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

Risk-informed Process for Exemptions

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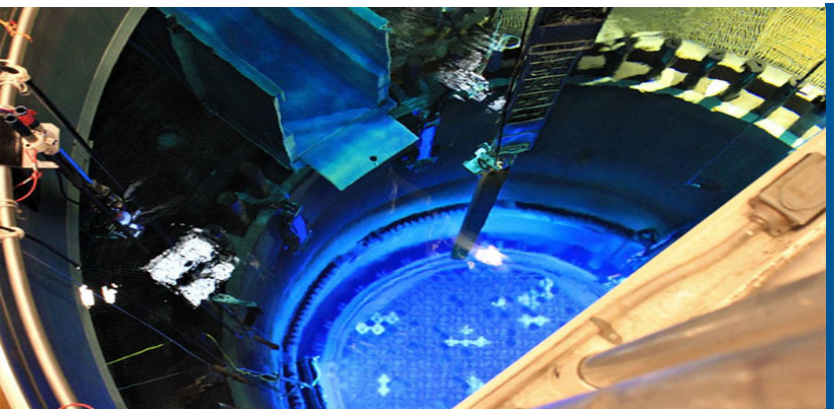


A Map of the Universe of Findings

High safety

Not clearly within the licensing basis

Evaluate issue to determine regulatory actions with tools such as:

- 50.54(f) or generic communication
- Backfitting
- Generic issue process
- Use LIC-504 and TIA as applicable

Clearly within the licensing basis

Address issue with appropriate tools such as:

- Enforcement
- Order
- Inspect licensee corrective actions

Address issues in this quadrant

Not clearly within the licensing basis but clearly low safety significance

EXIT:

- Document decision
- Make public record

Clearly within the licensing basis

Address finding/violation with appropriate tools (i.e., either the licensee comes into compliance or proposes changes to the licensing basis):

- Inspect licensee corrective actions (e.g., 50.59, PI&R)
- Change the licensing basis (LAR, relief, exemptions, etc.)
- Assess adequacy of the requirement (i.e., rulemaking)

Low safety

What is Risk-informed Process for Exemptions (RIPE)?

- RIPE could be used to address non-compliance issues that have a minimal safety impact using existing regulations, such as:
  - 10 CFR 50.12(a)(2)(iii), “Compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated”
  - 10 CFR 50.12(a)(2)(iv), “the exemption would result in benefit to the public health and safety that compensates for any decrease in safety that may result from the grant of the exemption”
- By leveraging current regulation and using risk information, licensees could justify plant-specific exemptions where the compensatory actions eliminate most of the risk without imposing undue burden.

What is RIPE? (Cont.)

Inspection/Enforcement

Does not involve inspection and enforcement of findings and violations.	**Does** support how those violations and findings are corrected.

Exemption

Does not change how licensee makes the determination concerning validity of exemption request.	**Does** inform the level-of-effort NRC staff will expend to conduct review and approval/denial of exemption request.

