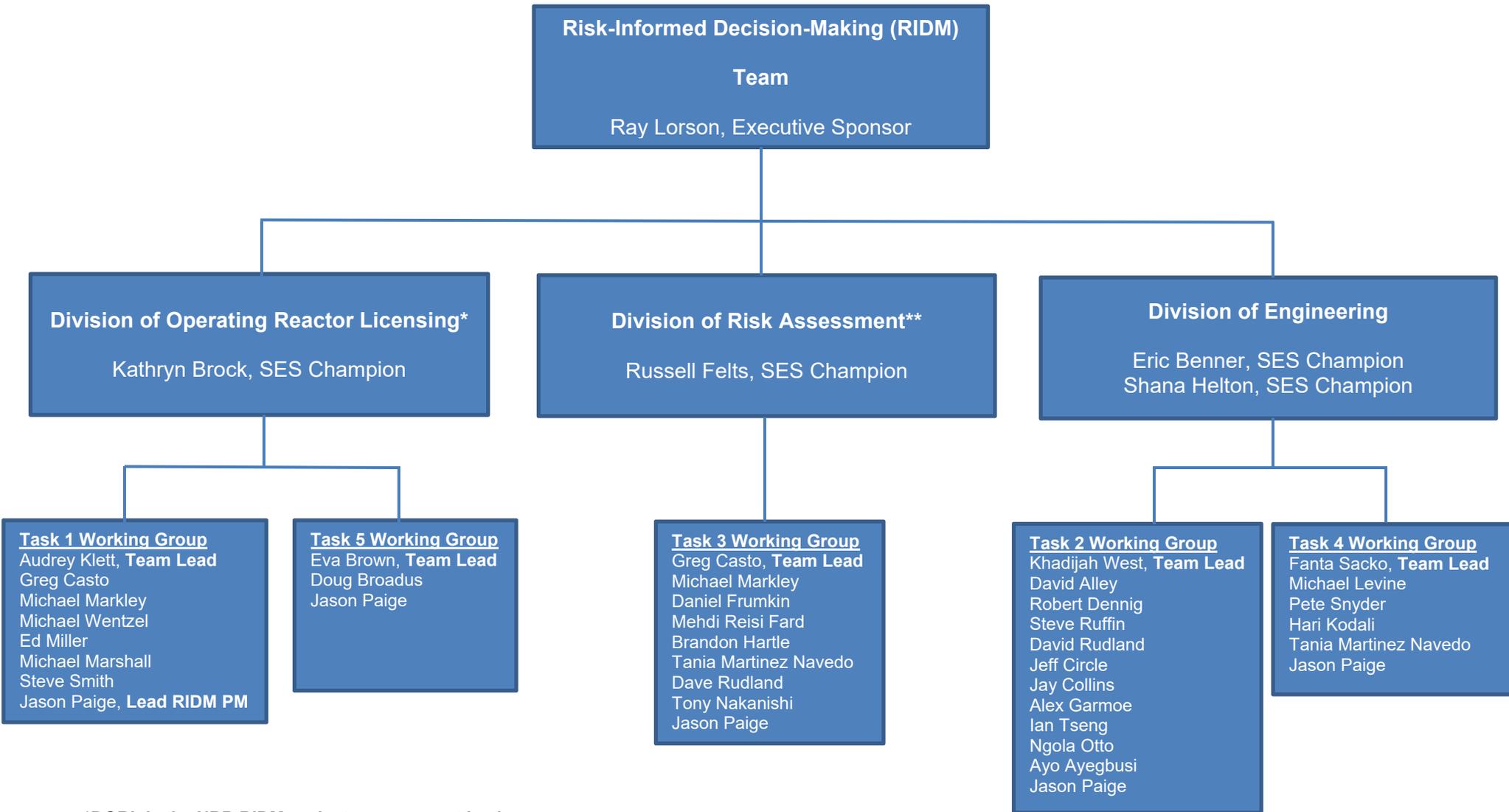
Below is a description of the roles and responsibilities of each of the positions of the NRR RIDM team.

- **Executive Sponsor:** Provides policy direction on the NRR RIDM project.
- **SES Champions:** Provide oversight of their task(s) and ensures that the working groups implement the policy direction received from the Executive Sponsor. DORL is the NRR RIDM project management lead, and DRA is the NRR RIDM technical lead.
- **Lead RIDM Project Manager:** The lead DORL RIDM project manager is responsible for generating and implementing the process as defined in this action plan. The project manager will attend the working group meetings to ensure the continuity of the project and address any process-related questions or questions interrelated to another working group's task. In addition, the project manager will update the action plan, as needed, provide updates to the SES Champions (or any issues requiring their attention) during

their biweekly meetings, and assist with communicating policy direction received from the Executive Sponsor to the working groups.

- **Working Group Team Leads:** Each working group is assigned a team lead, who serves as the main point of contact for the working group. The team lead is responsible for facilitating the working group meetings, updating their SES Champion, and coordinating the action items assigned by the lead RIDM project manager.
- **Working Groups:** The working groups are responsible for the management and review of their assigned task.

