ENCLOSURE 3:
Summary of the Evaluation of Recommendations

Table C-1 of LIC 504: Decision Options

	Recommendations/Decision Options Considered by the LIC-504 Team	Analysis Approach	Criteria Used to Evaluate Recommendations/Decision Options	Evaluation of Recommendations/Decision Options
1	No actions needed.as a result of the LIC-504 assessment.	Evaluate risk and regulatory insights per LIC-504 process.	LIC-504 guidance	The team did not recommend this option because high energy arcing fault (HEAF) events continue to occur. Furthermore, some HEAF events have led to risk significant precursor events. For example, since 2010, the NRC's Accident Sequence Precursor (ASP) program identified six precursor events associated with HEAFs. Additionally, based on the results of the analyses completed under LIC-504, the team concluded that there are important risk insights, best practices, and mitigative actions, etc., which, when shared with the industry, could lead to enhancements to public health and safety and reduce enterprise risk.
2	Issue plant-specific or generic orders to promptly implement corrective actions at nuclear power plants (NPPs) to address increased estimate of risks when the new probabilistic risk assessment (PRA) method is used.	Information documented in NRC memos (ML16064A250 and (ML21272A262) and results from additional research about the new HEAF PRA methodology regarding potential changes to zones of influence (ZOIs) due to presence of aluminum.	LIC-504 guidance on prompt regulatory actions	The team did not recommend this option because (a) the first step of the LIC-504 evaluation confirmed that the risk significance of HEAFs does not exceed the LIC-504 guidelines for prompt regulatory action, and (b) there is no basis to conclude that licensees are not in compliance with NRC regulations, Orders, and NRC issued licenses.
3	Develop rulemaking plan to clarify and strengthen the requirements for Fire PRA configuration control, including the incorporation of new Fire PRA methods, for Commission review and approval.	Determine if there is a safety issue based on the LIC-504 assessment and whether it can be addressed via the rulemaking process. Team conducted quantitative and qualitative assessments via the LIC-504	Guidance provided in MD 6.3, "Rulemaking Process"	The team did not recommend this action, since existing licensing basis/license conditions for TSTF-505 and NFPA-805 plants require licensees to consider operating experience as part of their performance monitoring program (e.g., NFPA-805 Section

		process.		2.4.3.3 and 2.6.2) and PRA results generated using information received from the two reference plants and insights from the ASP program relating to average HEAF risks are highly unlikely to justify rulemaking or backfitting.
4	Develop a document that identifies key qualitative risk insights that plant operators may be able to use in a cost-effective manner to reduce HEAFs to mitigate any potential enterprise risks and/or impacts to public health and safety.	Review of HEAF OpE documented in various reports and the ASP Database and information from reference plants	Teaching element of the *Be RiskSMART* framework	The team recommended developing a document to identify the key qualitative risk insights and included it as an enclosure to the LIC-504 memorandum. Action complete. This qualitative assessment is provided in Enclosure 2 to the memo.
Recommendations Considered in Issuing a Generic Communication				
5	Issue a Bulletin (BL).	Evaluate information in staff prompt action determination conclusion (ML21272A262), MD 8.18 guidance, NRR/IOEB implementation guidance on BL issuance, and LIC-504 guidance (Figure 3)	MD 8.18 guidance, NRR/IOEB generic communication implementation guidance, LIC-504 guidance (Figure 3) and information documented in ML21272A262	The team did not recommend this option, because, per MD 8.18, BLs are used to request actions from the licensee and/or information to address significant issues that have great urgency. Based on the staff's risk assessment, this issue does not require urgent information collection or licensee action.
6	Issue a Generic Letter (GL).	MD 8.18 guidance, NRR/IOEB implementation guidance on circumstances that should prompt issuance of generic letters and LIC-504 guidance (Figure 3)	MD 8.18 guidance, NRR/IOEB generic communication implementation guidance, and Figure 3 of the LIC-504 document	The team did not recommend this option because issue does not constitute a risk-significant compliance matter that should be brought promptly to the attention of licensee request, or of sufficient safety significance to warrant information collection.
7	Issue an Information Notice (IN) or Regulatory Issue Summary (RIS) as appropriate, and consistent with the Generic Communication process. The generic communication will share information on (1) the operating experience and risk insights from the LIC-504 assessment; (2) regulatory framework/license conditions and (3) the availability of the new HEAF risk assessment methodology for licensee consideration (expected to be issued for public comment in July 2022).	MD 8.18 guidance, NRR/IOEB implementation guidance on circumstances that should prompt issuance of an IN or RIS and LIC-504 guidance (Figure 3)	MD 8.18 guidance, NRR/IOEB generic communication implementation guidance, and Figure 3 of the LIC-504 document	The team recommended a generic communication to communicate, as appropriate, the LIC-504 quantitative and qualitative assessments, related operating experience, and the availability of the new HEAF PRA methodology for licensee consideration. For either the IN or RIS, the team members recommend a comprehensive stakeholder engagement strategy to communicate

