MATERIALS TECHNICAL EXCHANGE PUBLIC MEETING

LICENSE RENEWAL EFFICIENCIES

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NRR/DNRL/NLRP

June 17, 2025

THE IMPACT

"Greater than **93% of the 95 units** surveyed anticipate receiving approval to operate for at least 80 years.

This is an increase over the 2023 result and confirms that the **vast majority of the current fleet plan to operate to 2050 or beyond**."
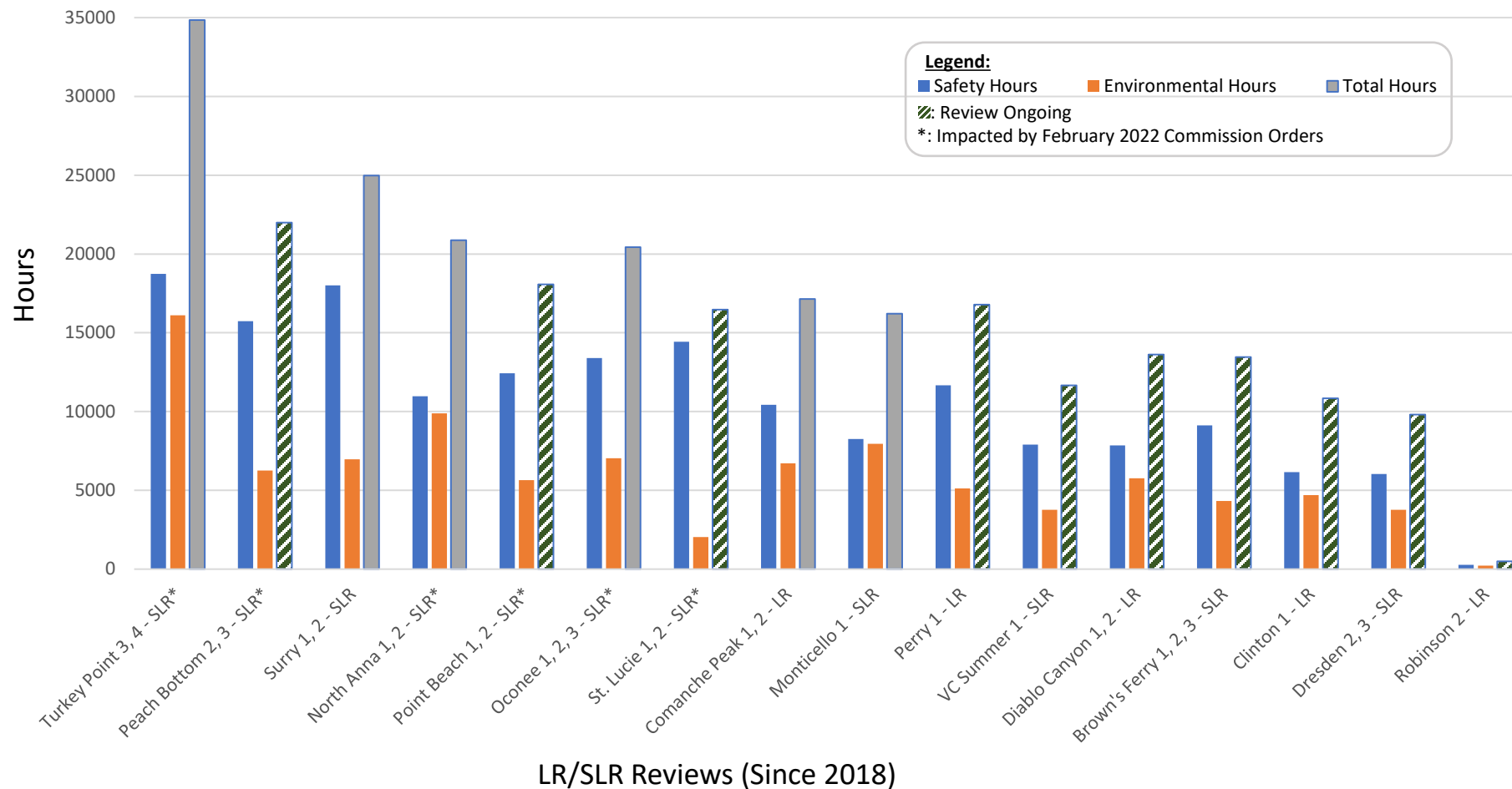

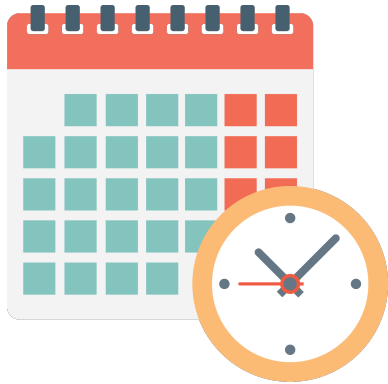Nuclear Energy Institute,
"The Future of Nuclear Power," 2024 Survey

THE LICENSE RENEWAL EFFICIENCY EFFORT

Initial License Renewal (LR) and Subsequent License Renewal (SLR) Reviews

Legend:
■ Safety Hours ■ Environmental Hours ■ Total Hours
▨ Review Ongoing
*: Impacted by February 2022 Commission Orders

- The hours represent staff hours processed through April 2025 and contractor hours received since March 2025.