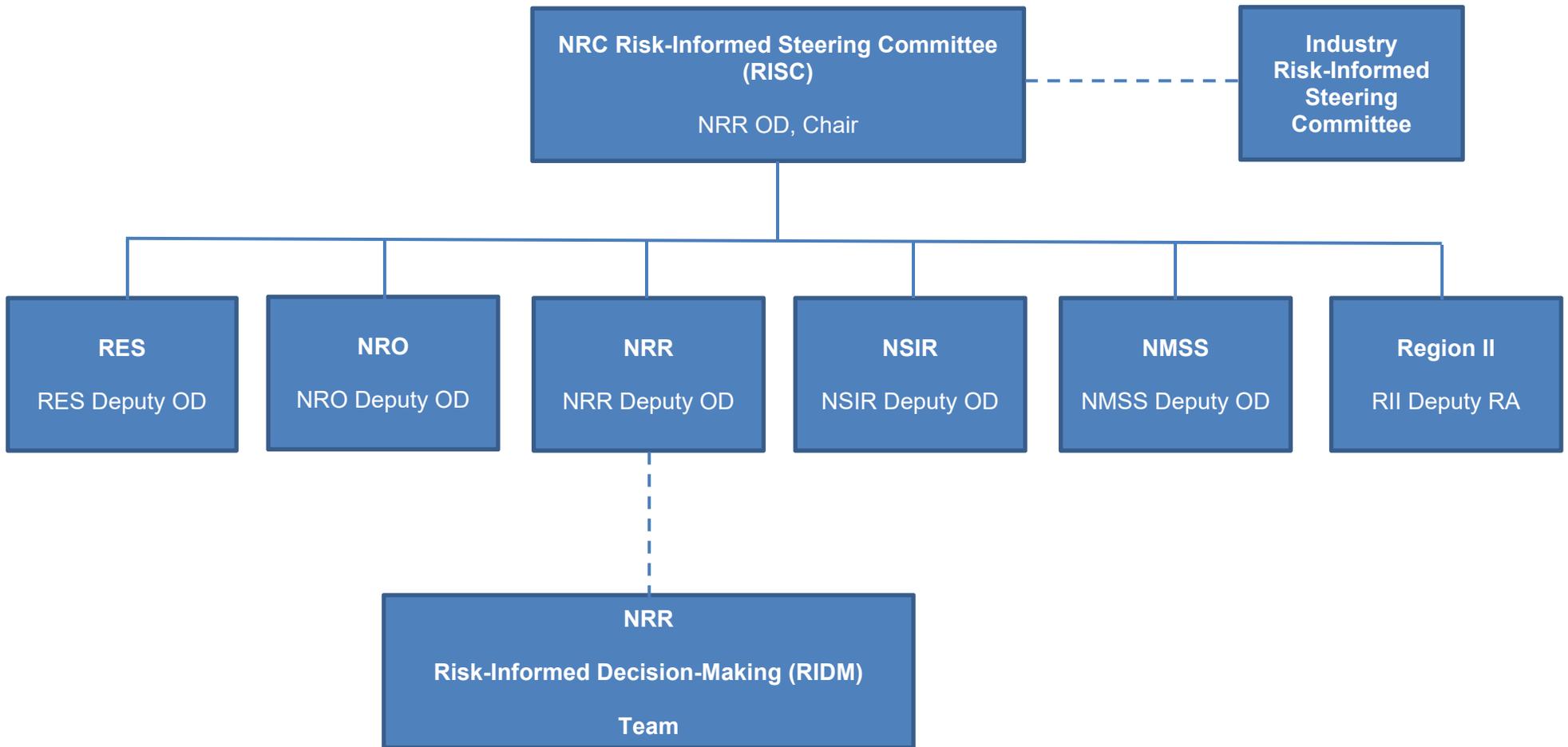
FIGURE 2: Organization Chart: NRR Risk-Informed Decision-Making (RIDM) Team



*DORL is the NRR RIDM project management lead

**DRA is the NRR RIDM technical lead

FIGURE 3: Organization Chart: Relationship Between the RISC and the NRR RIDM Team



4.0 NRR RIDM PROJECT PROCESS

SECY-17-0112 identified challenges that inhibit further progress in RIDM. For example, it stated that some NRC staff are not as familiar or experienced with the use of RIDM and the benefits it can bring to the overall regulatory approach. Overcoming this overarching change-management challenge and culture change is essential to making progress in RIDM. To mitigate this overarching challenge, this action plan utilizes a systematic or phased approach by frequently engaging with staff to generate recommendations to enhance risk in our decision-making activities. The staff believes that utilizing this approach will ensure the successful achievement of the NRR RIDM project mission statement and support the cultural transition from the current processes in place. As with any cultural change, there are questions that arise on why a change is being made and the proper documentation is necessary to justify the proposed changes. Therefore, the action plan's phased approach also includes actions to document and communicate the team's progress to ensure a more complete understanding of the benefits achieved by these changes.

This action plan implements two phases. Phase 1 is the evaluation and analysis of the tasks to generate findings and recommendations reports and Phase 2 is implementation of the recommendations. The working groups' review and completion of their tasks are independent from each other, with the exception of interdependencies discussed below (Section 5.0, "NRR RIDM Scope of Work," of this action plan); therefore, each working group will follow their task's specific schedule (Section 7.2, "Overall Schedule," of this action plan). Each working group is expected to complete their findings and recommendations report by spring 2018 (Phase 1) and implementation of the recommendations by December 2018 (Phase 2). Sections 4.1 and 4.2 provide additional details on the two phases, and Section 7.2 provides additional details on the NRR RIDM project milestones.

4.1 Phase 1: Evaluation and Analysis to Generate Recommendations

Phase 1 is defined as the evaluation and analysis phase to support the working groups' findings and recommendations reports. This phase includes four steps to ensure successful completion of this portion of the project. Step 1 is finalizing the scope of the tasks, Step 2 is collecting data, Step 3 is analyzing the data, and Step 4 is finalizing the findings and recommendations reports. Below are additional details on each step.

4.1.1 Step 1: Finalize Scope of Tasks

Each working group will define and finalize the scope of their assigned task by providing scoping statements to the lead RIDM project manager. Once the working groups have completed their scoping statements, the lead RIDM project manager will schedule a meeting with the team to discuss each of the scoping statements to ensure alignment between each of the working groups. Once the team is aligned, each of the working groups will brief the ET/LT on the scope of their task. The purpose of the ET/LT briefs is for the working groups to provide an update on their task, align on the scope, and seek feedback and incorporate comments from management.

4.1.2 Step 2: Data Collection

Each working group will collect data or identify documents (see Section 5.0 of this action plan) that will be reviewed by their working group to complete their task. This data collection includes

lessons-learned from previous licensing actions that use risk insights, guidance documents that could be revised to incorporate risk or clarified on how risk is used in our decision-making activities (e.g., office instructions, regulatory guides, NUREGs, etc.), and current training offered to the staff. Also, the working groups may interview staff, provide questionnaires, and host cafés with the intent to capture a broad spectrum of the staff's understanding on how risk is used in the agency's decision-making activities.

4.1.3 Step 3: Analyze and Evaluate Data

From the data collected under Step 2, the working groups will analyze and compare information from the policy statements and guidance documents reviewed to the information that is collected from the staff (e.g., cafés, focused interviews, etc.). The intent is to identify any gaps between the agency's policy statements and supporting guidance documents and the way the staff is interpreting or implementing these documents. This information will provide the supporting information to justify any revisions or improvements to clarify existing guidance documents and/or training programs, and identify the need to generate new guidance and/or training programs.

4.1.4 Step 4: Findings and Recommendations Reports

Each working group will generate a findings and recommendations report. This report will summarize the findings from the information collected and analyzed to justify the proposed revisions to guidance documents and training programs (i.e., recommendations). The proposed recommendations will be briefed to the ET/LT before implementation is commenced. When the working group completes the ET/LT brief and incorporates comments, they have successfully completed Phase 1, and the working group can begin Phase 2.

4.2 Phase 2: Implementation of the Recommendations

Phase 2 is defined as the implementation phase of the NRR RIDM project. This phase will implement the working groups' recommendations from Phase 1, which will supersede the eight NRR RIDM tasks listed in Section 2.3 of this action plan. This phase includes four steps to ensure successful completion of this portion of the project. Step 1 is prioritizing the recommendations, Step 2 is assigning the recommendations to the appropriate divisions, Step 3 is implementing the recommendations, and Step 4 is piloting the recommended revisions. Please note that Phase 2, Steps 1, 2, and 3 should be completed sequentially; however, Phase 2, Step 4 (Pilot Program) is not dependent on the completion of the previous steps (Phase 2, Steps 1-3) and should be implemented immediately after the completion of Phase 1, Step 4 (i.e., working groups' ET/LT briefs). Below are additional details on each step.

