U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation

NRR Temporary Staff Guidance

Temporary Staff Guidance No.:	**TSG-DORL-2021-01 Revision 3**
Temporary Staff Guidance Title:	**RISK-INFORMED PROCESS FOR EVALUATIONS**
Effective Date:	September 18, 2023
Approved By:	Bo Pham (Gregory Suber and Vic Cusumano for)
Date Approved:	September 18, 2023
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Responsible Organization:	**NRR/DORL**
ADAMS Accession No.:	**ML23122A014**

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Summary: This revision includes enhancements to the Risk-Informed Process for Evaluations (RIPE) that were identified from the staff's review of the first RIPE submittal. The goal of this revision is to incorporate recommendations following review of the first RIPE submittal, as documented in a memorandum dated March 3, 2023 (ML22259A196; non-public). Specifically, the revisions provide additional guidance for reviewing the RIPE screening questions, clarify existing guidance regarding the no technical objection (NTO) review, provide new guidance for reviewing performance monitoring strategies, and expand the time available for performing the NTO review while maintaining the original overall timeline established for RIPE. This temporary staff guidance will be leveraged for additional RIPE exemption and license amendment requests. Experience and insights will be used to further adjust and update the RIPE criteria and mold the process into a durable Licensing Office Instruction for permanent use by NRC staff.

ADAMS Accession No. ML23122A014 ***by e-mail**

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1. OBJECTIVE

This temporary staff guidance (TSG) document provides the Office of Nuclear Reactor Regulation (NRR) staff the framework for streamlined processing of license amendment requests (LARs) and exemptions from U.S. Nuclear Regulatory Commission (NRC) requirements that are submitted under the Risk-Informed Process for Evaluations (RIPE). Use of this guidance is limited to changes for which the safety impact associated with an issue addressed by an exemption request, or a LAR can be modeled using probabilistic risk assessment (PRA) and shown to have a minimal safety impact per the guidance in "Guidelines for Characterizing the Safety Impact of Issues," (SIC) Revision 2 (ML22088A135).

NRR's Division of Risk Assessment (DRA) is responsible for conducting the review of a RIPE submittal. RIPE also includes a high-level no technical objection (NTO) review by technical branches with knowledge of the subject area to provide deterministic insights that could be missed by the risk review. Together, these two reviews ensure a risk-informed approach to addressing the change. The NRC's review is streamlined in that the application of preexisting risk-informed criteria allow for review and disposition of the submittal with minimal resources.

This TSG provides the NRR staff with expectations and flexibilities that replace or supplement the routine exemption and LAR review processes described in NRR Office Instructions LIC-103, "Exemptions from NRC Regulations" (section 3 of this TSG), and LIC-101, "License Amendment Review Procedures" (section 4 of this TSG), for requests that meet the RIPE requirements.

2. BACKGROUND

By memorandum dated January 5, 2021, NRR established a new process for addressing very low safety significance issues that are within the licensing basis of a plant (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20261H428). The new process, referred to as RIPE, is the implementation of Recommendation 5 from the low safety significance issue resolution working group (ML21006A324). RIPE is available to licensees that have a technically acceptable PRA and have established an Integrated Decision-Making Panel (IDP). For the purposes of RIPE, having a technically acceptable PRA must be demonstrated by having an approved and implemented license amendment for Technical Specifications Task Force (TSTF) Traveler TSTF-505, "Provide Risk-Informed Extended Completion Times – RITSTF [Risk-Informed TSTF] Initiative 4b"[1] or TSTF-425 "Relocate Surveillance Frequencies to Licensee Control-RITSTF Initiative 5b." The Commission will approve an applicant's implementation of 10 CFR 50.69 "Risk-Informed Categorization and Treatment of Structures, Systems and Components for Nuclear Power Reactors" if the Commission determines that the applicant's proposed process for risk-informed

[1] NRC has approved some licensee programs for risk-informed initiatives consistent with NEI 06-09, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines" and NEI 04-10, "Risk-Informed Technical Specifications Initiative 5b, Risk-Informed Method for Control of Surveillance Frequencies," which can be used in lieu of TSTF-505 or TSTF-425, respectively, for RIPE. Any references in this TSG to TSTF-505 and TSTF-425 also include NEI 06-09 and NEI 04-10, respectively.

categorization includes, among other things, the requirement in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.69, "Risk-informed categorization and treatment of structures, systems and components for nuclear power plants," Paragraph 50.69(c)(2) for SSCs to be categorized by an IDP staffed with expert, plant-knowledgeable members whose expertise includes, at a minimum, PRA, safety analysis, plant operation, design engineering, and system engineering. The IDP used by licensees who have been authorized to implement 10 CFR 50.69 may be used to support RIPE-based requests for exemptions and license amendments. The NRC has found that an IDP that meets Nuclear Energy Institute (NEI) guidance, "NEI Guidelines for the Implementation of the Risk-Informed Process for Evaluations Integrated Decision-Making Panel" (ML20245E147) may be used to support RIPE-based requests for exemptions and license amendments. Also, the IDP established by licensees with licenses that allow usage of TSTF-505 or TSTF-425 may also be used to support RIPE-based requests for exemptions and license amendments.

RIPE was originally developed for licensees that have an approved and implemented TSTF-505 license amendment. Licensees that use an approved and implemented TSTF-425 license amendment to demonstrate PRA technical acceptability may use the RIPE process to characterize the safety impact of proposed changes by supplementing their submittal with additional information relative to PRA technical acceptability. Specifically, licensees that rely on their TSTF-425 program for PRA technical acceptability must:

- Justify that the issue being analyzed is limited to internal events or identify which additional previously NRC-approved applications address any relevant external hazards (e.g., internal fires, seismic, etc.) beyond internal events. If the issue involves a hazard that is not covered by a previously approved NRC application, the licensee may not use this process.

- If the issue involves an external hazard covered by a previously approved NRC application, justify that the associated PRA does not have any applicable open facts and observations (F&Os).

- Provide technical justification for the exclusion of external hazards not applicable to the exemption or amendment request.

- Describe any open F&Os from the internal events PRA, including an assessment of the relevance, or lack thereof, of the F&O to the decision being sought. In order to support a streamlined NRC review, licensees should make every effort to close F&Os in advance, typically via the finding closure process.

- Describe the maintenance process of the PRA model, including any updates, peer reviews, and independent assessments performed since the PRA was reviewed as part of an approved licensing action by the NRC.

For RIPE, all the following must apply in order to characterize an issue as having a minimal safety impact:

- The issue contributes less than 1×10^{-7}/year to core damage frequency (CDF).
- The issue contributes less than 1×10^{-8}/year to large early release frequency (LERF).
- The issue has no safety impact or minimal safety impact in accordance with SIC.
- Cumulative risk is assessed based on plant-specific CDF and LERF. Cumulative risk is acceptable for the purposes of this guidance if baseline risk remains less than 1×10^{-4}/year for CDF and less than 1×10^{-5}/year for LERF once the impact of the proposed change is incorporated into baseline risk.

