



Southern
Nuclear

Implementation of 10CFR50.69 and Risk- Managed Technical Specifications at Southern Nuclear

Pamela Burns

2018 Regulatory Information Conference

Southern Nuclear Risk Informed Initiative Status

Risk Informed Initiatives Strategic Plan		Farley	Hatch	Vogle	
Initiative 1, Tech Spec Required Action End States					
Initiative 2, Missed Surveillances SR 3.0.3					
Initiative 3, Mode Change					Approved
Initiative 4b, Risk-Informed Completion Times		18	19	17	Submitted
Initiative 5b, Relocate STIs to Licensee Control					Planned
Initiative 7a, Impact of Non TS Design Features Operability Requirements	Snubbers				Not Pursuing
	Barriers				
Categorization & Treatment of SSCs (50.69)		19	18	14	
In-service Inspection Program					
Permanent ILRT Extension					
Tornado Missile Protection		18			
NFPA-805 (10 CFR 50.48c)			18		

Vogtle 1&2 50.69 Background

Risk-Informed categorization and treatment of structures, systems and components for nuclear power reactors

- Categorization
 - Risk-Informed Safety Class (RISC)

	High Safety Significance	Low Safety Significance
Safety Related	RISC-1	RISC-3
Non-Safety Related	RISC-2	RISC-4

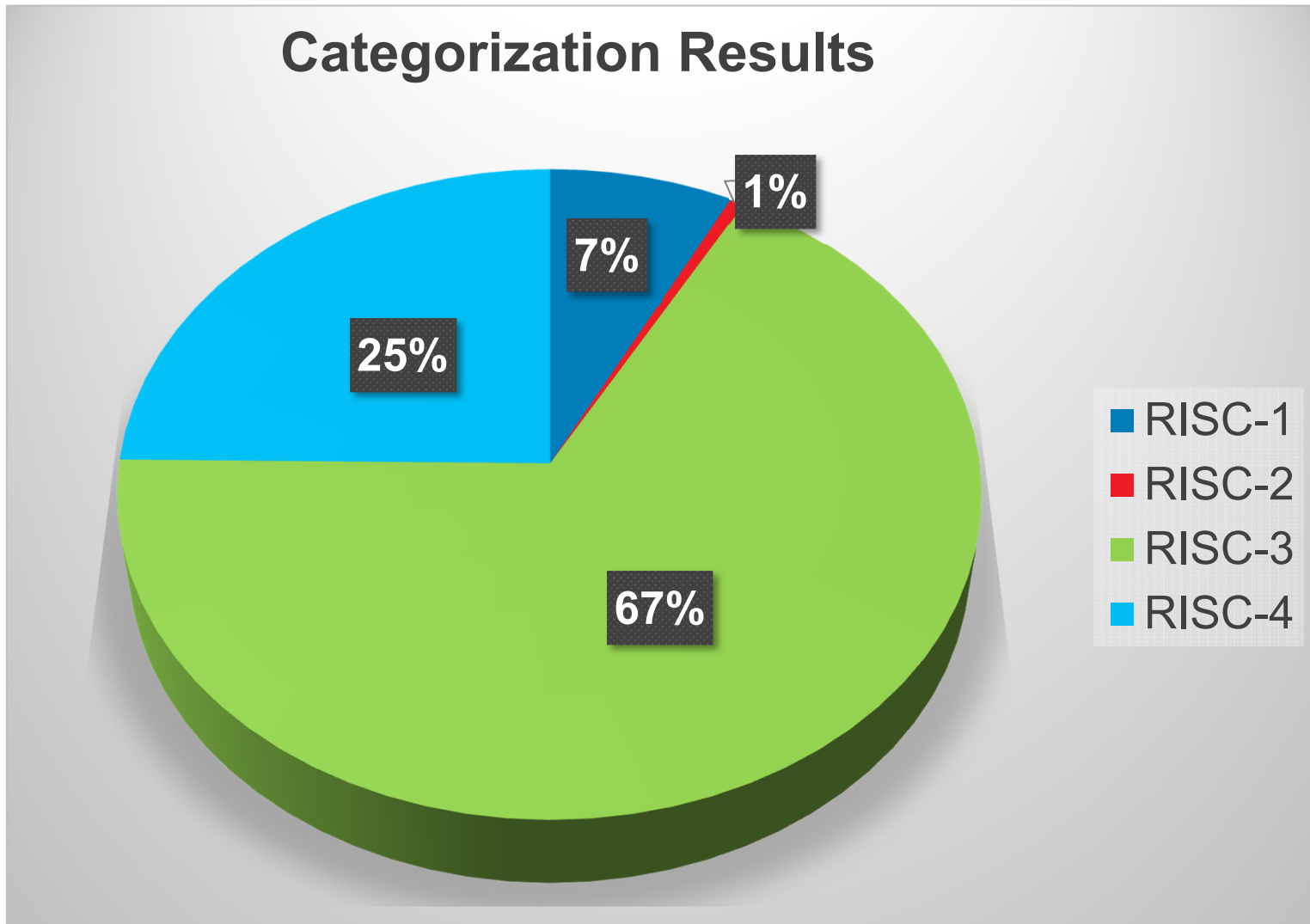
- RISC-3 Alternative Treatment
- RISC-2 Special Treatment