4.2.1 Step 1: Prioritization of Recommendations

Once the working groups have completed their ET/LT briefs on their task's recommendations, the NRR RIDM SES champions will provide a prioritization plan on implementing the recommendations. Depending on the total number of recommendations and available resources, the prioritization plan may include implementing all recommendations at once or grouping the recommendations and implementing sequentially based on priority. The ET/LT will approve the prioritization plan.

4.2.2 Step 2: Assignment of Recommendations

Once the prioritization plan is approved, the highest priority recommendations or the recommendations that should be implemented immediately will be assigned to the appropriate division via yellow ticket.

4.3.3 Step 3: Implementation of Recommendations

Once the yellow tickets are generated, the working groups' findings and recommendations reports will be used as direction to implement the recommendations (e.g., generating new guidance documents, revising existing guidance (e.g., office instructions), or generating training). To note, the working groups' reports will provide specific details and outline the recommended process/review revisions but Phase 2, Step 3 of the NRR RIDM project's objective is to formally proceduralize the recommended revisions. Completion of these implementation activities are expected by December 2018.

4.3.4 Step 4: Pilot Program

Step 4 should be implemented immediately after the completion of Phase 1 (i.e., completion of the working groups' briefings to the ET/LT on their task's recommendations). The pilot program's objective is to measure the success of the working groups' recommended revisions (see Section 8.0, "Project's Success Criteria" of this action plan). As stated above, the working groups' Phase 1 reports will provide specific details on the recommended revisions. For example, the NRR RIDM Task 1 report will include an outline on the proposed process to complete a review using an integrated team of technical staff and risk analysts. Therefore, as guidance (e.g., office instruction) is being revised to capture the recommended changes, the Phase 1 reports outlining the revised process can be used as pilot guidance to complete a diverse selection of licensing actions.

The Phase 2 pilot program includes a quantitative and qualitative review of a completed licensing action using the recommended revisions. Input for the quantitative and qualitative reviews are dependent on using the deliverables from NRR RIDM Tasks 1 and 5 (see Sections 5.1.4, "NRR RIDM Task 1 Expected Outcome," and 5.5, "NRR RIDM Tasks 5-8," of this action plan). Regarding the quantitative review, one of the expected outcomes of NRR RIDM Task 1 is to enhance the agency's Reactor Program System – Licensing/Workload Management (RPS – Licensing/WL) software to better track the completion of licensing reviews. Currently, the RPS – Licensing/WL software does not have the capability to track whether applications are Types 1, 2, or 3, as specified in SECY-17-0112, and this information is tracked manually. Therefore, one potential option is to modify the RPS – Licensing/WL software so that it can classify an application as Types 1, 2, or 3. In addition, the RPS – Licensing/WL software could be modified to be able to identify if an integrated review team was assigned to complete a specific review. If approved, these modifications to the RPS – Licensing/WL software will allow management and staff to run reports on review hours and timeliness for each type of application. This information will be used as input to the quantitative review of the pilot program. Once the RPS – Licensing/WL software is modified, the staff will continue to track this information manually as input to the quantitative review. Regarding the qualitative review, the expected outcome of NRR RIDM Task 5 is to develop guidance for a critical lessons-learned review after a first-of-a-kind licensing action. Guidance (Reference 16) has been developed to make an objective assessment, including process/program adherence, licensee performance, licensing/regulatory activity review and

concurrence, project staff performance, and management performance, of a completed review. The guidance includes the generation of a report to document the staff's assessment. This information will be used as input to the qualitative review of the pilot program and will provide context to the quantitative review.

5.0 NRR RIDM SCOPE OF WORK

During the ET/LT quarterly strategy meeting on June 12, 2017, NRR leadership decided that NRR should enhance how the agency integrates risk into our decision-making procedures and processes and increase the staff's understanding of risk and risk tools. By memorandum dated June 29, 2017 (Reference 3), the Director of NRR summarized the outcome of the meeting, including the tasks that the staff should complete to enhance the integration of risk into our decision-making procedures and processes. In addition, the June 29, 2017, memorandum referenced a DPO panel review regarding two emergency license amendments issued on December 23, 2016, and January 4, 2017 (Reference 7 and 8, respectively), for Palo Verde involving diesel generator AOTs. The DPO panel proposed eight recommendations for NRR consideration associated with enhancing guidance for deterministic license amendment requests with supplemental risk information. The scope of the NRR RIDM project includes the tasks summarized in the memorandum dated June 29, 2017, and takes into consideration the eight recommendations from the DPO panel review. Table 2 provides the relationship between the eight NRR RIDM tasks and the eight DPO recommendations, and how they support the five strategies from SECY-17-0112.

Since this project is currently in Phase 1, Sections 5.1, 5.2, 5.3, and 5.4 of this action plan provide the scope of NRR RIDM Tasks 1-4 as it relates to the Phase 1 milestones discussed in Section 4.1 of this action plan, including documents that will be reviewed under each task, interdependencies between tasks, and expected outcome from each task. Section 5.5 of this action plan references the closeout memoranda for NRR RIDM Tasks 5-8. Once Phase 1 is completed, this section will be revised to include the scope of the Phase 2 recommendations for implementation.

NOTE: This section only includes the scope for NRR RIDM Tasks 1-4. NRR RIDM Tasks 5-8 were complete or nearly completed before the implementation of this action plan.

Table 2: SECY-17-0112 Strategies and NRR RIDM Project Tasks -- PHASE 1

SECY-17-0112 Strategies		DPO Panel Recommendations	NRR RIDM Tasking	Working Group Lead
Strategy I: Evaluate and Update Guidance	a. Collaborative Review Process	Recommendation 3: It was not clear how the staff considered the guidance in NRR Office Instruction LIC-101 (References 17 and 18) that discourages resource-intensive reviews of risk-informed license amendment requests (LARs) submitted under emergency circumstances. Additional guidance appears to be warranted in this area.	NRR RIDM Task 1	DORL
	b. Broadened Understanding of Risk and Risk Insights		NRR RIDM Task 2	DE
		Recommendation 2: Because of inconsistent interpretations related to BTP 8-8 guidance, the staff should evaluate this guidance to determine if it requires clarification.	NRR RIDM Task 4	DE
		Recommendation 8: Because of inconsistent interpretations, the staff should evaluate guidance to determine if the following issues require clarification: acceptability of long duration AOTs for one-time extensions, and maximum AOTs (i.e., a firm completion time backstop), even when supported with risk information, to limit the permitted amount of time operation without single failure protection.		
		Recommendation 5: The staff should consider evaluation of whether a standardized method for using insights from independent risk tools (e.g., a Standardized Plant Analysis Risk (SPAR) model) to support the review of LARs to ensure an objective, consistent, and independent verification of the licensee's risk evaluation.	NRR RIDM Task 5	DORL
		Recommendation 6: The staff should evaluate additional guidance that would require a critical lessons learned review be conducted after first-of-a-kind licensing actions to determine, in part, whether this application and/or safety evaluation should be used going forward as a precedent.		
		Recommendation 7: The staff should evaluate additional guidance on the conduct of probabilistic risk assessment (PRA) sensitivity studies.		
			NRR RIDM Task 6	DRA
		NRR RIDM Task 7	DRA	
		NRR RIDM Task 8	DORL	
Strategy II: Develop a Graded Approach for Using Risk Information in Licensing Reviews		Recommendation 4: The staff should evaluate the development of guidance for reviewing deterministic-based LARs with supplemental risk information provided to ensure these types of risk evaluations receive a minimally acceptable review for validity and consistency.	NRR RIDM Task 3	DRA

NOTE: DPO Recommendation 1 indicated that there may be opportunities to more effectively communicate with the public during emergency LARs, including the use of less formal communications tools. Furthermore, the staff should consider guidance and training in this area. However, the June 29th, Bill Dean memo concluded that no action is required.