If the safety impact cannot be characterized as minimal, then the submittal does not qualify for the NRC streamlined RIPE review. The NRC, however, may still review the LAR or exemption request through its normal process (i.e., not using the streamlined RIPE review)

Changes made under RIPE are reviewed by staff in a manner consistent with the principles of risk-informed decision-making (RIDM) outlined in Regulatory Guide (RG) 1.174, “An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis,” which includes ensuring that the proposed change meets current regulations (unless an exemption is requested), is consistent with defense-in-depth (DID) philosophy, maintains sufficient safety margins (SM), is consistent with the Commission’s Safety Goal Policy Statement, and includes performance monitoring strategies.

Examples of issues for which this process may be used include, but are not limited to, the following:

- Actions needed to address inspection findings.
- Resolution of issues identified through other regulatory or licensee processes.
- Responses to orders requiring changes or modifications to the plant.
- Generic issues requiring changes or modifications to the plant.

RIPE may not be used for the following:

- Any immediate actions necessary for continued safe operation (e.g., to restore compliance with a technical specification (TS) or remove a threat to personnel safety).
- Any immediate repairs necessary for continued power production (e.g., replacing a damaged main transformer).
- Any issues for which the risk impact cannot be directly assessed using PRA (e.g., fuel changes, changes to emergency planning programs, or changes to security).

RIPE is a new process that was developed for use by holders of licenses issued under 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," that meet the criteria addressed above. The appropriateness of the RIPE criteria for other designs was not considered. Therefore, at this time, RIPE may not be used by applicants for new reactor licenses under 10 CFR Part 50 or holders of combined licenses under 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants."

3. EXEMPTIONS: LIC-103 BASIC REQUIREMENTS, REPLACEMENTS, OR SUPPLEMENTS

3.1. Work Planning (Supplement to LIC-103, Basic Requirement 4.1, "Exemption Processing")

When a Division of Operating Reactor Licensing (DORL) project manager (PM) becomes aware that a licensee intends to submit a RIPE exemption request, the PM should contact the licensee to recommend that a presubmittal meeting be scheduled. The presubmittal meeting should discuss how the licensee intends to meet the criteria for using RIPE and provide an overview of how the licensee characterized the issue as having a minimal safety impact. The DORL PM should ensure a representative from the technical review branches that have responsibility and authority for the technical areas are included. The PM should try to ensure that the same personnel who will review the exemption request are invited to the presubmittal meeting.

When the PM becomes aware that a licensee intends to submit a RIPE exemption request, the PM should recommend that the licensee make the final IDP report available on a secure portal for reference by the staff during the acceptance, NTO, and technical reviews.

When the PM receives the RIPE exemption request from a licensee, the PM should initiate a new project in the reactor program system (RPS). The PM should title the project as "[Plant Name] – RIPE Part XX Exemption."

A RIPE exemption submittal is limited to issues for which the safety impact associated with an issue addressed by an exemption request can be modeled directly or indirectly with surrogates using PRA to show that there is no or a minimal impact on safety. The licensee's streamlined exemption technical justification is a risk-informed justification that leverages previous NRC evaluations and approvals regarding the plant's adoption of a 10 CFR 50.69 IDP or equivalent, and TSTF-505 or TSTF-425 license amendments. Therefore, one of DRA's PRA branches will be assigned to review a RIPE exemption request and will make the safety decision and provide the safety evaluation (SE) input. The DORL PM should also assign other technical and environmental branches depending on the subject matter of the request. Those branches will be assigned to determine if there is NTO in applying the RIPE process and are not expected to provide SE input. NTO means that the technical branch has no objection to applying RIPE for the request without additional review in the branch's respective technical area. This review entails reviewing the request to ensure that the concerns related to the branch's technical area have been considered by the IDP and is discussed further in section 3.2. Technical branches may include recommended SE input with the

NTO review. This input should be addressed by the DRA reviewer and considered in the final SE, as appropriate.

Technical reviewers may provide relevant insights, precedence, and views on whether the special circumstances requirements delineated in 10 CFR 50.12(a)(2) are met along with the NTO review. The PM determines whether 10 CFR 50.12 is met, as discussed in LIC-103, Basic Requirement 4.4, "Determine Whether 10 CFR 50.12 Requirements are Met." The PM may consult, as needed, with the Office of the General Counsel (OGC).

The PM should communicate the expectations to the review staff at the kick-off meeting. Since RIPE is a streamlined review process for very low safety significance issues, the PM should estimate to complete a RIPE request in approximately 80 hours, including 8 hours for each NTO review. For more complex submittals, the PM and DORL branch chief (BC) have flexibility to consult with the technical reviewers and revise these estimates, as needed, to ensure the staff has adequate time to complete its review.

If the BC(s) responsible for the NTO determine(s) that 8 hours of effort is insufficient (due to the complexity of the request or insufficiencies in the information provided by the applicant, for example), the BC(s) should provide an estimate of the amount of time required to complete the NTO review, with a supporting justification, to the PM.

See tables 3.1 and 3.2 in section 3.2 for the creation of the schedule milestones.

3.2. RIPE Applicability Review (Supplement to LIC-103, Section 4.2, "Review Request for Completeness and Acceptability")

A RIPE exemption applicability review includes both an acceptance review in accordance with LIC-109, "Acceptance Review Procedures for Licensing Basis Changes," as well as the staff determination that there is NTO to applying the RIPE process for the submittal, with the additions and exceptions noted below.

The DRA branch is responsible for performing the acceptance review. Any additional technical branches are responsible for performing an NTO review. The NTO review includes a high-level review of the submittal to verify that the submittal has not omitted key information that may change the safety characterization. The NTO review may include, but is not limited to, the following determination (1) whether the licensee's assumptions in the submitted analysis are reasonable, (2) whether the licensee has used an appropriate methodology, (3) whether the licensee fully considered the technical aspects of the issue under consideration to support the IDP's determination, and (4) whether the screening questions were answered adequately by the licensee's IDP. Once all reviewers have been assigned, the PM should convene an integrated team meeting to discuss early perspectives. Any potential technical objections identified should be communicated early. If, during the conduct of an NTO review, the reviewer determines that the NTO conclusion cannot be readily confirmed, the complicating factors and information needs should be promptly communicated to the technical BC as a

technical objection. A technical objection must include an explanation on how the request does not sufficiently address, or potentially not meet, the technical review guidance criteria in section 3.3 of this TSG, exemption criteria in LIC-103, or other regulatory requirements. The technical objection must be approved by the technical BC and sent to the PM. The DORL BC, DRA BC, and technical BC will determine how the technical objection should be addressed and whether the submittal should proceed under RIPE.

In addition to the completeness and acceptability items listed in LIC-103, section 4.2, the PM and DRA staff involved in the review should determine if an exemption is eligible for a streamlined review using the criteria in section 2 of this document by ensuring the following elements are included:

- The application clearly meets a categorical exclusion under 10 CFR 51.22(c).

- The issue that qualifies the exemption request for the RIPE streamlined process is well defined.

- The RIPE submittal confirms that the plant has implemented an NRC-approved TSTF-505 or TSTF-425 risk-informed license amendment and has completed all associated license conditions.

- If the RIPE submittal relies on a TSTF-425 license amendment to demonstrate PRA acceptability, the submittal includes the following additional information:

    - Description of PRA model changes and peer review history since implementation of TSTF-425.
    - Description of independent assessment reviews.
    - Description of all open F&Os, including a discussion about whether they are applicable to the submittal.
    - Description of key assumptions and sources of uncertainty.
    - Explanation of external hazard applicability, including
        - Discussion of non-applicable external hazards.
        - Discussion of applicable external hazards, including the previously NRC-approved application that reviewed the PRA model for the applicable external hazard, and any changes, peer reviews, and open F&O discussions for that model.