Vogtle 1 & 2 Categorization Results

Five systems categorized to date:

VEGP System	Components	RISC-1	RISC-2	RISC-3	RISC-4
Containment Spray	1085	129	7	804	145
Radiation Monitoring	1,930	0	0	540	1390
Component Cooling Water	2,112	84	12	1321	695
Essential Chilled Water	4,515	132	0	3989	394
Chemical Volume and Control System	9,787	1118	93	6379	2197
Total	19,429	1463	112	13033	4821
Percentage		8%	1%	67%	25%

Vogle 1 & 2 Categorization Results



Lessons Learned

LAR Process (Vogtle SPRA Supplement)

- Follow NEI 50.69 coordinating committee template
- Ensure that NRC pre-submittal meeting considers template directions. If template is followed, pre-submittal meeting may not be needed.
- Use Appendix X to close F&Os prior to submitting LAR
- Include Seismic PRA rather than SMA if possible

Lessons Learned

Categorization

- Seismic margins analysis drives SSCs to RISC-1 that may otherwise expected to be RISC-3.
- Follow NEI 00-04 categorization steps. SNC tried simplified steps concerning the qualitative assessment, which produced an over-simplified evaluation
- A Database Tool will generate tremendous efficiencies
 - Input mapping to speed ranking
 - Automate selection of Fussell-Vesely (FV) summing, Highest Risk Achievement Worth (RAW)
 - Standard report IAW NEI 16-09 template (NEI Website)

Lessons Learned

Categorization (continued)

- Integrated Decision-making Panel (IDP) has ability to make qualitative assessments
 - Ensure high quality documentation of
 - IDP Expertise and qualification
 - IDP judgments
 - IDP considerations
 - See 50.69 LAR Template & NEI 16-09 for IDP Quals
- Process may be most efficient if IDP meets twice
 - early to verify adequate scoping of system functions
 - upon completion of categorization package

Lessons Learned

Treatment

- Establish procedure instruction and tracking to ensure that RISC-1 & RISC-2 components are evaluated for potential additional controls promptly after IDP approval.
- Establish procedure guidance for evaluating critical changes (RISC-3 to RISC-1), including guidance for re-establishment of special treatments.
- Establish alternative treatment practices in advance
- Participate with industry efforts to standardize alternative treatment

Vogtle Risk Managed Technical Specifications

In simple terms, what are Risk Managed TS (RMTS)?

For some REQUIRED ACTIONS stated in the Vogtle 1 & 2 Technical Specifications, the COMPLETION TIME states an option to determine a Risk Informed Completion Time (RICT), using the RICT Program.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more trains inoperable. <u>AND</u> At least 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available.	A.1 Restore train(s) to OPERABLE status.	72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program