- NRR RIDM Task 1: Expanded use of license review teams, including evaluating the technical reviewer, risk analyst, and project manager roles/responsibilities.
- NRR RIDM Task 2: Broaden the definition of risk more transparently such that all of the technical staff can see how their work embodies risk considerations—beyond CDF, LERF.
- NRR RIDM Task 3: Develop a graded approach for using risk information more broadly in licensing reviews.
- NRR RIDM Task 4: Review of BTP 8-8.
- NRR RIDM Task 5: Evaluate DPO Panel Recommendations 5 and 6, including evaluating the possibility to leverage the risk-informed notebooks as job aids for the staff.
- NRR RIDM Task 6: Evaluate the guidance in the four pertinent documents (RG 1.174, RG 1.177, RG 1.200, and NUREG-1855) discussed in DPO Panel Recommendation 7 to determine if better harmonization is appropriate, and provide recommendations on a path forward, if appropriate.
- NRR RIDM Task 7: With the impending revision to RG 1.174, determine whether there are any other pertinent documents or procedures that should be updated (e.g., RG 1.177).
- NRR RIDM Task 8: Evaluate the use of LERF in various regulatory applications and determine if different approaches are supported: Permanent license amendment versus 1-time AOT extension; Significance Determination Process analysis (truncates LERF after 8 days); Consistency among regions when processing Notices of Enforcement Discretion (NOEDs)

Table 2 (cont.): SECY-17-0112 Strategies and NRR RIDM Project Tasks -- PHASE 2

SECY-17-0112 Strategies	DPO Panel Recommendations	NRR RIDM Tasking	Working Group Lead
Strategy III: Enhance Mandatory Training Requirements Related to Risk-Informed Decision-Making for Managers and Staff		Implement recommendations from the Phase 1 Findings and Recommendations Report.	Tasks 1-7
		Develop a web-based training activity to expose staff to key RIDM principles to enhance understanding and awareness.	Tasks 1-7
		Modify as appropriate the technical reviewer, risk analyst, and project manager courses to embed RIDM principles. This should consider integration of the revised RG 1.174 noted below.	Tasks 1/3
Cross-Cutting – Communication – PHASES 1 and 2			
Strategy IV: Advance Risk-Informed Initiatives		Utilize the Risk-Informed Steering Committee internal/public meetings to provide routine updates on the NRR RIDM project.	DORL
Strategy V: Enhance Communication on Risk-Informed Activities		Develop an Action Plan outlining NRR’s initiative to enhance risk-informed decision-making procedures and processes, and the strategic framework to complete the NRR RIDM project.	DORL
		Evaluate whether NRR can leverage Office of Nuclear Regulatory Research (RES) and/or NRO communication assets to develop the periodic communication products/newsletters.	DORL
		Upon request, brief program offices on the NRR RIDM action plan to provide insights and experiences while completing the project. The intent is to support other program offices in their efforts to enhance RIDM, which may include the development of an action plan.	DORL

5.1 NRR RIDM Task 1

NRR RIDM Task 1: Expand use of license review teams that would team up risk analysts with technical staff vice relying on sequential or independent reviews. In addition, evaluate the roles/responsibilities for the technical reviewer, risk analyst, and project manager.

5.1.1 NRR RIDM Task 1 Scope

The NRR RIDM Task 1 working group will develop workload management tools for reviewing SECY-17-0112 Type 1, 2, and 3¹ applications. These tools will enable early and periodic team communications and meetings to understand the following during a review:

- purpose of the application
- each reviewer's scope and interdependencies among reviewers' scopes
- how the review will be accomplished
- what conclusions and decisions need to be made and by whom
- whether risk and traditional engineering insights can be used together and complement one another
- team member functional responsibilities

In addition, these tools will assist with the development of a consolidated safety evaluation early in the review process that outlines the integration of risk and traditional engineering insights, and early identification of issues (ideally during the acceptance review), management engagement, and a path for resolution.

5.1.2 NRR RIDM Task 1 Document Review

The NRR RIDM Task 1 working group will review and enhance, as needed, the following documents to complete this task.

- NRR Office Instruction LIC-101, "License Amendment Review Procedures," Revisions 4 and 5 (References 17 and 18)
- NRR Office Instruction LIC-102, "Relief Request Reviews," Revision 2 (Reference 19)
- NRR Office Instruction LIC-109, "Acceptance Review Procedures," Revision 2 (Reference 20)
- NRR Office Instruction LIC-600, "Review of Technical Specifications Task Force (TSTF) Travelers and Creation of 'CLIP' Model Applications" (Reference 21)

¹ "Type 1 includes traditionally deterministic requests that demonstrate regulatory compliance largely through the use of NRC-approved prescriptive analyses. In these cases, quantitative PRA results have rarely been included. Type 2 includes licensing submittals that contain quantitative or qualitative risk information but are not formally submitted using the guidance in RG 1.174 and RG 1.200. Lastly, Type 3 applications are formal risk-informed changes that use quantitative risk information derived from a RG 1.200-compliant PRA and are subject to the review guidelines in RG 1.174."

5.1.3 NRR RIDM Task 1 Interdependencies

- NRR RIDM Task 1 relies on NRR RIDM Task 2 for fostering an understanding of concepts such as PRA, risk, defense-in-depth, safety margins, and compliance, which will enable review teams to work from a common language and understanding to ease safety evaluation and conclusion development.
- NRR RIDM Task 1 relies on NRR RIDM Task 3 to develop the review methodology for considering risk and traditional engineering insights to complete the “Technical Evaluation” section of licensing reviews (i.e., how to identify when risk and technical insights can complement one another and how to develop conclusions using risk and technical insights).
- NRR RIDM Task 1 will consider any NRR RIDM Task 5 products regarding lessons learned.

5.1.4 NRR RIDM Task 1 Expected Outcome

- A process (i.e., project manager checklist) for expanding review teams and generating consolidated requests for additional information (RAIs) and safety evaluations (e.g., routine plant-specific licensing actions, emergency and exigent amendments, verbal relief requests, etc.). The checklist will provide a roadmap for project managers in determining the type of review for each application and level of risk information included in the staff’s safety evaluation.
- Recommendations to enhance the agency’s RPS – Licensing/WM software to better track the completion of licensing reviews following the processes developed under the NRR RIDM project.