- The RIPE submittal includes a description of surrogates used in the application.

- The RIPE submittal confirms that the plant has implemented an NRC-approved amendment to adopt the 10 CFR 50.69 IDP, or equivalent, and has completed all associated license conditions.

- The RIPE submittal includes the results of the IDP's review of the final screening questions. The PM should request that the licensee consider providing access to the IDP report via a secure portal.

- The RIPE submittal states that the issue has no or minimal safety impact (i.e., risk-informed considering both qualitative and quantitative risk), meaning the following are addressed in the request:

  - The issue contributes less than 1×10^{-7}/year to CDF.
  - The issue contributes less than 1×10^{-8}/year to LERF.
  - The issue has no or minimal safety impact in accordance with "Guidelines for Characterizing the Safety Impact of Issues."
  - Cumulative risk is assessed on a plant-specific basis, to be less than 1×10^{-4}/year for CDF and less than 1×10^{-5}/year for LERF once the impact of the proposed change is incorporated into baseline risk.

- The RIPE submittal includes assessments of risk management actions (RMAs), cumulative risk, and performance monitoring strategies.

As described in section 2 of this TSG, RIPE may not be used to support immediate actions or repairs.

If the involved staff have a technical objection and believe that the exemption request does not contain the information necessary to qualify as a RIPE submittal (with BC approval), that more information through a supplement is required, or that the application is non-acceptable, then the acceptance review results will either be non-acceptable or non-acceptable with an opportunity to supplement, and the LIC-109 process should be followed. If the licensee responds with a supplement that is acceptable for review but still does not qualify for a streamlined review under RIPE, then the PM should notify the licensee that the request will continue to be processed under a normal NRC review schedule, and the PM in consultation with the Integrated Program Management and Beyond Design Basis Branch (LPMB) (if required) should revise the Enterprise Project Identifier (EPID) title by removing "RIPE" from it.

The acceptance review for a RIPE submittal should follow the tasks and streamlined milestone schedule below, assuming the submittal meets the criteria for a streamlined review and is acceptable for review:

Table 3.1, "Acceptance Review Milestones for a RIPE Exemption"

	ACCEPTANCE REVIEW MILESTONES	**SCHEDULE**
1	PM creates project in the NRR workload management tool	T* = 0
2	PM reviews submittal for information sufficiency	< T = 14 days (2 weeks)
3	Technical staff determines if there is any technical objection in applying the RIPE process and provides recommendation to PM	< T = 28 days (4 weeks)
4	PM notifies licensee or applicant (e.g., via call, e-mail, or letter) that the submittal meets the criteria for a streamlined review and is acceptable for review under the RIPE process	< T = 35 days (5 weeks)

5	PM records the date of acceptance review notification in the NRR workload management tool	< T = 35 days (5 weeks)

* T = Time from date when RIPE exemption request is declared an Official Agency Record in ADAMS (in calendar days and weeks).

If the submittal was not acceptable for review or had to be supplemented, then the milestone schedules per LIC-109 should be followed. The predetermined content and structure of a RIPE exemption request that has been determined to contain the RIPE-related items described above should be planned with a streamlined schedule as shown in table 3.2 (in calendar days and weeks), assuming the application is acceptable for review.

The work schedule described in table 3.2 allows for an approximate 90-day review of RIPE exemption requests. This schedule does not accommodate the issuance and licensee response to requests for additional information (RAIs); however, this schedule may be able to accommodate the request for confirmation of information (RCI) process for certain issues. The streamlined RIPE review is predicated on the issue being justified as having a minimal safety impact with the RIPE limitations and having design information and review elements clearly and completely addressed in the submittal. Should an RAI be required (intended to be a rare situation), and the PM determines it could be supported on an expedited schedule, the case and need should be reviewed and approved by the DORL Division Director prior to proceeding with the review under RIPE. If this is approved, the milestones in table 3.2, may not be appropriate. If this occurs, the PM in consultation with LPMB (if required) should notify the licensee and develop new work schedule milestones.

Table 3.2, "Project Milestones for a RIPE Exemption without RAIs"

	TECHNICAL REVIEW AND PROCESSING MILESTONES	**SCHEDULE***
1	DRA exemption review input provided to PM	< T = 49 days (7 weeks)
2	PM provides exemption package to OGC for NLO**	< T = 63 days (9 weeks)
3	OGC provides NLO response to PM	< T = 77 days (11 weeks)
4	NRC completes its review of exemption (DORL Division Director (or delegate) to sign)	< T = 91 days (13 weeks)

*continued from the schedule in table 3.1, assuming the submittal was acceptable for review.
** No Legal Objection

3.3. Technical Review (Supplement to LIC-103, Basic Requirement 4.5, "Technical Review of the Proposed Exemption")

3.3.1. Implementation of an IDP

The DRA technical reviewer should confirm that the licensee has implemented an IDP consistent with risk-informed initiative 10 CFR 50.69 or equivalent, as discussed in section 2 of this TSG. The DRA technical reviewer should also confirm that the IDP evaluation results, including a

summary of the basis for each decision, is documented in the exemption request. For more information on an IDP and/or Generic Assessment Expert Team (GAET) see the "Guidelines for Characterizing the Safety Impact of Issues." A GAET could be used to inform the IDP but is not required. If a GAET was used to inform the IDP, the reviewer should confirm that the licensee dispositioned any considerations identified by the GAET and explained how they apply to the plant. The reviewer should also confirm that the licensee provided a basis for any plant-specific departures from the GAET assessment.

The level of documentation should be such that the licensee provides a sufficient basis for a knowledgeable individual to independently review the information and reach the same conclusion. The basis for any engineering judgment and the logic used in the assessment should be documented to the extent practicable and to a degree commensurate with the safety impact and complexity of the issue. The items considered by the IDP, GAET (if used), and the licensee's subject matter expert should be clearly stated.

3.3.2. Use of Acceptable/Approved PRA Model

In order to expedite the review, the DRA technical reviewer should confirm that the licensee has a technically acceptable PRA model in order to leverage its PRA models to perform quantitative risk assessments in support of this process. To do so, the DRA technical reviewer should confirm each of the following conditions apply:

- The issue is completely within the scope of the licensee's PRA model or can be bounded using surrogates and is within the scope of the portion(s) of the PRA model that was found acceptable by the NRC.

- The licensee has implemented risk-informed initiative TSTF-505 or TSTF-425 and has completed all associated license conditions, thereby the licensee's PRA model was found acceptable.

- If the RIPE submittal relies on a TSTF-425 license amendment to demonstrate PRA acceptability, the DRA technical reviewer should review the following additional information:

    - PRA model changes and peer review history since implementation of TSTF-425.
    - Independent assessment reviews.
    - All open F&Os.
    - Key assumptions and sources of uncertainty.
    - External hazard applicability, including
        - Discussion of non-applicable external hazards.
        - Discussion of applicable external hazards, including the previously NRC-approved application that reviewed the PRA model for the applicable external hazards, and any changes, peer reviews, and open F&O discussions for that model.