				with external parties (see Recommendations 12, 13, and 14). The qualitative risk insights shared using an IN or RIS could enable licensees to voluntarily adopt cost-effective changes to their programs such as to the preventative maintenance programs (e.g., to improve the reliability of feeder circuit breakers to improve the mitigation of HEAF events) and operational programs (e.g., housekeeping practices and enhancements to operator responses to HEAF events) to reduce HEAF-related risks.
Recommendation for Incorporating Risk Insights from LIC-504 Assessment to Ongoing PRA Configuration Control Program				
8	Incorporate risk insights obtained from the LIC-504 assessment to inform NRR's ongoing PRA configuration control initiative.	10 CFR 50.48(c) (NFPA 805) requirements, TSTF-505 License Condition, pertinent license conditions and PRA standards	Goal of the PRA configuration control program is to ensure that PRA analyses reflect the as-built, as -designed, and as -operated plant.	This recommendation is part of current efforts to address potential gaps with NRC's oversight of PRA configuration control programs, using a balanced approached. No further action required.
Recommendations Considered for Enhanced Inspection/Oversight				
9	Communicate risk insights gleaned from the HEAF-related risks/LIC-504 process with regional inspectors and Senior Reactor Analysts using existing processes (KM-related meetings, Inspector Newsletters, periodic meeting between APLB and fire protection inspectors, SRA counterpart meetings, etc.).	Conduct meetings to discuss with NRR Division of Reactor Oversight (DRO), Operating Experience Branch (IOEB), to determine appropriate information to share with regional staff at opportune times.	NRR/DRO/IOEB guidance on selecting information that should be shared with regional staff	The team recommended this option because availability of risk insights will enable regions to enhance use of budgeted inspection resources in a risk informed manner to enhance plant safety.
10	Develop a Temporary Instruction to have regions inspect plants to collect additional information and determine if HEAF events have been adequately addressed.	IMC-0040, "Preparing, Revising, and Issuing Documents for the NRC Inspection Manual"	Existence of clear regulatory requirements that the inspectors may use to examine whether there are potential non--compliances or potential performance deficiencies and/or the need for additional information to resolve the issue(s).	The team did not recommend this option. The best available information does not justify an inspection focused on HEAF and did not identify any non-compliances. Further, if the recommendation related to a generic communication is adopted, licensees would be better informed of HEAF issues; thereby reducing the need for additional inspections. Additionally, reference plant walkdowns and other aspects of the LIC-504 process (I.e.,

				assessment, of operating experience and accident sequence precursors etc.) have provided sufficient information to inform the decision process.
11	Consider incorporating risk insights obtained from the LIC-504 assessment to inform NRR's Reactor Oversight Process (ROP).	ROP change control process.	Examine whether inclusion of additional guidance would support NRC efforts to enhance further risk-informing the inspection and oversight program.	The team recommended this option since the LIC-504 assessment has revealed insights that could enhance and better risk-inform the inspection and oversight program.
Other Communications				
12	Share risk insights gained from the HEAF LIC-504 analysis with external stakeholders via a public meeting (e.g., workshop where a more interactive format can be used to explain risk insights and methodology enhancements, etc.).	Considered and identified benefits gained by sharing risk insights with external stakeholders' communities who could influence risk-informed decision-making in the regulated community.	Teaching element of the Be RiskSMART framework	The team recommended this option because it would enhance the regulated community's awareness of the importance of HEAF risks and enable them to understand and further consider options available to them to reduce and/or mitigate risks associated with HEAFs at their facilities based on the best practices, etc.
13	Share insights gained from the HEAF LIC-504 analysis with the PWR and BWR Owners' Group (OG) members.	Considered and identified benefits by sharing risk insights with regulated communities who have considerable knowledge in PRA and have the technical expertise to offer technical solutions in this area.	Teaching element of the Be RiskSMART framework	The team recommended this option because it provides an opportunity to leverage the OG's expertise to consider implementing best practices and reduce/mitigate risks.
14	Share insights gained from HEAF LIC-504 analysis with international community (e.g., OECD HEAF project participants, OECD/NEA working group on risk assessment (WGRISK), international conferences).	OIP guidance related information exchanges.	Teaching element of the Be RiskSMART framework	The team recommended this option because it provides for an opportunity to enhance world-wide nuclear safety with respect to HEAFs.