Regulations

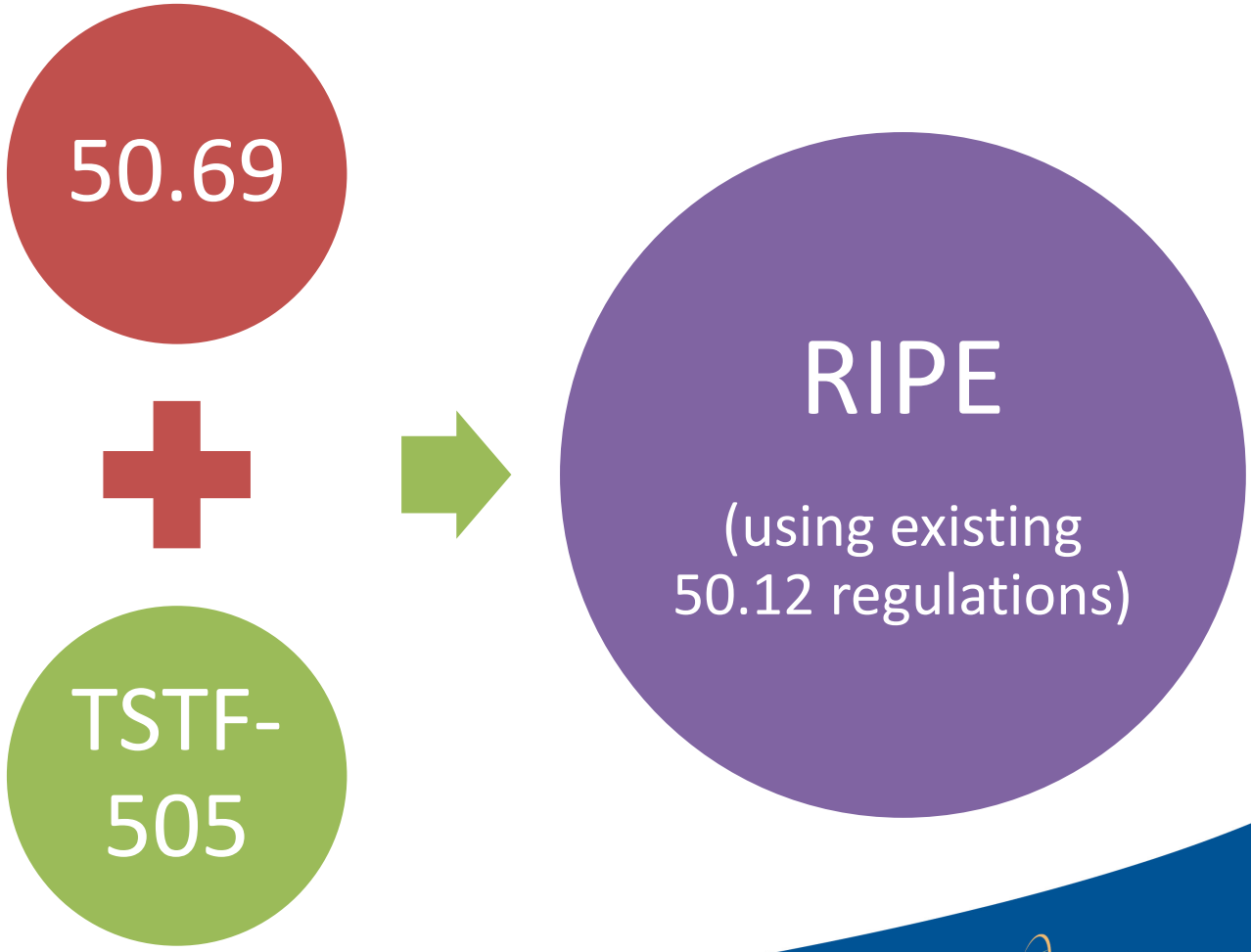
Does not displace rulemaking.	**Does** address unique plant non-compliance issues that would be specific to a narrow portion of the regulation for that licensee.

What is (RIPE)? (Cont.)

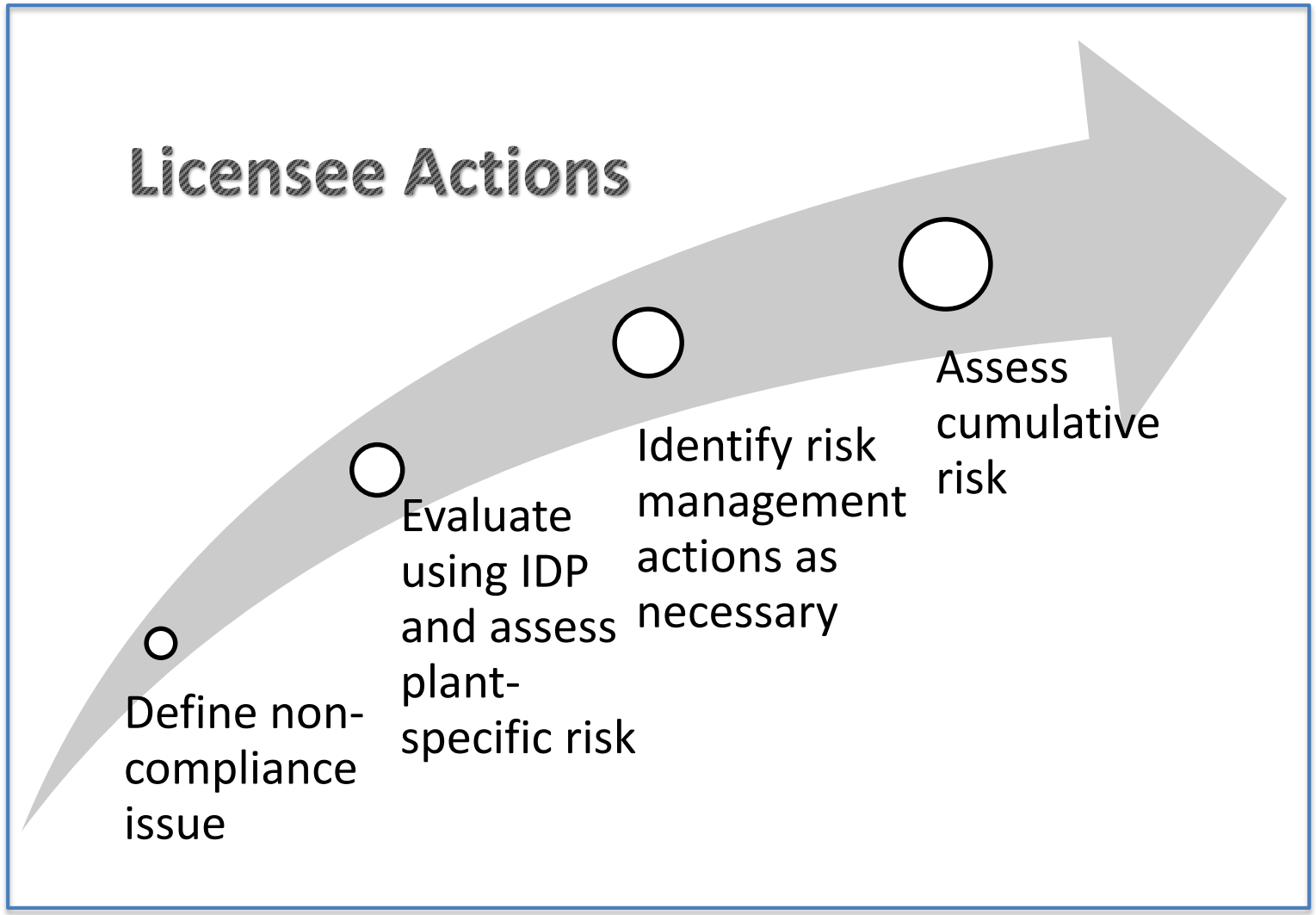
Leverage work done in previous risk-informed initiatives