The plant-specific PRA should include the capability to assess CDF and LERF, and the risk evaluation should include a quantified assessment of all significant sources of risk (i.e., external events, internal flooding, and fires) that can be impacted by the issue being assessed. Where PRA models are not available, the licensee may perform conservative or bounding analyses to quantify the risk impact (e.g., external events, low power and shutdown).

3.3.3. Evaluation of PRA Results

The DRA technical reviewer should confirm that the licensee calculated the changes in CDF and LERF as the difference between plant risk with and without the proposed change. For compliance issues, the change in risk is the difference between risk if the plant were fully compliant with its licensing basis and risk with the plant in the non-compliant configuration requested in the submittal. For licensee-identified issues that do not involve a compliance issue, the change in risk is the difference between risk with the plant in the current configuration and with the plant in the configuration requested in the submittal. The risk analysis may not include any credit for proposed RMAs or other activities implemented to reduce the risk impact associated with the issue. The risk analysis should document any assumptions made when performing the risk evaluation, whether any parts of the issue were outside the scope of the licensee's PRA, and whether any surrogates were used to account for the impact of the issue. The final quantitative risk analysis should include an evaluation of the impact on internal events risk, as well as the impact on any relevant external events.

The PRA results should be compared to the relative change in risk of the licensee's overall CDF and LERF. An issue is not risk significant (i.e., minimal or less than minimal) if all of the following apply:

- The issue contributes less than 1×10^{-7}/year to CDF.
- The issue contributes less than 1×10^{-8}/year to LERF.
- Cumulative risk is assessed on a plant-specific basis to be less than 1×10^{4}/year for CDF and less than 1×10^{5}/year for LERF once the impact of the proposed change is incorporated into baseline risk.

If the risk results are less than the criteria above, the issue is considered to have a minimal impact on risk.

3.3.4. Assessment of the Need for Risk Management Actions

Although RMAs should not be given credit in the risk analysis, the use of RMAs can lower risk when the risk is found to be minimal. If the issue assessed in the RIPE exemption request was determined to have no safety impact per the SIC, then RMAs are not required, but are encouraged. However, if the issue was determined to have a minimal impact on safety, then RMAs should be considered to offset the risk increase due to the issue.

RMAs are typically associated with managing configuration risk when equipment is out of service or for temporary changes. However, in the case of a RIPE application, the proposed change will become the permanent plant configuration if the exemption request is approved. Therefore, only long-term actions to reduce risk associated with the new configuration should be considered, such as permanent procedure changes or simple plant modifications. For example, if an automatic interlock is defeated permanently, procedure changes to verify proper manual operation of the equipment may be appropriate to reduce the risk associated with removal of the automatic interlock.

3.3.5. Evaluation of the Final RIPE Screening Questions

The licensee's IDP is responsible for assessing the screening questions. There are five screening questions that cover five areas for which a risk analysis may not be appropriate for identifying the impact of the exemption request. The preliminary screening questions ask whether the exemption request has any impact on each of the five areas. The final screening questions are reviewed in two steps. In the first step, the IDP reviews whether there is any adverse impact on each of the five areas. If there is any adverse impact on an area, then, in the second step, the IDP reviews whether the impact has a more than minimal adverse impact on safety. If there is a more than minimal adverse impact on safety in any of the five areas, the exemption request should not be processed using RIPE.

The DRA technical reviewer should confirm that the IDP considered the preliminary and final screening questions adequately and that there was not a more-than-minimal adverse impact on safety identified by the IDP. If the IDP report is accessible through a secure portal and the staff needs information from the IDP report to make its safety determination, then an RCI can be used to have the licensee supplement the exemption request with information from the IDP report.

The final screening questions are discussed below.

3.3.5.1. Question 1: Does the issue result in more than a minimal increase in the frequency of a risk-significant accident initiator or result in a new risk-significant accident initiator?

The NRC staff should review whether the licensee has identified the risk-significant accident initiators that could be affected by the issue, determined whether the frequency of these accident initiators occurring would be more than minimally increased, and identified if any new risk-significant accident initiators have been created.

3.3.5.2. Question 2: Does the issue result in more than a minimal decrease in the availability, reliability, or capability of structures, systems, or components or personnel relied

upon to mitigate a risk-significant transient, accident or natural hazard?

The NRC staff should review whether the licensee has identified the risk-significant structures, systems, or components (SSCs) and human actions that could be affected by the issue and determined whether availability, reliability, or capability of SSCs or personnel relied upon to mitigate a risk-significant transient, accident or natural hazard would be more than minimally decreased. An appropriate calculation can be used to demonstrate the change in likelihood in a quantitative sense, if available and practical.

3.3.5.3. Question 3: Does the issue result in more than a minimal increase in the consequences of a risk-significant accident sequence?

The NRC staff should review whether the licensee has identified the risk-significant sequences that could be affected by the issue and determined whether the consequences would be more than minimally increased. An issue should be considered to have a more than minimal increase in consequences if there is an increase of greater than 10 percent in dose due to the issue.

3.3.5.4. Question 4: Does the issue result in more than a minimal decrease in the capability of a fission product barrier?

The NRC staff should review whether the licensee has adequately determined that the decrease in capability of a fission product barrier is not more than minimal.

3.3.5.5. Question 5: Does the issue result in more than a minimal decrease in defense-in-depth capability or safety margin?

The NRC staff should review whether the licensee has adequately determined that the decrease in DID or SM is not more than minimal in accordance with the criteria in RG 1.174. RG 1.174 provides seven considerations that should be used to evaluate how a proposed change impacts DID. The criteria in RG 1.174 are risk-informed such that PRA can be used to provide insights into whether DID and SM remain adequate. However, PRA should only be used together with traditional engineering approaches to determine whether DID and SM are adequate. For example, DID Consideration 1 in RG 1.174 is to ensure that a reasonable balance is maintained among the layers of DID. Consideration 1 acknowledges that DID may be reduced due to the proposed change, but that the reduction in DID is acceptable if the layers of DID remain effective. Consideration 1 also acknowledges that PRA can be helpful in

identifying whether the balance between layers of DID is maintained.

For RIPE, the PRA results must show that the impact of the proposed change on CDF and LERF is an order of magnitude lower than the criteria in RG 1.174. The reviewer can use the PRA to provide insights into whether the layers of DID are adequate. This could include ensuring that DID exists for each initiating event and accident sequence, or that DID is more robust for sequences that are more likely or have higher consequences. For example, consider a proposed change in which an automatic action will be removed and a human action will continue to be performed as additional DID to mitigate the elimination of the automatic action. The human action may take longer to perform than an automatic action and may be considered more unreliable. Therefore there is a potential reduction in DID. However, this reduction in DID may be considered less than minimal if (1) the accident sequences for which the human action will be used are unlikely, (2) there are other ways to mitigate the consequences of the failure, or (3) if there are sufficient compensating measures which provide confidence in timely operator action at a level consistent with the calculated low risk significance. However, the reviewer should assure that the automatic action proposed to be exempted is not credited in the approved TSTF-505 and/or TSTF-425 programs as one of the DID layers.

