



LIC-504 “Integrated Risk-Informed Decisionmaking Process for Emergent Issues” Assessment of Aluminum High Energy Arcing Faults Issue

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Objectives

Provide information about the process

Provide information about progress

Answer questions

Process

LIC-504 (ML19253D401) was created to address recommendations in GAO report, GAO-04-415 (2004) entitled “Nuclear Regulation—NRC Needs to More Aggressively and Comprehensively Resolve Issues Related to the Davis-Besse Nuclear Power Plant’s Shutdown.”

The major revision (Rev. 5, 2018) includes several significant changes prompted by previous uses (e.g., considering Enterprise Risk, considering exposure to worker, guidance on how to consider risk significance to recommend generic communications).

LIC-504 evaluations result in two distinct products:

- Determine whether prompt regulatory actions are necessary.
- Use best available information to develop risk-informed recommendations for management consideration; Use conservative assumptions in the absence of information..
- Use best available information and rely on performance monitoring (NUREG\CR-1855) to address uncertainties

The manner in which LIC-504 teams develop recommendations has evolved to accommodate some key elements of the Be RiskSMART (NUREG/KM-0016) framework

Use Be RiskSMART framework (NUREG/KM-0016, ADAMS Accession No ML21071A238)

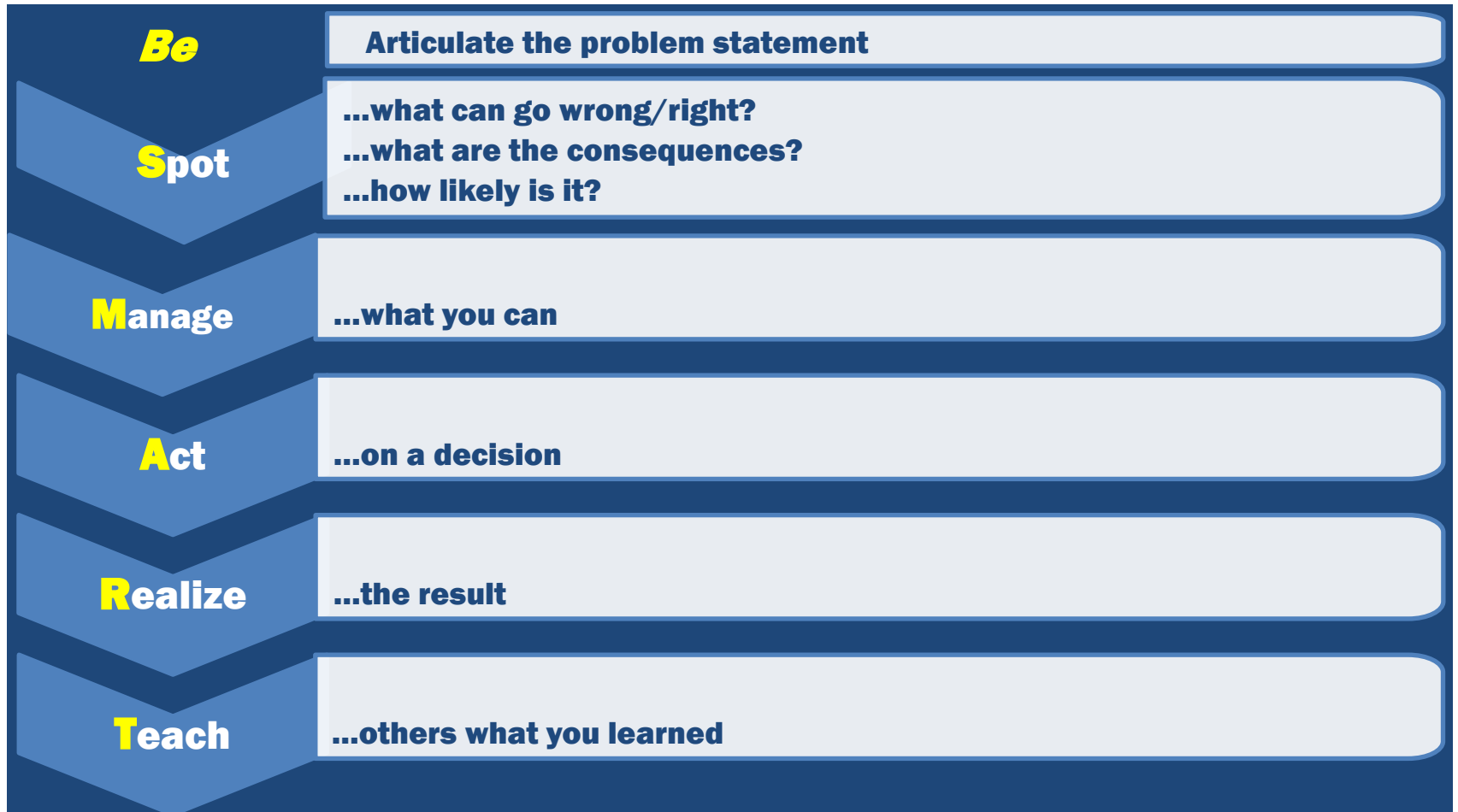
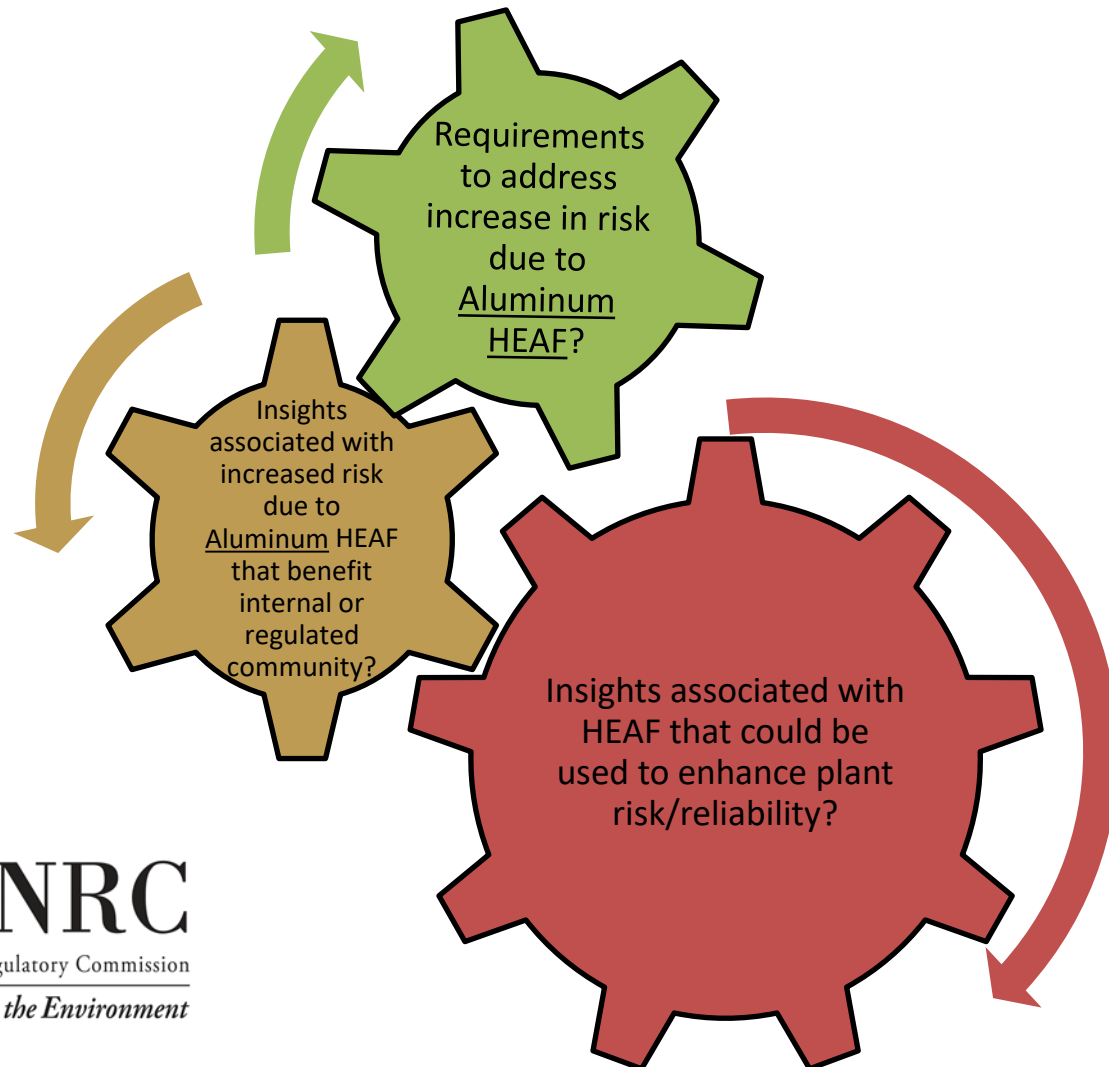