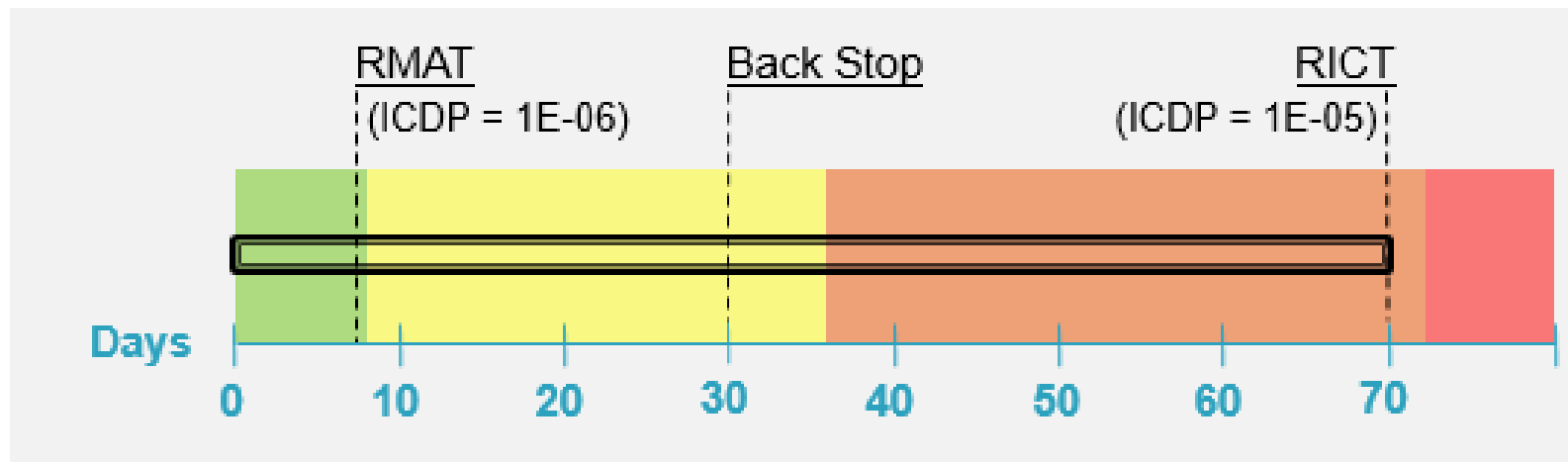
Implementation Lessons Learned

- Establishing RICT requirements for short front stop cases
 - Difficulty answering PRA functionality
 - Anticipate and establish better guidelines for what constitutes PRA functionality
- What constitutes “a high degree of confidence that there is no CC failure mechanism that could affect the redundant components”
 - Options:
 - Establish High degree of confidence
 - Adjust common cause factors
 - Establish Risk Management Actions (RMAs)

Change Management Lessons Learned

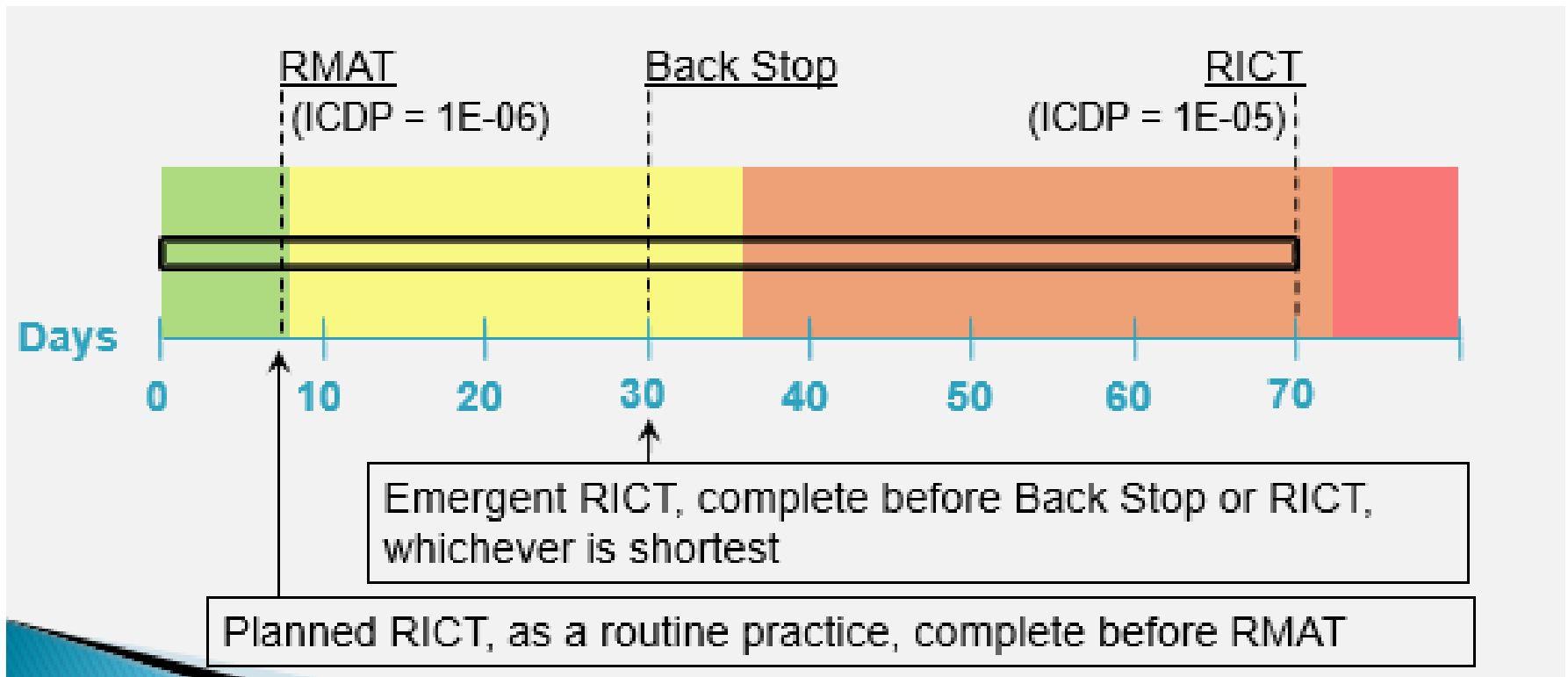
Moving from instantaneous risk thresholds to cumulative risk thresholds:

- Inform and train organization
- Adjust thinking about risk profile colors
 - typical yellow is 1/10th through a RICT
 - typical orange is 1/2 through a RICT
 - typical red is end of RICT



Change Management Lessons Learned (cont.)

- Moving to RICT
 - Train operators well
 - Get configuration risk management program software tool in hands of operators well before RMTS is live
- Familiarize staff with Planned vs. Emergent RICT





Southern
Nuclear