Therefore, the reviewer should generally evaluate the narrative, key assumptions, and reactor conditions that explain the operator actions, to provide confidence in the ability to mitigate failures within a timely manner, consistent with a minimal reduction in DID and SM. In general, the reviewer should not perform detailed confirmatory evaluations of the licensee's accident coping analysis, human factors operational analysis, or nuclear-thermal hydraulic calculations, given the very low risk characterized with the issue.

3.3.6. Assessment of Cumulative Risk

The cumulative risk impact of permanent changes to the risk profile of the plant must be evaluated consistent with the principles discussed in RG 1.174 and, as applicable, RG 1.177, "Plant-Specific, Risk-Informed Decisionmaking: Technical Specification." Cumulative risk is acceptable for the purposes of RIPE if baseline risk remains less than 1×10^{4}/year for CDF and less than 1×10^{5}/year for LERF, once the impact of the proposed change is incorporated into baseline risk.

3.3.7. Assessment of Use of Performance Monitoring Strategies

Using performance monitoring strategies to monitor the impact of a change is one of the principles of integrated RIDM discussed in

RG 1.174. Performance monitoring strategies should be developed to ensure the engineering evaluation that supported the proposed change remains valid in the future. The licensee should propose monitoring programs that adequately track the performance of equipment whose degradation could affect the conclusions in the engineering evaluation used to support the licensing basis change. The NRC staff should review the licensee's proposed use of performance monitoring programs to ensure that the programs will ensure that the conclusions that support the proposed change remain valid in the future.

3.3.8. Assessment of the Final Safety Impact of the Exemption Request

The NRC reviewer should ensure that the exemption request has met all the criteria in section 3.3 above including having implemented an IDP, an acceptable PRA, acceptable PRA results, assessed the need for RMAs, no or minimal impact on safety as evaluated in the final screening questions, acceptable cumulative risk, and acceptable performance monitoring strategies. If the exemption request meets all of the criteria in section 3.3 above, it can be concluded that the exemption is technically acceptable in accordance with RIPE.

3.4. Emergency Plans (Replacement for LIC-103, Basic Requirement 4.7, "Exemptions that Result in a Decrease in Effectiveness of the Emergency Plan")

RIPE is not applicable to any issues for which the safety impact cannot be directly assessed using PRA. Therefore, exemption requests related to the emergency plans should not be considered under the RIPE streamlined review process.

3.5. Design Certification Rule (Replacement for LIC-103, Basic Requirement 4.8, "Exemptions Referencing a Design Certification Rule")

Section 52.63(b)(1) of 10 CFR allows a licensee who references a design certification rule to request an exemption from elements of the certification information. However, RIPE is only applicable to operating plants and should not be considered for review of exemptions for elements of design certification information.

3.6 Preparation of Exemption (Supplement to LIC-103, Basic Requirement 4.10, "Preparation of Work Products, Exemption Document")

In addition to verifying that special circumstances exist, section III.A of the exemption should include DID and safety margin conclusions assessed by the IDP as documented in the RIPE exemption request.

Section III.B of the exemption should include the RIPE SE input, including verification that TSTF-505 or TSTF-425 and 10 CFR 50.69 amendments (if used) have been approved and implemented at the plant and that all associated license conditions have been completed. In addition, if an alternate IDP is used, the SE should verify the IDP is equivalent to the 10 CFR 50.69 IDP and can be used to

support the NRC's safety conclusion. Section III.B should also reflect that the issue described in the exemption request is within the scope of the licensee's PRA and that the risk impact was modeled using a technically acceptable model.

4. LICENSE AMENDMENT REQUESTS: LIC-101, APPENDIX B, "GUIDE FOR PROCESSING LICENSE AMENDMENTS FOR OPERATING REACTORS AND PLANTS TRANSITIONING TO DECOMMISSIONING"

4.1. Work Planning and Acceptance Review (Supplement to LIC-101, Appendix B, Section 2.0)

4.1.1. Initiate a New Project in the RPS (Supplement to LIC-101, Appendix B, Section 2.1)

When a DORL PM becomes aware that a licensee intends to submit a RIPE LAR, the PM should contact the licensee to recommend that a presubmittal meeting be scheduled. The presubmittal meeting should discuss how the licensee intends to meet the criteria for using RIPE and provide an overview of how the licensee characterized the issue as having a minimal safety impact. The DORL PM should ensure a representative from the technical review branches which have responsibility and authority for the technical areas are included. The PM should try to ensure that the same personnel who will review the LAR are invited to the presubmittal meeting.

When the PM becomes aware that a licensee intends to submit a RIPE LAR, the PM should recommend that the licensee make the final IDP report available for reference by the staff during the acceptance, NTO, and technical reviews on a secure portal.

When a PM receives the RIPE LAR from a licensee, the PM should initiate a new project in RPS. The PM should title the project as "[Plant Name] – RIPE LAR to [subject of LAR]."

A RIPE LAR submittal is limited to issues for which the safety impact associated with an issue addressed by a LAR can be modeled directly or indirectly with surrogates using PRA to show that there is no or a minimal impact on safety. The licensee's LAR technical justification is a risk-informed justification that leverages previous NRC evaluations and approvals regarding the plant's adoption of a 10 CFR 50.69 IDP, or equivalent, and TSTF-505 or TSTF-425 license amendments. Therefore, one of DRA's PRA branches will be assigned to review a RIPE LAR and will provide SE input considering the safety. The DORL PM should also assign other technical and environmental branches depending on the subject matter of the request. Those branches will be assigned to determine if there is NTO in applying the RIPE process and are not expected to provide SE input. NTO means that the technical branch has no objection to applying RIPE for the request without additional review in the branch's respective technical area. This review entails reviewing the request to ensure that the concerns related to the branch's technical area have been considered by the IDP and is discussed further in

section 4.1.2. Technical branches may include recommended SE input with the NTO review. This input should be addressed by the DRA reviewer and considered in the final SE, as appropriate.

If the LAR includes changes to the TS, the Technical Specifications Branch should be included to give NTO and concurrence on the final package to verify the final version of the TS wording and formatting are correct.

The PM should communicate the expectations to the review staff at the kick-off meeting. Since RIPE is a streamlined review process for very low safety significance issues, the PM should estimate to complete a RIPE request in approximately 80 hours, including 8 hours for each NTO review. For more complex submittals, the PM and DORL BC have flexibility to consult with the technical reviewers and revise these estimates as needed to ensure the staff has adequate time to complete its review.

If the BC(s) responsible for the NTO determine(s) that 8 hours of effort is insufficient (due to the complexity of the request or insufficiencies in the information provided by the applicant, for example), the BC(s) should provide an estimate of the amount of time required to complete the NTO review, with a supporting justification, to the PM.

See tables 4.1 and 4.2 in section 4.1.2 for the creation of the schedule milestones.

4.1.2 RIPE Applicability Review (Supplement to LIC-101, Appendix B, Section 2.3)

A RIPE LAR applicability review includes both an acceptance review in accordance with LIC-109 as well as the staff determination that there is NTO to applying the RIPE process for the submittal, with the additions and exceptions noted below.