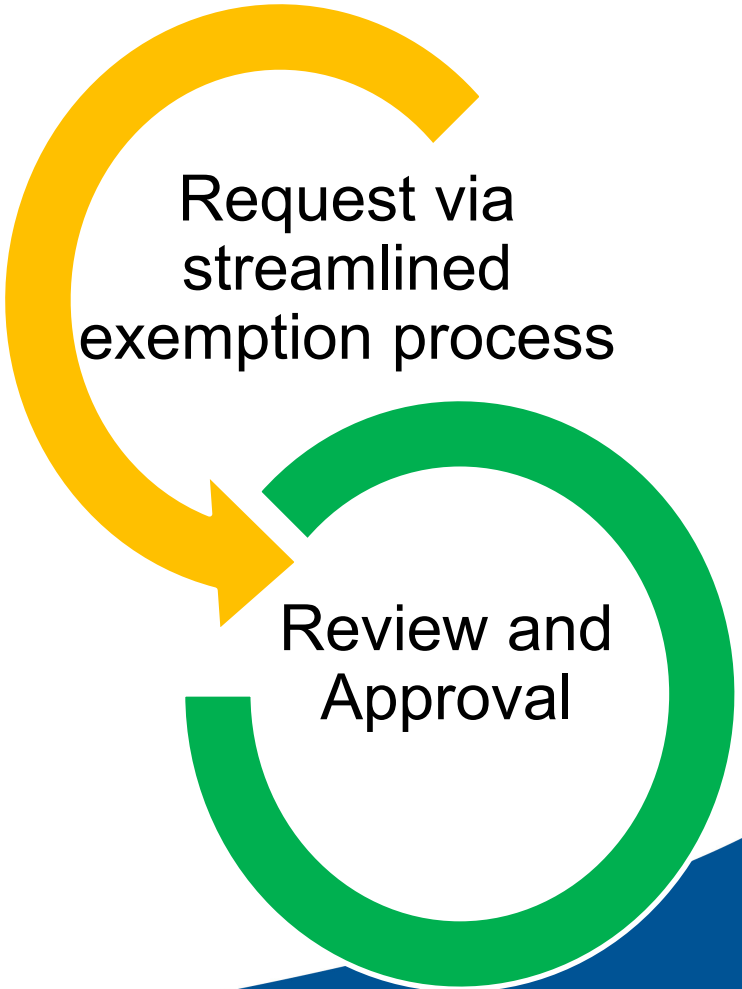
Integrated Decision-making Panel (IDP) - Key Engineering Principles