Illustration of planned use of “Teaching” and “Managing”
Elements to generate recommendations



Examples of recommendations from recent LIC-504 assessments

2020 Duane Arnold
Derecho
(ML21078A127)

- Issue Information Notice to disseminate risk insights
- Hold a webinar
- Update SPAR models
- Share information with inspectors

2018 Control Rod
Drive Mechanism
issue (ML18249A081)

- Perform sample inspections

2016 Baffle former
bolt issue
(ML16225A341)

- No action; licensees committed to inspect during next outage

Progress on LIC-504 Assessment

Developed project plan

- Plan to complete assessment and provide recommendations to management by Summer 2022

Phase 1 analysis is complete (ML21272A262)

- Qualitative risk evaluation
- Confirmed results of previous assessment (ML16064A250) using best available information.
- Considered safety margin and defense in depth
- No prompt regulatory action necessary

Progress on LIC-504 Assessment

Without access to plant specific data, we would need to rely on bounding assessments to make a regulatory decision

- Completing review of OpE to glean risk insights
- Risk insights on HEAF and potential increase in risk due to AI
- Evaluating SPAR models for available information
- Working with the Office of Nuclear Regulatory Research to understand increase in ZOI due to AI (modified IEEE model)
- Aligning on information needs to improve models and perform risk assessments
- Reference plants will be used with sensitivity studies to make analysis more generically applicable.

Abbreviations

- HEAF – High Energy Arcing Faults
- Al – Aluminum
- IEEE – Institute of Electrical and Electronics Engineers
- GAO – Government Accountability Office
- SPAR – standardized plant analysis risk
- OpE – Operating Experience
- ZOI – zone of influence