The DRA branch is responsible for performing the acceptance review. Any additional technical branches are responsible for performing an NTO review. The NTO review includes a high-level review of the submittal to verify that the submittal has not omitted key information that may change the safety characterization. The NTO review may include, but is not limited to, the following determination (1) whether the licensee's assumptions in the submitted analysis are reasonable, (2) whether the licensee has used an appropriate methodology, (3) whether the licensee fully considered the technical aspects of the issue under consideration to support the IDP's determination, and (4) whether the screening questions were answered adequately by the licensee's IDP. Once all reviewers have been assigned, the PM should convene an integrated team meeting to discuss early perspectives. Any potential technical objections identified should be communicated early. If, during the conduct of an NTO review, the reviewer determines that the NTO conclusion cannot be readily confirmed, the complicating factors and information needs should be

promptly communicated to the technical BC as a technical objection. A technical objection must include an explanation on how the request does not sufficiently address, or potentially not meet, the technical review guidance criteria in section 3.3 of this TSG or other regulatory requirements. The technical objection must be approved by the technical BC and sent to the PM. The DORL BC, DRA BC, and technical BC will determine how the technical objection should be addressed and whether the submittal should proceed under RIPE.

In addition to the acceptance review elements described in LIC-101, appendix B, section 2.3, the PM and DRA staff involved in the review should determine if a LAR is eligible for a streamlined review using the criteria in section 2 of the TSG by ensuring the following elements are included:

- The application clearly meets a categorical exclusion under 10 CFR 51.22(c).

- The issue that qualifies the LAR for the RIPE streamlined process is well defined.

- The RIPE submittal confirms that the plant has implemented an NRC-approved TSTF-505 or TSTF-425 risk-informed license amendment and has completed all associated license conditions.

- If the RIPE submittal relies on a TSTF-425 license amendment to demonstrate PRA acceptability, the submittal includes the following information:

    - Description of PRA model changes and peer review history since implementation of TSTF-425.
    - Description of independent assessment reviews.
    - Description of all open F&Os, including a discussion about whether they are applicable to the submittal.
    - Description of key assumptions and sources of uncertainty.
    - Explanation of external hazard applicability, including:
        - Discussion of non-applicable external hazards.
        - Discussion of applicable external hazards, including the previously NRC-approved application that reviewed the PRA model for the applicable external hazard, and any changes, peer reviews, and open F&O discussions for that model.

- The RIPE submittal includes a description of surrogates used in the application.

- The RIPE submittal confirms that the plant has implemented an NRC-approved amendment to adopt the 10 CFR 50.69 IDP, or equivalent, and has completed all associated license conditions.

- The RIPE submittal includes the results of the IDP's review of the final screening questions. The PM should request that the licensee consider providing access to the IDP report via a secure portal.

- The RIPE submittal states that the issue has no or minimal safety impact (i.e., risk-informed considering both qualitative and quantitative risk), meaning the following are addressed in the request:

    - The issue contributes less than 1×10^{-7}/year to CDF.
    - The issue contributes less than 1×10^{-8}/year to LERF.
    - The issue has no or minimal safety impact in accordance with "Guidelines for Characterizing the Safety Impact of Issues."
    - Cumulative risk is assessed on a plant-specific basis to be less than 1×10^{-4}/year for CDF and less than 1×10^{-5}/year for LERF once the impact of the proposed change is incorporated into baseline risk.

- The RIPE submittal includes assessments of RMAs, cumulative risk, and performance monitoring strategies.

As described in section 2 of this TSG, RIPE may not be used to support immediate actions or repairs.

If the involved staff have a technical objection and believe that the LAR does not contain the information necessary to qualify as a RIPE submittal (with BC approval), that more information through a supplement is required, or that the application is non-acceptable, then the acceptance review results will either be non-acceptable or non-acceptable with an opportunity to supplement, and the LIC-109 process should be followed. If the licensee responds with a supplement that is acceptable for review but still does not qualify for a streamlined review under RIPE, then the PM should notify the licensee that the request will continue to be processed under a normal NRC review schedule, and the PM in consultation with LPMB (if required) should revise the EPID title by removing "RIPE" from it.

The acceptance review for a RIPE submittal should follow the tasks and streamlined milestone schedule below, assuming the submittal meets the criteria for a streamlined review and is acceptable for review:

Table 4.1, "Acceptance Review Milestones for a RIPE LAR"

	ACCEPTANCE REVIEW MILESTONES	SCHEDULE
1	PM creates project in the NRR workload management tool	T* = 0
2	PM reviews submittal for information sufficiency	< T = 14 days (2 weeks)
3	Technical staff determines if there is any technical objection to applying the RIPE process and provides recommendation to PM	< T = 28 days (4 weeks)
4	PM notifies licensee or applicant (e.g., via call, email or letter) that LAR meets the criteria for a streamlined review and is acceptable for review under the RIPE process	< T = 35 days (5 weeks)
5	PM records the date of acceptance review notification in the NRR workload management tool	< T = 35 days (5 weeks)

*T = Time from date when RIPE LAR is declared an Official Agency Record in ADAMS (in calendar days and weeks)

If the submittal was not acceptable for review or had to be supplemented, then the milestone schedules per LIC-109 would be followed. The predetermined content and structure of a RIPE LAR that has been determined to contain the RIPE-related items described above should be planned with a streamlined schedule as shown in table 4.2 (in calendar days and weeks), assuming the application is acceptable for review.

The work schedule described in table 4.2 allows for an approximate 140-day review of RIPE LARs. This schedule does not accommodate the issuance and licensee response to RAIs; however, the schedule may be able to accommodate the RCI process for certain issues. The streamlined RIPE LAR review is predicated on the issue being justified as having a minimal safety impact as set forth in the RIPE limitations and having design information and review elements clearly and completely addressed in the submittal. Should an RAI be required (intended to be a rare situation), and the PM determines it could be supported on an expedited schedule, the case and need should be reviewed and approved by the DORL Division Director prior to proceeding with the review under RIPE. If this is approved, the milestones in table 4.2 below may not be appropriate. If this occurs, the PM in consultation with LPMB (if required) should notify the licensee and develop new work schedule milestones.

Table 4.2, "Project Milestones for RIPE LAR without RAIs"

	TECHNICAL REVIEW AND PROCESSING MILESTONES	SCHEDULE*
1	PM issues the notice of application in *Federal Register*	< 64 days (8 weeks)
2	DRA SE input provided to PM	< 70 days (10 weeks)
3	PM provides amendment package to OGC for NLO review	< 105 days (15 weeks)
4	OGC provides NLO response to PM	< 119 days (17 weeks)
5	NRC completes its review of the LAR	< 140 days (20 weeks)

* Continued from the schedule in table 4.1, assuming the submittal was acceptable for review

4.2. Public Noticing (Replacement for LIC-101, Appendix B, Section 3.0, "Public Notification")

The PM should ensure that a 28-day notice is published in the *Federal Register*. However, the notice cannot be published before the acceptance review is complete. The notice may be published within 42 days (6 weeks) of the declaration of the LAR submittal as an official agency record in ADAMS to provide for the 30-day public comment period and 60-day period to request a hearing to facilitate a streamlined (i.e., approximately 140 days) RIPE review schedule for the LAR.