Demonstrated Probabilistic Risk Assessment Acceptability

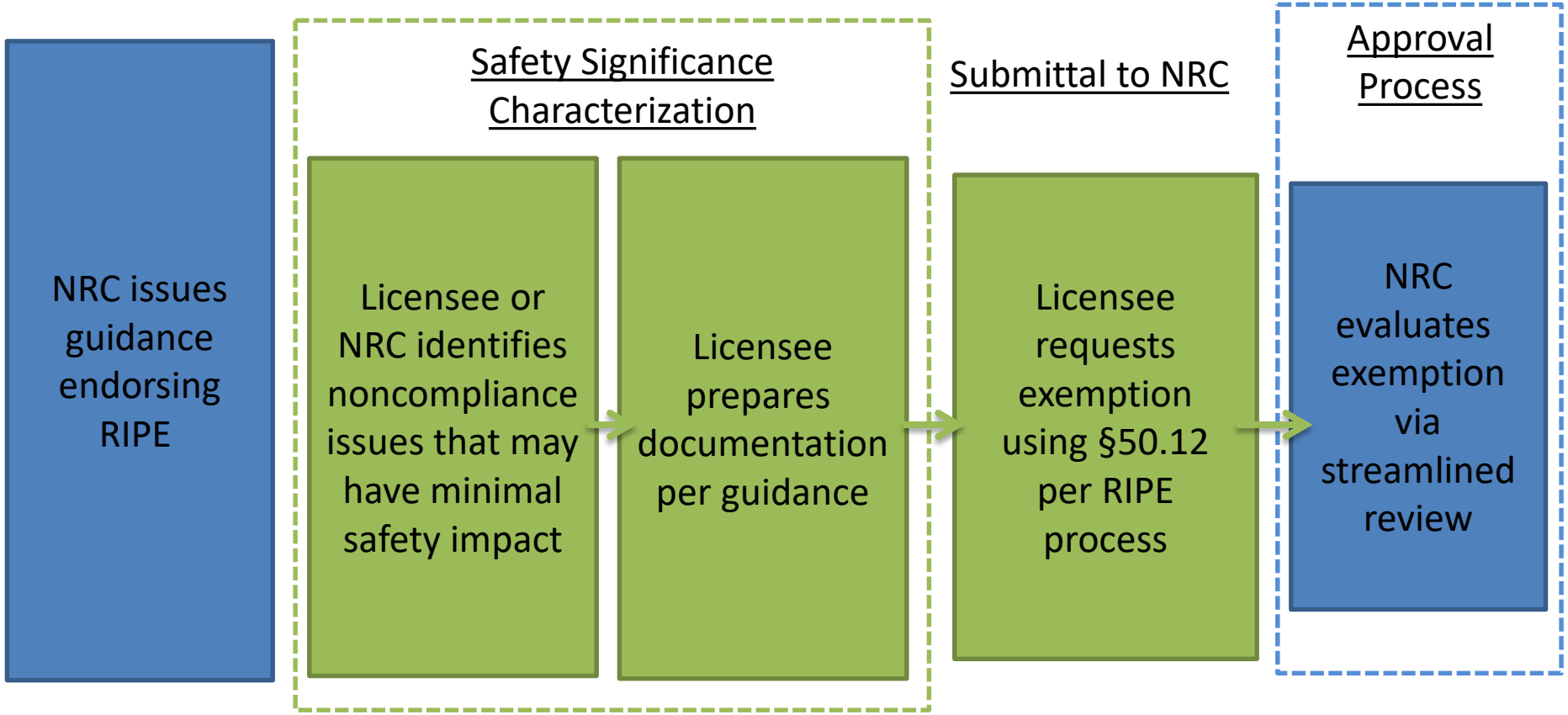


What is RIPE? (Cont.)