5.2 NRR RIDM Task 2

NRR RIDM Task 2: Broaden the definition of risk more transparently such that all of the technical staff can see how their work embodies risk considerations—beyond CDF, LERF.

5.2.1 NRR RIDM Task 2 Scope

The NRR RIDM Task 2 working group will identify how the concepts of risk and risk insights are currently understood and used in NRR by collecting information via cafés with staff and managers, focused interviews, and online questionnaires, which will be compared to the agency’s current policy and guidance documents on risk. Once this comparison is complete, the working group will: (1) re-emphasize the definition of risk to ensure awareness and common understanding; (2) clarify the concepts of risk and risk insights in regulatory applications; and (3) provide recommendations on how these concepts could be used more broadly.

5.2.2 NRR RIDM Task 2 Document Review

The NRR RIDM Task 2 working group will review the following to establish a baseline for the definition and use of risk in NRC documents:

- Commission PRA Policy Statement and related historical documents
- SECY-99-007A, "Recommendations for Reactor Oversight Process Improvements (Follow-up to SECY-99-007)" (Reference 22)
- Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants" (Reference 23)
- Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis" (Reference 12)
- Regulatory Guide 1.177, "An Approach for Plant-Specific, Risk-Informed Decision-Making: Technical Specifications" (Reference 13)
- Regulatory Guide 1.178, "An Approach for Plant-Specific Risk-Informed Decision-Making for In-service Inspection of Piping" (Reference 24)
- NUREG-1855, "Guidance on the Treatment of Uncertainties Associated with PRAs in Risk-Informed Decision-Making" (Reference 15)
- Topical Reports and associated safety evaluations for WCAP-15666, Revision to Reactor Coolant Pump Flywheel Inspection Program, WCAP-14572, Westinghouse Owners Group Applications of Risk-Informed Methods to Piping In-service Inspection Topical Report, and BWRVIP-05, Report to Request Relief from Augmented Examination Requirements on Reactor Pressure Vessel Circumferential Shell Welds
- NRR Office Instruction LIC-504, "Integrated Risk-Informed Decision-Making Process for Emergent Issues" (Reference 25)
- NRR Office Instruction LIC-101, "License Amendment Review Procedures" (References 17 and 18)
- SECY-15-0168, "Recommendations on Issues Related to Implementation of Risk Management Regulatory Framework" (Reference 26)
- NUREG/BR-0318, "Effective Risk Communication: The Nuclear Regulatory Commission's Guidelines for Internal Risk Communication" (Reference 27)
- Risk-Informed Thinking Workshop feedback forms and training slides

5.2.3 NRR RIDM Task 2 Interdependencies

NRR RIDM Task 2 is defining how risk can be used and/or enhanced in our decision-making activities. Therefore, NRR RIDM Tasks 1, 3, and 4 are dependent on the findings and

recommendations of NRR RIDM Task 2. See Sections 5.1.3, 5.3.3, and 5.4.3 of this action plan for the interdependencies of NRR RIDM Tasks 1, 3, and 4 to NRR RIDM Task 2.

5.2.4 NRR RIDM Task 2 Expected Outcome

- Obtain current understanding and use by NRR staff of risk and risk insights in regulatory applications.
- Re-emphasize the definition of risk to ensure awareness and common understanding between the staff and managers.
- Clarify the concepts of risk and risk insights in regulatory applications.
- Recommendations on how the concepts of risk and risk insights can be used more broadly.

5.3 NRR RIDM Task 3

NRR RIDM Task 3: Develop a graded approach for using risk information more broadly in licensing reviews.

5.3.1 NRR RIDM Task 3 Scope

The NRR RIDM Task 3 working group plans to enhance or develop a process that can be used to consider risk information and insights, as needed, in NRC reviews defined in SECY-17-0112 as Types 1, 2, and 3 applications. The process will:

- Establish new tools (e.g., checklists) for NRR staff to efficiently develop qualitative insights that may be used to support the regulatory decision. These tools would apply to licensing actions that contain no quantitative risk information, and submittals that contain varying degrees of risk information. Tools may be useful to RG 1.174 applicable reviews, but the working group does not intend to specifically modify RG 1.174 processes or guidance.
- Establish necessary framework to provide support for reviews from NRR reliability and risk analysts, consistent with the NRR RIDM Task 1 workload management product.
- Recommend necessary framework/process for reviewing qualitative or semi-quantitative risk insights in deterministic licensing actions.

5.3.2 NRR RIDM Task 3 Document Review

The NRR RIDM Task 3 working group will review and enhance, as needed, office instructions, regulatory guides, and standard review plan risk information resources to provide recommendations for other Phase 1 Tasks, and as part of implementation of Phase 2 activities.

5.3.3 NRR RIDM Task 3 Interdependencies

- NRR RIDM Task 3 represents a process that may be used early in reviews (NRR RIDM Task 1, kick-off meetings) where the licensee did not provide risk information that is sufficient to make a regulatory decision under the RG 1.174 framework.
- NRR RIDM Task 3 relies on NRR RIDM Task 2 for training technical staff on the risk-informed decision-making framework, and the use of common language and understanding to ease safety evaluation and conclusion development.

5.3.4 NRR RIDM Task 3 Expected Outcome

- A process for risk analyst (i.e., checklist) that uses available risk tools to provide risk insights during a licensing action review.
- Safety evaluation templates and standard language, depending on the amount of risk information that is included in a licensee's application, on how risk should be used to support a regulatory decision.

5.4 NRR RIDM Task 4

NRR RIDM Task 4: Review of Branch Technical Position (BTP) 8-8, Onsite (Emergency Diesel Generators) and Offsite Power Sources Allowed Outage Time [AOT] Extensions

5.4.1 NRR RIDM Task 4 Scope

The NRR RIDM Task 4 working group will complete the following:

- identify guidance with similar purposes and requirements and interview stakeholders;
- evaluate Region IV DPO package, BTP 8-8, sample of reviews performed in accordance with BTP 8-8, and other information collected;
- develop preliminary insights, observations, and recommendations;
- provide a redline strikeout version of recommended changes to BTP 8-8; and
- provide recommendations for revisions to similar guidance documents.

5.4.2 NRR RIDM Task 4 Document Review

The NRR RIDM Task 4 working group will review and enhance, as needed, the following documents to complete this task. In addition to the documents listed below, the working group will review a sample of AOT licensing actions.