4.3. Safety Evaluation (Supplement to LIC-101, Appendix B, Section 4.0, "Safety Evaluation")

The RIPE SE input should document NRC's evaluation of DID and safety margin conclusions assessed by the IDP, as documented in the RIPE LAR. The RIPE SE input should also include verification that TSTF-505 or TSTF-425 and 10 CFR 50.69 amendments (if used) have been approved and implemented at the plant and that all associated license conditions have been completed. In addition, if an alternate IDP is used, the SE should verify the IDP is equivalent to the 10 CFR 50.69 IDP and can be used to support the NRC's safety conclusion. Finally, the SE input should reflect that the issue described in the LAR is within the scope of the licensee's PRA and that the risk impact was modeled using the technically acceptable model.

4.3.1. Implementation of an IDP

The DRA technical reviewer should confirm that the licensee has implemented an IDP consistent with 10 CFR 50.69 or equivalent, as discussed in section 2 of this TSG. The DRA technical reviewer should also confirm that the IDP evaluation results, including a summary of the basis for each decision, is documented in the LAR. For more information on an IDP (and/or GAET) see the "Guidelines for Characterizing the Safety Impact of Issues." A GAET could be used to inform the IDP but is not required. If a GAET was used to inform the IDP, the reviewer should

confirm that the licensee dispositioned any considerations identified by the GAET and explained how they apply to the plant. The reviewer should also confirm that the licensee provided a basis for any plant-specific departures from the GAET assessment.

The level of documentation should be such that the licensee provides a sufficient basis for a knowledgeable individual to independently review the information and reach the same conclusion. The basis for any engineering judgment and the logic used in the assessment should be documented to the extent practicable and to a degree commensurate with the safety impact and complexity of the issue. The items considered by the IDP, GAET (if used), and the licensee's subject matter expert should be clearly stated.

4.3.2. Use of Acceptable/Approved PRA Model

In order to expedite the review, the DRA technical reviewer should confirm that the licensee has a technically acceptable PRA model in order to leverage its PRA models to perform quantitative risk assessments in support of this process. To do so, the DRA technical reviewer should confirm each of the following conditions apply:

- The issue is completely within the scope of the licensee's PRA model or can be bounded using surrogates and is within the scope of the portion(s) of the PRA model that was found acceptable by the NRC.

- The licensee has implemented risk-informed initiative TSTF-505 or TSTF-425 and has completed all associated license conditions, thereby the licensee's PRA model was found acceptable.

- If the RIPE submittal relies on a TSTF-425 license amendment to demonstrate PRA acceptability, the DRA technical reviewer should review the following additional information:

    - PRA model changes and peer review history since implementation of TSTF-425.
    - Independent assessment reviews.
    - All open F&Os.
    - Key assumptions and sources of uncertainty.
    - External hazard applicability, including
        - Discussion of non-applicable external hazards.
        - Discussion of applicable external hazards, including the previously NRC-approved application that reviewed the PRA model for the applicable external hazards, and any changes, peer reviews, and open F&O discussions for that model.

The plant-specific PRA should include the capability to assess CDF and LERF, and the risk evaluation should include a quantified assessment of all significant sources of risk (i.e., external events, internal flooding, and fires) that can be impacted by the issue being assessed. Where PRA models are not available, conservative or bounding analyses may be

performed to quantify the risk impact (e.g., external events, low power and shutdown).

4.3.3. Evaluation of PRA Results

The DRA technical reviewer should confirm that the licensee calculated the changes in CDF and LERF as the difference between plant risk with and without the proposed change. For compliance issues, the change in risk is the difference between risk if the plant were fully compliant with its licensing basis, and risk with the plant in the non-compliant configuration requested in the submittal. For licensee-identified issues that do not involve a compliance issue, the change in risk is the difference between risk with the plant in the current configuration and with the plant in the configuration requested in the submittal. The risk analysis may not include any credit for proposed RMAs or other activities implemented to reduce the risk impact associated with the issue. The risk analysis should document any assumptions made when performing the risk evaluation, whether any parts of the issue were outside the scope of the licensee's PRA, and whether any surrogates were used to account for the impact of the issue. The final quantitative risk analysis should include an evaluation of the impact on internal events risk, as well as the impact on any relevant external events.

The PRA results should be compared to the relative change in risk of the licensee's overall CDF and LERF. An issue is not risk significant (i.e., minimal or less than minimal) if all of the following apply:

- The issue contributes less than 1×10^{-7}/year to CDF.
- The issue contributes less than 1×10^{-8}/year to LERF.
- Cumulative risk is assessed on a plant-specific basis to be less than 1×10^{4}/year for CDF and less than 1×10^{5}/year for LERF once the impact of the proposed change is incorporated into baseline risk.

If the risk results are less than the criteria above, the issue is considered to have a minimal impact on risk.

4.3.4. Assessment of the Need for Risk Management Actions

Although RMAs should not be given credit in the risk analysis, the use of RMAs can lower risk when the risk is found to be minimal. If the issue assessed in the RIPE LAR was determined to have no safety impact per the SIC, then RMAs are not required, but are encouraged. However, if the issue was determined to have a minimal impact on safety, then RMAs should be considered to offset the risk increase due to the issue.

RMAs are typically associated with managing configuration risk when equipment is out of service or for temporary changes. However, in the case of a RIPE application, the proposed change will become the permanent plant configuration if the LAR is approved. Therefore, only long-term actions to reduce risk associated with the new configuration

should be considered, such as permanent procedure changes or simple plant modifications. For example, if an automatic interlock is defeated permanently, procedure changes to verify proper manual operation of the equipment may be appropriate to reduce the risk associated with removal of the automatic interlock.

4.3.5. Evaluation of the Final RIPE Screening Questions

The licensee's plant IDP is responsible for assessing the screening questions. There are five screening questions that cover five areas for which a risk analysis may not be appropriate for identifying the impact of the LAR. The preliminary screening questions ask whether the LAR has any impact on each of the five areas. The final screening questions are reviewed in two steps. In the first step, the IDP reviews whether there is any adverse impact on each the five areas. If there is any adverse impact on an area, then, in the second step, the IDP reviews whether the impact has a more than minimal adverse impact on safety. If there is a more than minimal adverse impact on safety in any of the five areas, the LAR should not be processed using RIPE.

The DRA technical reviewer should confirm that the IDP considered the preliminary and final screening questions adequately and that there was not a more than minimal adverse impact on safety identified by the IDP. If the IDP report is accessible through a secure portal and the staff needs information from the IDP report to make its safety determination, then an RCI can be used to have the licensee supplement the LAR with information from the IDP report.

The final screening questions are discussed below.

4.3.5.1. Question 1: Does the issue result in more than a minimal increase in the frequency of a risk-significant accident initiator or result in a new risk-significant accident initiator?

The NRC staff should review whether the licensee has identified the risk-significant accident initiators that could be affected by the issue, determined whether the frequency of these accident initiators occurring would be more than minimally increased, and identified if any new risk-significant accident initiators have been created.

4.3.5.2. Question 2: Does the issue result in more than a minimal decrease in the availability, reliability, or capability of structures, systems, or components (SSCs) or personnel relied upon to mitigate a risk-significant transient, accident or natural hazard?

The NRC staff should review whether the licensee has identified the risk-significant SSCs and human actions that could be affected by the issue and determined whether availability, reliability, or capability of SSCs or personnel relied upon to

mitigate a risk-significant transient, accident or natural hazard would be more than minimally decreased. An appropriate calculation can be used to demonstrate the change in likelihood in a quantitative sense, if available and practical.