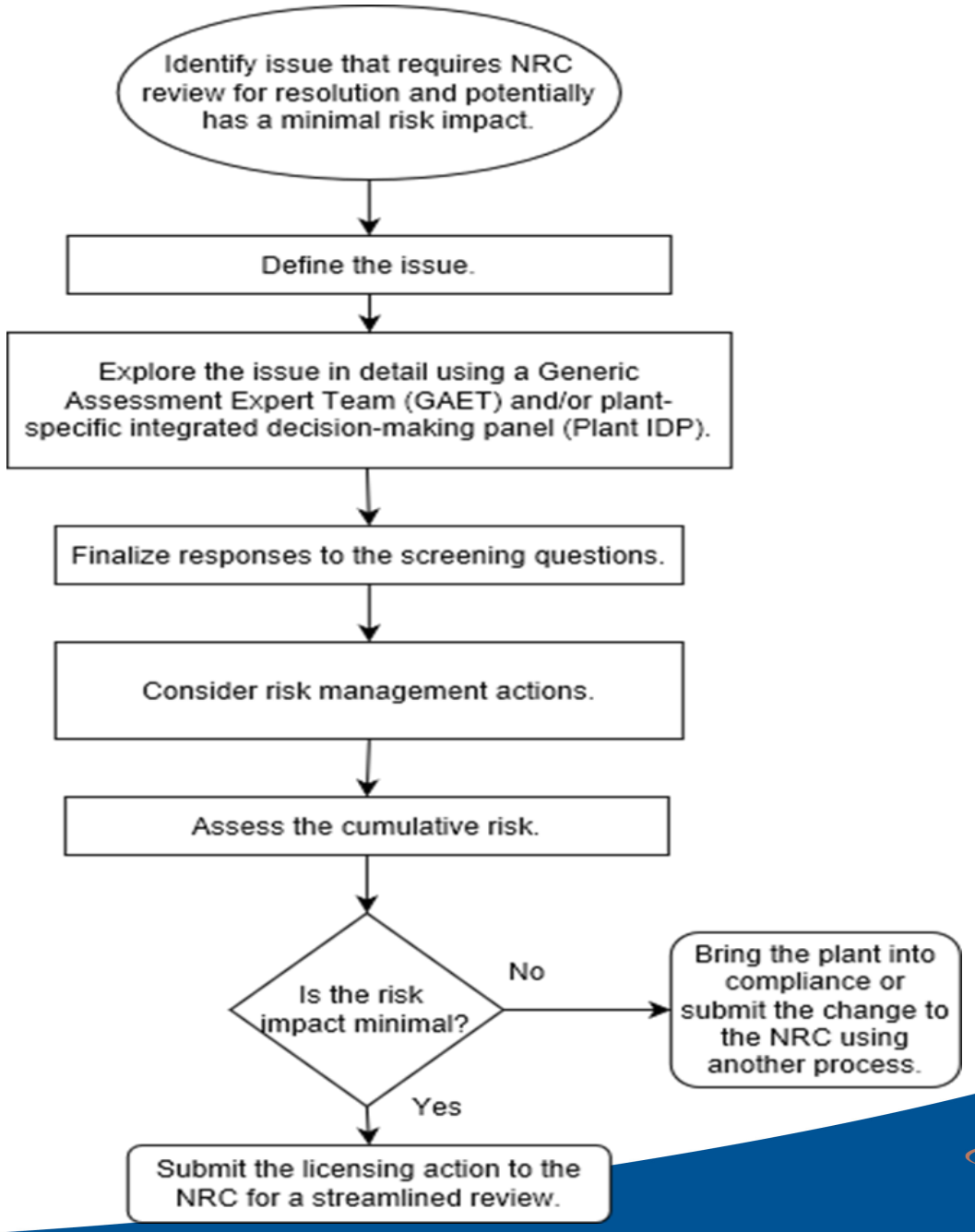
Implementation of RIPE



NRC Actions

Licensee Actions

Safety Impact Characterization Overview



Safety Impact Characterization

Identify issue that requires NRC review for resolution and potentially has a minimal risk impact

NRC-identified or licensee-identified

Current phase will focus on Reactor Safety

SECURITY

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Safety Impact Characterization

Define the issue

Explore the issue in detail using a Generic Assessment Expert Team (GAET) and/or plant-specific integrated decision-making panel (Plant IDP)