- NUREG-0800 BTP 8-8, "Onsite (Emergency Diesel Generators) and Offsite Power Sources Allowed Outage Time Extensions" (Reference 11)
- NUREG-0800 SRP 16.1, "Risk-Informed Decision-Making: Technical Specifications" (Reference 28)

- NUREG-0800 SRP 19.0, “Probabilistic Risk Assessment and Severe Accident Evaluation for New Reactors” (Reference 29)
- NUREG-0800 SRP 9.2.1, “Station Service Water System” (Reference 30)
- NUREG-1431, “Standard Technical Specifications – Westinghouse Plants” (Reference 31)
- Regulatory Guide 1.9, “Application and Testing of Safety-Related Diesel Generators in Nuclear Power Plants” (Reference 32)
- Regulatory Guide 1.93, “Availability of Electric Power Sources” (Reference 33)
- Regulatory Guide 1.155, “Station Blackout” (Reference 34)
- Regulatory Guide 1.174, “An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plants Specific Changes to the Licensing Basis” (Reference 12)
- Regulatory Guide 1.177, “An Approach for Plant-Specific, Risk-Informed Decision-making: Technical Specifications” (Reference 13)
- Regulatory Guide 1.187, “Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments” (Reference 35)
- Nuclear Management and Resources Council (NUMARC) 93-01, “Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants” (Reference 36)
- NUMARC 87-00, “Guidelines and Technical Bases for NUMARC Initiatives Addressing Station Blackout at Light Water Reactors” (Reference 37)
- Nuclear Energy Institute (NEI) 96-07, Revision 1, “Guidelines for 10 CFR 50.59 Evaluations” (Reference 38)
- NEI 06-09, “Risk-Informed Technical Specifications Initiative 4b” (Reference 39)
- Technical Specifications Task Force (TSTF) Traveler TSTF-505, “Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b” (Reference 40)
- NUREG/CR-6141, “Handbook of Methods for Risk-Based Analyses of Technical Specifications” (Reference 41)
- Electric Power Research Institute, Nuclear Safety Analysis Center, NSAC-125, “Guidelines for 10 CFR 50.59 Safety Evaluations” (Reference 42)

5.4.3 NRR RIDM Task 4 Interdependencies

- NRR RIDM Task 4 relies on NRR RIDM Task 2 to understand their findings on defining risk and risk insights.
- NRR RIDM Task 4 relies on NRR RIDM Task 3 to understand their process to conduct deterministic reviews with risk insights.

- NRR RIDM Task 4 relies on NRR RIDM Task 5 when evaluating the Region IV DPO package and incorporate any lessons learned.
- NRR RIDM Task 4 will use NRR RIDM Tasks 2, 3, and 5 findings to review guidance and make recommendations for BTP 8-8 and other guidance documents, as appropriate.

5.4.4 NRR RIDM Task 4 Expected Outcome

- Interim “expectation” memorandum on using BTP 8-8 for AOT extension requests.
- Redline strikeout version of recommended changes to BTP 8-8 that will eventually be incorporated into the guidance document.
- Training for staff on the proposed BTP 8-8 revisions.
- Recommendations for revisions to similar guidance documents.

5.5 NRR RIDM Tasks 5-8

As stated above, by memorandum dated June 29, 2017 (Reference 3), the Director of NRR provided a tasking memorandum to enhance the integration of risk into our decision-making procedures and processes. After the issuance of the memorandum, the staff started to evaluate several of the actions in the tasking memorandum before the implementation of this action plan. Specifically, NRR RIDM Tasks 5-8 were complete or nearly completed before the implementation of this action plan. Therefore, NRR RIDM Tasks 5-8 do not include the same format of information as the above sections for NRR RIDM Tasks 1-4. Below is a summary of NRR RIDM Tasks 5-8 and references to the tasks’ closeout memoranda, which include the staff’s evaluation.

NRR RIDM Task 5: Evaluate DPO Recommendations 5 (use insights from independent risk tools; e.g., SPAR models) and 6 (lessons-learned review after first-of-a-kind licensing actions)

The staff issued closure memorandum (DPO Recommendation 5), Risk Informed Decision Making Action Plan Tasks 5, 6, and 7 Recommendations, on March 15, 2018 (Reference 43). The staff issued closeout memorandum (DPO Recommendation 6), Pilot Program Regarding Lessons Learned, on April 2, 2018 (Reference 16).

NRR RIDM Task 6: Evaluate the guidance in the four pertinent documents (RG 1.174, RG 1.177, RG 1.200, and NUREG-1855) to determine if better harmonization is appropriate

The staff issued closure memorandum, Risk Informed Decision Making Action Plan Tasks 5, 6, and 7 Recommendations, on March 15, 2018 (Reference 43).

NRR RIDM Task 7: With the impending revision to RG 1.174, determine if any other documents/procedures should be updated

The staff issued closure memorandum, Risk Informed Decision Making Action Plan Tasks 5, 6, and 7 Recommendations, on March 15, 2018 (Reference 43). Also, this task is being reviewed

under NRR RIDM Tasks 1-4 (see Document Review under Sections 5.1.2, 5.2.2, 5.3.2, and 5.4.2).

NRR RIDM Task 8: Evaluate the use of Large Early Release Frequency (LERF) in various regulatory applications and determine if different approaches are supported:

- Permanent license amendment versus 1-time AOT extension
- Significance Determination Process analysis (truncates LERF after 8 days)
- Consistency among regions when processing Notices of Enforcement Discretion (NOEDs)

The closeout memorandum, Consideration of Large Early Release Frequency in NRC Staff Evaluation of Licensee Requests for Enforcement Discretion (Reference 44), is currently in concurrence.

6.0 COMMUNICATION PLAN

6.1 Key Messages

- The action plan includes a strategic framework (i.e., process) for completing the NRR RIDM project.
- The action plan is considered a living document and will be updated, as needed, to reflect changes to the process or changes to the NRR RIDM tasks.
- The RIDM framework incorporates the five strategies from SECY-17-0112 in response to the June 26, 2017 SRM (Reference 1). The five strategies are (1) evaluate and update guidance, (2) develop a graded approach, (3) enhance mandatory training, (4) advance risk-informed initiatives, and (5) enhance communication.
- The NRR RIDM tasks consolidates the eight Region IV DPO recommendations and the June 29, 2017, memorandum (Reference 3).
- The RIDM project will utilize a phased approach to complete the tasks. Phase 1 includes collecting data, and evaluation and analysis of the data for each working group to generate a recommendations report. Phase 2 will be the implementation of the recommendations from the working group reports, including revising guidance and training staff.
- The working groups are currently completing Phase 1, Step 4, Findings and Recommendations Reports, of the NRR RIDM project. The reports are expected to be completed no later than June 2018. See Section 7.1, "Current Status," of this action plan for an update of each of the NRR RIDM tasks.

6.2 Audience and Stakeholders

6.2.1 Internal Stakeholders

Internal stakeholders include the Commission, Office of the Executive Director for Operations (OEDO), Office of General Counsel (OGC), NRR, RES, NRO, Office of Nuclear Material Safety and Safeguards (NMSS), Office of Nuclear Security and Incident Response (NSIR), Office of Public Affairs (OPA), Office of Congressional Affairs (OCA), Region I, Region II, Region III, Region IV, and Office of Inspector General (OIG).

6.2.2 External Stakeholders

External stakeholders include the public, licensees, NEI, public interest groups, the media, and Congress.