- While this data captures both the NRC staff and contractor hours as one lump sum, the NRC staff and contractors have differing billing rates.

EARLY STAGES OF EFFICIENCY (2018 TO 2023)

Reducing schedule and level of effort

Virtual/Remote Audits

Improvements to overall process
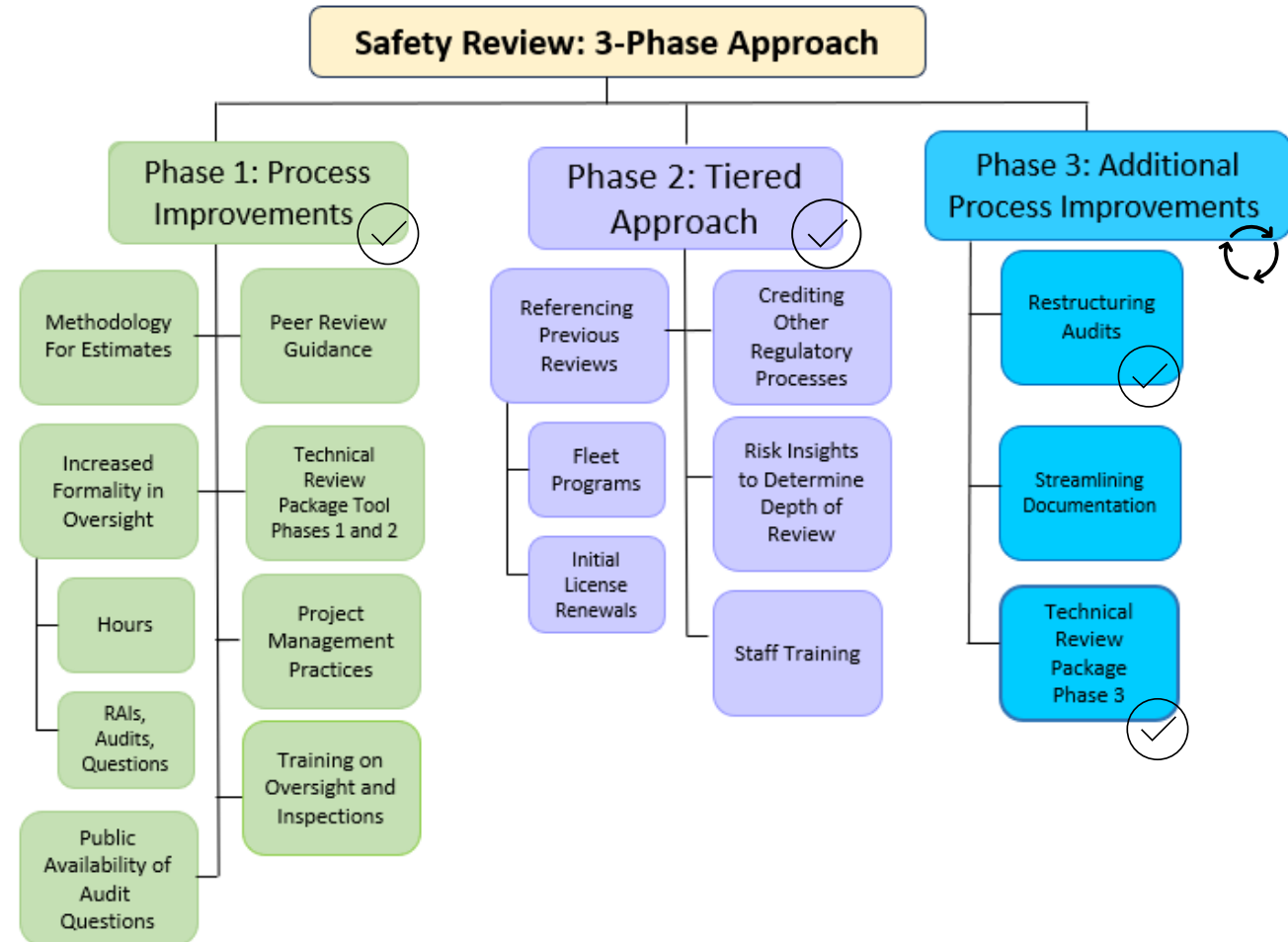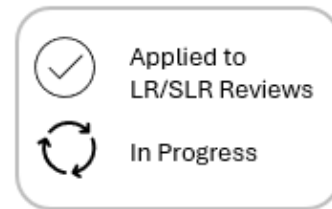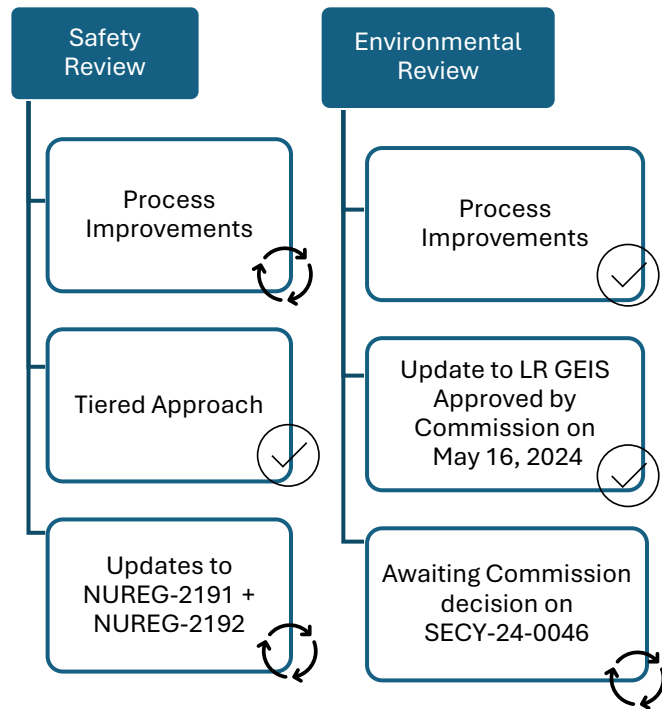
LICENSE RENEWAL ROADMAP (MARCH 2024)
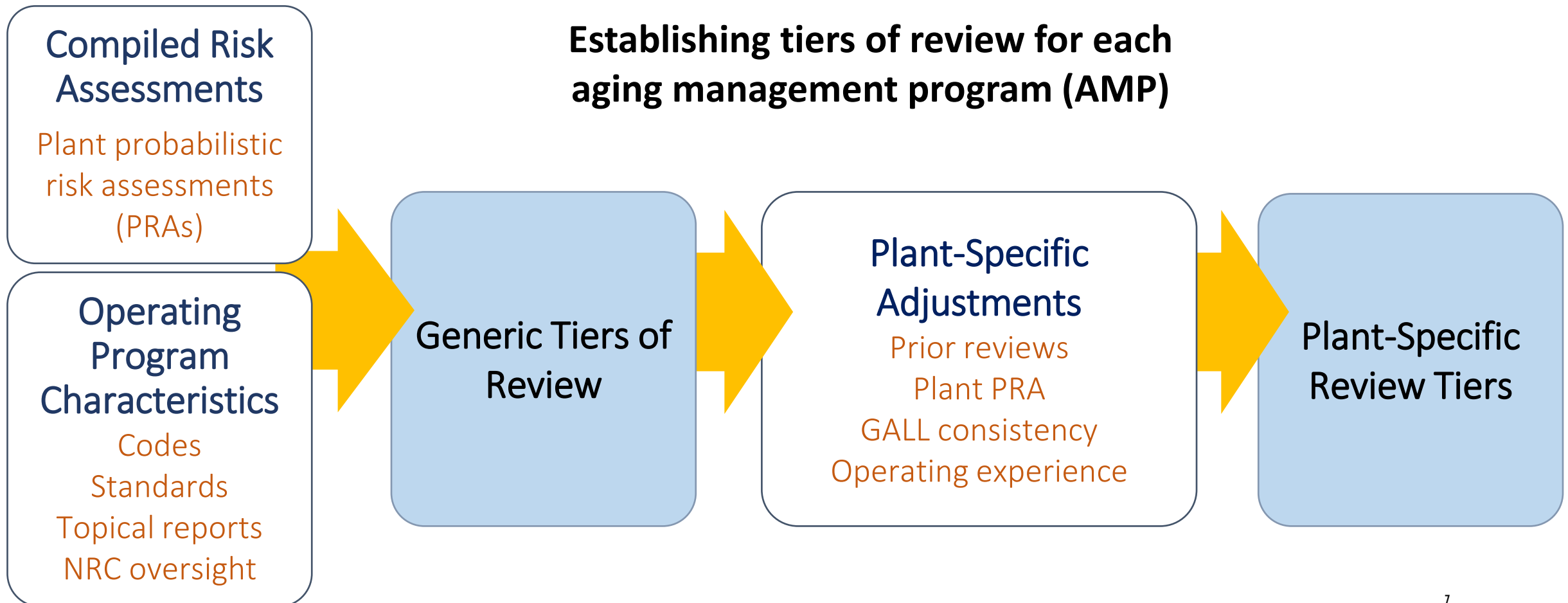
License Renewal Roadmap Dashboard