Finalize responses to the screening questions

Generic or Plant-specific

Safety Impact Characterization

Finalize responses to the screening questions

Consider risk management actions

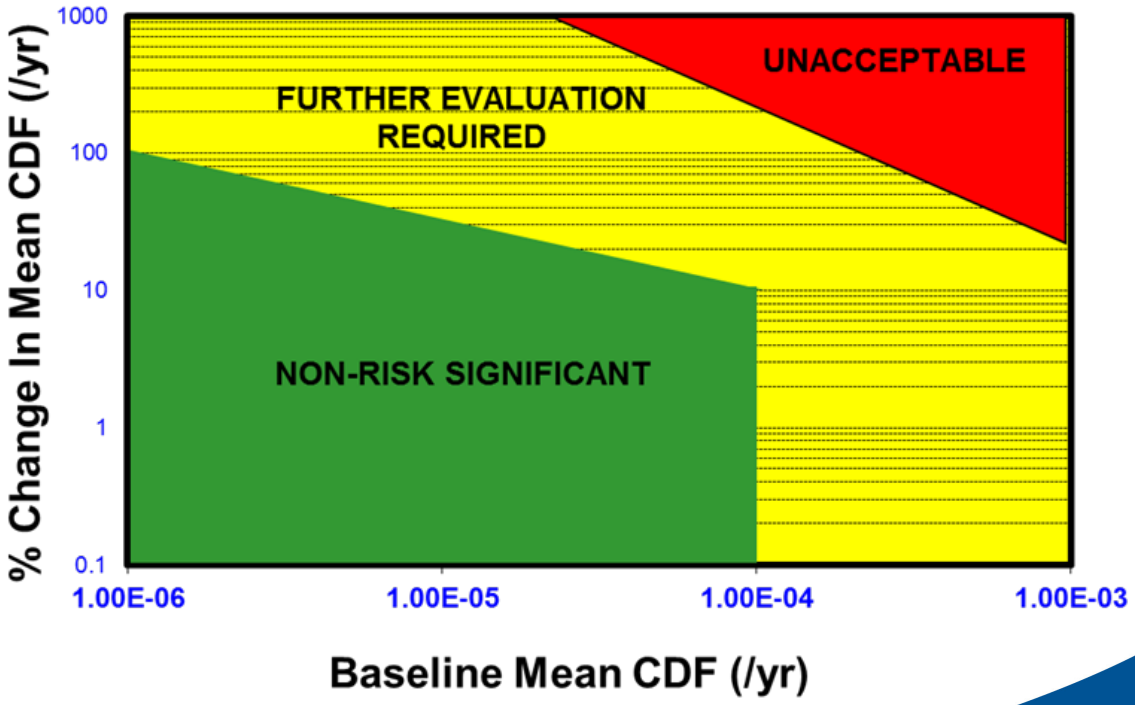
Assess the cumulative risk

Is the risk impact minimal?

Bring the plant into compliance or submit the change to the NRC using another process

Submit the licensing action to the NRC for a streamlined review

CDF < 1E-07, LERF < 1E-08, and less than 1% of the overall CDF & LERF



RIPE Streamlined Review

Staff	Role	Typical Work Scope for Exemptions	Streamlined Scope for RIPE
DORL Project Manager	• Correspondence • NEPA Review • Process/regulatory conformance	• Section I (Background) • Section II (Request/Action) • Section III.A (Authorized by Law) • Section III.C (Common Defense…) ➢ Special Circumstances ➢ CatEx or EA development • Section IV (Conclusions) • Final Package Assembly - FRN • Regulatory review	Same
DRA Risk Analyst	"SE" Input	• Section III.B (No Undue Risk …) ➢ PRA Acceptability • As Built/As-Operated Plant • Peer Review Documentation consistent with the Standard • Key Assumptions/Sources of Uncertainty • F&Os • Baseline Risk/Delta Risk Quantification ➢ RG 1.174's 5 key principles	• Section III.B (No Undue Risk …) ➢ Confirm TSTF 505 and 50.69 approved and all license conditions completed. ➢ Confirm issue is within the scope of the licensee's PRA and risk impact can be modeled using PRA.
Technical Reviewer(s)	"SE" Input	• Defense in Depth (DID) • Safety Margins (SM) • Section III.C (Special circumstances)	• Section III.C, Verify special circumstances exist (DID & SM used in IDP evaluation and was reviewed via TSTF-505 & 50.69 approval)
Environmental Reviewer	NEPA Review	• Verifies CatEx applies if requested by PM; • Concurs on EA developed by PM or • Develops EA	Same • Most applications will likely qualify for CatEx • Env CoE developing checklist
OGC	Legal review	~10 business days	TBD/Same

Why RIPE?

- Focus NRC and licensee resources on the most safety significant issues.
- Address low safety compliance issues in an efficient and predictable manner consistent with NRC's Principles of Good Regulation.
- Leverage existing regulations and risk insights.
- Incentivize the further development and use of probabilistic risk assessment models and risk-informed applications.

What's Next?

- Obtain feedback from industry and the public on interest in applying the process.
- Conduct a pilot of the process.
- Finalize NRR Office Instructions (e.g., LIC-103, Exemptions).
- Finalize RIPE guidance.

Questions?

Send additional feedback or questions to:
RIPE_EMBARK@usnrc.onmicrosoft.com