4.3.5.3. Question 3: Does the issue result in more than a minimal increase in the consequences of a risk-significant accident sequence?

The NRC staff should review whether the licensee has identified the risk-significant sequences that could be affected by the issue and determined whether the consequences would be more than minimally increased. An issue should be considered to have a more than minimal increase in consequences if there is an increase of greater than 10 percent in dose due to the issue.

4.3.5.4. Question 4: Does the issue result in more than a minimal decrease in the capability of a fission product barrier?

The NRC staff should review whether the licensee has adequately determined that the decrease in capability of a fission product barrier is not more than minimal.

4.3.5.5. Question 5: Does the issue result in more than a minimal decrease in defense-in-depth capability or safety margin?

The NRC staff should review whether the licensee has adequately determined that the decrease in DID or SM is not more than minimal in accordance with the criteria in RG 1.174. RG 1.174 provides seven considerations that should be used to evaluate how a proposed change impacts DID. The criteria in RG 1.174 are risk-informed such that PRA can be used to provide insights into whether DID and SM remain adequate. However, PRA should only be used together with traditional engineering approaches to determine whether DID and SM are adequate. For example, DID Consideration 1 in RG 1.174 is to ensure that a reasonable balance is maintained among the layers of DID. Consideration 1 acknowledges that DID may be reduced due to the proposed change but that the reduction in DID is acceptable if the layers of DID remain effective. Consideration 1 also acknowledges that PRA can be helpful in identifying whether the balance between layers of DID is maintained.

For RIPE, the PRA results must show that the impact of the proposed change on CDF and LERF is an order of magnitude lower than the criteria in RG 1.174. The reviewer can use the PRA to provide insights into whether the layers of DID are adequate. This could include ensuring that DID exists for each initiating event and accident sequence, or that DID is more robust for sequences that are more likely or have higher

consequences. For example, consider a proposed change in which an automatic action will be removed and a human action will continue to be performed as additional DID to mitigate the elimination of the automatic action. The human action may take longer to perform than an automatic action and may be considered more unreliable. Therefore, there is a potential reduction in DID. However, this reduction in DID may be considered less than minimal if (1) the accident sequences for which the human action will be used are unlikely, (2) there are other ways to mitigate the consequences of the failure, or (3) if there are sufficient compensating measures which provide confidence in timely operator action at a level consistent with the calculated low risk significance. However, the reviewer should assure that the automatic action proposed to be exempted is not credited in the approved TSTF-505 and/or TSTF-425 programs as one of the DID layers.

Therefore, the reviewer should generally evaluate the narrative, key assumptions, and reactor conditions that explain the operator actions to provide confidence in the ability to mitigate failures within a timely manner, consistent with a minimal reduction in DID and SM. In general, the reviewer should not perform detailed confirmatory evaluations of the licensee's accident coping analysis, human factors operational analysis, or nuclear-thermal hydraulic calculations, given the very low risk characterized with the issue.

4.3.6. Assessment of Cumulative Risk

The cumulative risk impact of permanent changes to the risk profile of the plant must be evaluated consistent with the principles discussed in RG 1.174 and, as applicable, RG 1.177. Cumulative risk is acceptable for the purposes of RIPE if baseline risk remains less than 1×10^{4}/year for CDF and less than 1×10^{5}/year for LERF, once the impact of the proposed change is incorporated into baseline risk.

4.3.7. Assessment of Use of Performance Monitoring Strategies

Using performance monitoring strategies to monitor the impact of a change is one of the principles of integrated RIDM discussed in RG 1.174. Performance monitoring strategies should be developed to ensure the engineering evaluation that supported the proposed change remains valid in the future. The licensee should propose monitoring programs that adequately track the performance of equipment whose degradation could affect the conclusions in the engineering evaluation used to support the licensing basis change. The NRC staff should review the licensee's proposed use of performance monitoring programs to ensure that the programs will ensure that the conclusions that support the proposed change remain valid in the future.

4.3.8. Assessment of the Final Safety Impact of the LAR

The NRC reviewer should ensure that the LAR has met all the criteria in section 4.3 above including having implemented an IDP, an acceptable PRA, acceptable PRA results, assessed the need for RMAs, no or minimal impact on safety as evaluated in the final screening questions, acceptable cumulative risk, and acceptable performance monitoring strategies. If the LAR meets all of the criteria in section 4.3 above, it can be concluded that the license amendment is technically acceptable in accordance with RIPE.

4.4. Emergency Plans (Replacement for LIC-101, Appendix B, Section 9.0, "Amendments for Emergency Plan Changes")

RIPE is not applicable to any issues for which the safety impact cannot be directly assessed using PRA. Therefore, LARs related to the emergency plans should not be considered for NRC review under the RIPE streamlined LAR review process.

4.5 Security-Related Amendments (Supplement to LIC-101, Appendix B)

RIPE is not applicable to any issues for which the safety impact cannot be directly assessed using PRA. Therefore, LARs related to the security program should not be considered for NRC review under the RIPE streamlined LAR review process.

4.6 Fuel Related Documents

RIPE is not applicable to issues related to changes in reactor fuel that cannot be directly assessed using PRA. Therefore, LARs related to the fuel changes should not be considered for NRC review under the RIPE streamlined LAR review process.

4.7 Technical Specification Amendments

The RIPE process is based on a licensee's implementation of a TSTF-505 or a TSTF-425 TS change amendment, as approved by the NRC. Approval of TSTF-505 or TSTF-425 ensures that the NRC staff has reviewed and approved a plant's PRA model as being appropriate for the RIPE review process.

A RIPE LAR involving the TSs should demonstrate that the PRA considerations described above justify that a probabilistic safety assessment shows that the requested change to the TSs is not significant to public health and safety.

If the LAR includes changes to TSs, the Technical Specifications Branch should be included to give NTO and concurrence on the final package to verify the final version of the TS wording and formatting are correct.

Enclosure:
1. Appendix A: Change History

Appendix A - Change History

TSG Change History - Page 1 of 1

Date	Description of Changes	Method Used to Announce & Distribute	Training
1/5/21	This is the initial issuance of TSG-DORL-2021-01 for using RIPE	Email to NRR staff	Recommended reading for DORL PMs and technical staff supporting license amendments and exemptions
6/30/21	Revised TSG to include guidance for applying RIPE for licensees with an NRC-approved TSTF-425, "Relocate Surveillance Frequencies to Licensee Control-RITSTF Initiative 5b," license amendment	Email to NRR staff	Recommended reading for DORL PMs and technical staff supporting license amendments and exemptions
5/10/22	Revised TSG to include application of RIPE LAR reviews to TS changes.	Email to NRR staff	Recommended reading for DORL PMs and technical staff supporting license amendments and exemptions
9/18/23	Revised TSG to incorporate recommendations following review of the first RIPE submittal, as documented in a memorandum dated March 3, 2023 (ML22259A196; non-public). The revisions provide additional guidance for reviewing the RIPE screening questions (including DID/safety margins), clarify existing guidance regarding the NTO review, provide new guidance for reviewing performance monitoring strategies, and expand the time available for performing the NTO review while maintaining the original overall timeline established for RIPE.	Email to NRR staff	Recommended reading for DORL PMs and technical staff supporting license amendments and exemptions