SECY-24-0026, "Achieving Timely Completion of License Renewal Safety and Environmental Reviews (License Renewal Roadmap)," U.S. NRC, March 28, 2024, ML24059A131

	SECY-24-0026—Commitments	Date	Status
1	Implementation of License Renewal Roadmap		In Progress
1a	**Safety Review**		
	• Phase 1: Process Improvements	March 2024	Complete
	• Phase 2: Tiered Approach	April 2024	Complete
	• Phase 3: Additional Process Improvements	August 2025	In Progress
1b	**Environmental Review**		
	• Process Improvements	Various times, starting Dec 2022	Complete
	• Implementation of LR GEIS		
	o Process to streamline inflight LR/SLR reviews	April 2024	Complete
	o Implementing streamlining efforts (leveraging Category 1 issues) for inflight reviews	September 2024	Complete
	o Process to restart paused SLR reviews when LR GEIS in effect	September 2024	Complete
	• FRA Requirements		
	o FRA immediately effective requirements	June 2023	Complete
	o Develop framework for consideration of EAs	June 2024	Complete
	o Pilot for Dresden SLR	July 2024	Complete
	o Additional FRA actions	TBD	Under Consideration
2	Launch of Public Dashboard of Updates to the License Renewal Roadmap	August 2024	Complete
3	**Updates to NUREG-2191 (GALL-SLR Report) and NUREG-2192 (SRP-SLR)**	TBD	TBD

LICENSE RENEWAL ROADMAP: SAFETY + ENVIRONMENTAL REVIEWS

Safety Review
- Process Improvements ⟳
- Tiered Approach ✓
- Updates to NUREG-2191 + NUREG-2192 ⟳

Environmental Review
- Process Improvements ✓
- Update to LR GEIS Approved by Commission on May 16, 2024 ✓
- Awaiting Commission decision on SECY-24-0046 ⟳

✓ Applied to LR/SLR Reviews

⟳ In Progress

Safety Review: 3-Phase Approach

Phase 1: Process Improvements ✓
- Methodology For Estimates
- Peer Review Guidance
- Increased Formality in Oversight
- Technical Review Package Tool Phases 1 and 2
- Hours
- Project Management Practices
- RAIs, Audits, Questions
- Training on Oversight and Inspections
- Public Availability of Audit Questions

Phase 2: Tiered Approach ✓
- Referencing Previous Reviews
- Crediting Other Regulatory Processes
- Fleet Programs
- Risk Insights to Determine Depth of Review
- Initial License Renewals
- Staff Training

Phase 3: Additional Process Improvements ⟳
- Restructuring Audits ✓
- Streamlining Documentation
- Technical Review Package Phase 3 ✓

THE TIERED APPROACH — THE PROCESS

Establishing tiers of review for each aging management program (AMP)

Compiled Risk Assessments
Plant probabilistic risk assessments (PRAs)

Operating Program Characteristics
Codes
Standards
Topical reports
NRC oversight

Generic Tiers of Review

Plant-Specific Adjustments
Prior reviews
Plant PRA
GALL consistency
Operating experience

Plant-Specific Review Tiers

THE TIERED APPROACH — GENERIC TIERS FOR REVIEW

Standard (High)	Modified (Medium)	Confirmation (Low)

A comprehensive review:
 	
Staff discretion to review all aspects of plant program implementation
 	
• Application
• Operating experience
• AMP and TLAA basis documents
• System/program health reports
• Engineering analyses
• Implementing procedures
• Inspection and test results
• Corrective actions
	A less extensive review:
	
	Application details are fully verified, OE is reviewed, and (as needed) deeper review of limited, key issues
	
	• Application
	• Operating experience
	• AMP and TLAA basis documents
	
	   Discretion to review key details in other plant documents
		A minimal review:
		
		Concise verification check of essential application details and absence of impactful OE
		
		• Application
		• Operating experience
		• Essential application details in AMP/TLAA basis documents
		
		   (e.g., governing standards, key inspection criteria)

SAFETY REVIEW – OPPORTUNITIES FOR EFFICIENCY

Revisiting the License Renewal Framework

- GALL-SLR like a topical report

- Sampling based review

- SLR vs. LR gap analysis

- Application and safety evaluation streamlining

THE PRESENT + FUTURE OF REVIEWS

Greater efficiency

12-Month Reviews

Leveraging artificial intelligence

QUESTIONS?