6.3 Communication Tools

Below are the communication tools that the staff may utilize to keep internal and external stakeholders informed on the progress of this project. In addition, the internal tools will be used to (1) collect data to identify gaps in the staff's understanding of the agency's use of risk and (2) train the staff on the proposed revisions to guidance documents and training programs.

6.3.1 Internal Communication Tools

Action Plan:	Provides the strategic framework or process for completing the NRR RIDM project. Since the action plan is a publicly available document, it will also be used as an external communication tool.
Internal Communications:	Briefings, emails, etc. will be provided to headquarters and regional management and/or staff (as well as the Commission), as required, to provide updates on the progress of the NRR RIDM project and help prepare internal stakeholders to communicate to external stakeholders.
Focused Interviews/ Questionnaires:	Interview staff with experience in processing risk-informed licensing actions to gain a broad understanding on how the staff uses risk in their decision-making activities. In addition, questionnaires will be used to identify the staff's understanding of the agency's use of risk and to enhance or clarify guidance documents and/or training programs.
Workshops/Cafés:	This action plan will leverage the paradigm from the Risk Informed Thinking workshops to communicate to the staff proposed changes made under this project. Also, the cafés will be used to gain a broad spectrum of the staff's (technical reviewers and risk analysts) understanding on how risk is used in the agency's decision-making activities.

NRR Announcements:	Used to announce the questionnaires and cafés.
Division Meetings:	Provide updates on the progress of this project and training during NRR division meetings.
Regional Counterpart Meetings:	Provide updates on the progress of this project and training during the regional counterpart meetings.
Findings and Recommendations Reports:	At the conclusion of Phase 1 of the project, each working group will produce a findings and recommendations report to identify proposed changes to the agency's current processes to enhance risk in our decision-making activities, including revisions to guidance documents and/or training programs. These reports will be made public, so they will also be used as external communication tools.
NRR Controlled Correspondence:	Controlled correspondence (i.e., yellow tickets) will be used to track the implementation of the approved recommendations in the findings and recommendations reports.

6.3.2 External Communication Tools

Action Plan:	Provides the strategic framework or process for completing the NRR RIDM project.
Public Meetings:	The NRR RIDM project will utilize the quarterly RISC public meetings to update licensees, NEI, and members of the public on the status of the project. Since the RISC public meetings are typically attended by NRC and licensee executives, independent staff level public meetings will be scheduled, as needed, to discuss working level items.
Findings and Recommendations Reports:	At the conclusion of Phase 1 of the project, each working group will produce a findings and recommendations report to identify proposed changes to the agency's current processes to enhance risk in our decision-making activities, including revisions to guidance documents and/or training programs.

7.0 MILESTONES

The NRR RIDM project is being tracked at an agency-wide level. Therefore, this action plan commits to completing six of eight milestones for Phase 1 of the NRR RIDM project by June 30, 2018. Section 7.1 provides a narrative description of the current status of the action plan NRR RIDM tasks, and Section 7.2 provides an overall schedule and milestones for completing this project.

Updates to this action plan will occur quarterly or as needed.

7.1 Current Status

The working groups for NRR RIDM Tasks 1-4 are currently drafting their findings and recommendations reports (Phase 1, Step 4). NRR RIDM Tasks 5-8 are pending closure or closed. Specific details on the status for each NRR RIDM task are discussed below.

NRR RIDM Task 1

The project manager checklist is drafted and is currently being reviewed by the staff. The working group's findings and recommendations report, including a proposed process to integrate review teams, is drafted and is expected to be issued by June 2018. (NOTE: Due to the interrelationships between NRR RIDM Tasks 1 and 3, the findings and recommendations reports for the two NRR RIDM tasks will be combined into one report.)

NRR RIDM Task 2

The NRR RIDM Task 2 working group has completed three scheduled cafés (February 20, 2018, with technical staff/project managers; February 26, 2018, with managers; and February 28, 2018, with technical staff/project managers) and one online questionnaire to identify how the concepts of risk and risk insights are currently understood and used in NRR. Preliminary results of the cafés and online questionnaire are: there is inconsistency in the way staff interpret various terms related to risk, which subsequently affects how staff applies the terms in our work; there is general agreement among the staff that applying risk or risk insights is useful in reaching decisions (i.e., probabilistic and deterministic methodologies can coexist at the NRC); and a culture change is needed to make use of "risk information" and "risk insights" more of how the NRC does our work on a daily basis.

The working group is currently evaluating the collected information against the agency's current policy and guidance documents on risk to form their basis to support (1) re-emphasizing the definition of risk to ensure awareness and common understanding; (2) clarifying the concepts of risk and risk insights in regulatory applications; and (3) providing recommendations on how these concepts could be used more broadly. The working group is currently scheduling a café with the regions. The working group's findings and recommendations report documenting the results of their evaluation is expected to be issued by May 2018.

NRR RIDM Task 3

The NRR RIDM Task 3 working group has drafted the risk analyst checklist, which will use available risk tools to provide risk insights during a licensing action review, and is currently being reviewed by the staff. The development of safety evaluation templates and standard text on how risk should be used to support a regulatory decision is ongoing. As noted above, the NRR RIDM Task 3 findings and recommendations report will be consolidated with the report of NRR RIDM Task 1. The report is expected to be issued by June 2018.

NRR RIDM Task 4

The interim "expectation" memorandum for using BTP 8-8 is drafted and is currently in concurrence. The working group's findings and recommendations report, which will include a redline strikeout version of BTP 8-8, is expected to be issued by May 2018.

NRR RIDM Tasks 5, 6, and 7

The staff issued closure memorandum (DPO Recommendation 5), Risk Informed Decision Making Action Plan Tasks 5, 6, and 7 Recommendations, on March 15, 2018 (Reference 43). The staff issued closeout memorandum (DPO Recommendation 6), Pilot Program Regarding Lessons Learned, on April 2, 2018 (Reference 16).

NRR RIDM Task 8

The closeout memorandum, Consideration of Large Early Release Frequency in NRC Staff Evaluation of Licensee Requests for Enforcement Discretion (Reference 44), is currently in concurrence.

Communication

The NRR RIDM team routinely provides status updates on the progress of the project to the ET/LT. The team recently provided an update on Tasks 2 and 4 on April 26, 2018, and the team is scheduling a status update for Tasks 1 and 3 in May 2018.

The NRR RIDM team recognizes that there are differences in how other program offices incorporate risk in decision-making. Therefore, as part of a commitment made by NRR executives at the internal RISC meeting, this action plan has been shared with other offices. The intent is for NRR to support other offices' efforts to enhance RIDM within their program, which may include using this action plan as a model to develop a plan that addresses their specific needs. Upon request, the NRR RIDM team will brief other program offices to provide insights and experiences associated with this project. On April 17, 2018, the NRR RIDM team completed a briefing to NRO on the NRR RIDM action plan and the associated eight NRR RIDM tasks.

7.2 Overall Schedule

The below schedule provides the Phase 1 milestones for each task and the associated completion percentage for each task. The milestones in green are considered complete and the milestones in yellow are in-progress. Lastly, the schedule also includes the cross-cutting item milestones for communication.

Status of RIDM Project -- Phase 1											% Complete Key			
Task 1: Expanded Use of Review Teams				Task 5: DPO Recommendations 5 (use risk tools insights) and 6 (lessons-learned review)				10% - 1. Finalize One-Pager Scoping Statement						
Task 2: Broadened Understanding of Risk and Risk Insights				Task 6: Evaluate Guidance Documents, RG 1.174, RG 1.177, RG 1.200, & NUREG-1855				25% - 2. Data Collection						
Task 3: Graded Approach for Using Risk Information				Task 7: Any Other Documents Need Updating				50% - 3. Data Analysis and Evaluation						
Task 4: Review of BTP 8-8				Task 8: Evaluate the Use of Large Early Release Frequency				75% - 4. Draft Proposed Deliverables						
							85% - 5. Solicit and Analyze Stakeholder Feedback							
							100% - 6. Findings/Recommendations Report							
December		January		February			March			April		May	June	
Task 1		1. One-Pager Scoping Statement	2. Data Collection (e.g., lessons-learned from previous reviews)	3. Data Analysis and Evaluation			4. Develop potential methods for enhancing workload management processes and tools, team structure, and team communications (e.g., PM Checklist, SE Templates, etc.)			5. Solicit and analyze stakeholder feedback on proposed methods/tools		6. Findings/Recommendations Report		
Task 2		1. One-Pager Scoping Statement	2. Data Collection (PRA policy statements, cafés, questionnaires, etc.)		3. Data Analysis and Evaluation			4. Develop document review summaries (Defense in Depth, Safety margins, Monitoring, Risk) and summarize results from the cafés, questionnaires		5. Solicit and analyze stakeholder feedback on summaries	6. Findings/Recommendations Report			
Task 3		1. One-Pager Scoping Statement	2. Data Collection (e.g., lessons-learned from previous reviews)	3. Data Analysis and Evaluation			4. Develop potential methods for enhancing workload management processes and tools, team structure, and team communications (e.g., PM Checklist, SE Templates, DRA Checklist, etc.)			5. Solicit and analyze stakeholder feedback on proposed methods/tools		6. Findings/Recommendations Report		
Task 4		1. One-Pager Scoping Statement	2. Data Collection (online questionnaire)	3. Data Analysis and Evaluation			4. Develop and issue interim BTP "expectation" memo. Develop redline strikeout version of BTP 8-8		5. Solicit and analyze stakeholder feedback on redline strikeout version of BTP 8-8	6. Findings/Recommendations Report, including redline strikeout version of BTP 8-8				
Tasks 5, 6, 7, and 8		1. One-Pager Scoping Statement	2. Data Collection		3. Data Analysis and Evaluation			4. Draft proposed deliverables		5. Solicit and analyze stakeholder feedback	6. Issue closeout memos			
Comm.		Brief ET/LT on RIDM process	Brief ET/LT on Tasks 2 and 4	Brief ET/LT on Tasks 1 and 3	Brief ET/LT on Task 5	Brief ET/LT on Tasks 5, 6, & 7 closeout	Brief ET/LT on interim BTP "expectation" memo	Provide RIDM update during ET retreat	Brief NRO on RIDM process and status -- 4/10	Brief ET/LT on Tasks 1 and 3 -- 4/19	Brief ET/LT on Tasks 2 and 4 -- 4/26			
										Issue 2nd Quarter RIDM action plan update				
Key:		Notes:												
Complete		This metric spreadsheet is only for completing Phase 1 of the RIDM action plan. A separate metric will be generated for Phase 2.												
In-Progress		Under data collection, each working group reviewed relevant documents (listed in the action plan) for their task.												
												Tasks 1 and 3 are closely related (e.g., similar deliverables); therefore, these two tasks are following the same schedule.		

8.0 PROJECT'S SUCCESS CRITERIA

As noted in SECY-17-0112, significant progress has been made in RIDM, but cultural, process, and technical challenges remain. For example, current reviews that attempted to adopt concepts from the NRR RIDM tasks in this action plan involved significant resources due to process challenges because, in part, review methodology guidelines for integrating risk and traditional engineering insights were not available, and activities under this project to foster a common understanding of the concepts of risk, defense-in-depth, safety margins, etc., are still ongoing. Therefore, the successful completion of this project is intended to address the challenges identified in SECY-17-0112.

Section 5.2 of this action plan provides details on a pilot program, which includes a quantitative and qualitative review, to measure the success of the working groups' recommended revisions. The results of this pilot program review will be used to compare to the average hours and duration spent on past reviews. This information will be used to determine if the hours spent, duration to complete a review is increasing, decreasing, or remaining the same. The pilot program licensing actions will continue to follow the current metric to complete 95 percent of licensing actions within 1 year and complete 100 percent of licensing actions within 2 years. However, consideration will be given to NRR RIDM-specific metrics.

9.0 CONTROL PROCESS

The NRR RIDM team recognizes that as this project progresses, there may be instances where tasks need to be revised or additional tasks added to this action plan. If a working group identifies a need to revise or add a task to this action plan, the working group team lead will communicate the revision to their assigned SES Champion and the lead RIDM project manager. The SES Champion and the lead RIDM project manager will communicate the proposed change to the SES Champions to discuss during their biweekly meeting. Once a decision is made by the SES Champions, the lead RIDM project manager will provide a summary on the outcome of the biweekly meeting to the working group team leads and update the action plan, as needed.

10.0 QUESTIONS AND ANSWERS

Q1. Why is the action plan implementing a phased approach to complete this project?

A1. To overcome the overarching change-management challenge and culture change identified in SECY-17-0112, this action plan utilizes a systematic or phased approach to enhance risk in our decision-making activities. This approach will ensure the successful completion of the NRR RIDM project mission statement and ease the cultural transition from the current processes in place. In addition, this approach will provide the appropriate documentation to justify the proposed changes recommended under this project.

Q2. Does the NRR RIDM project scope include operating and new reactors?

A2. SECY-17-0112 states that it focuses on RIDM for the reactor program (i.e., operating and new reactors); however, it also states that although successful execution of these strategies will benefit both current and future licensees, next generation advanced non-light water reactor developers are increasingly using PRA throughout the design process. Therefore, the NRR RIDM team is currently comprised of NRR staff, and this action plan will reevaluate the timing and NRO's priorities once the eight NRR RIDM

tasks are successfully completed. In preparation of identifying NRO's priorities, the NRR RIDM team is coordinating with NRO to ensure consistency across business lines. The NRR RIDM team is scheduling a briefing on the action plan and project to NRO in February 2018.

Q3. What is the schedule for completing this project?

A3. Below is the schedule to complete this project for the operating reactors:

- Finalize the findings and recommendations reports – No later than June 2018
- Implementation of the recommendations -- December 2018

11.0 CONTACT

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