Applying CAST to Human Error Related Manufacturing Mishaps

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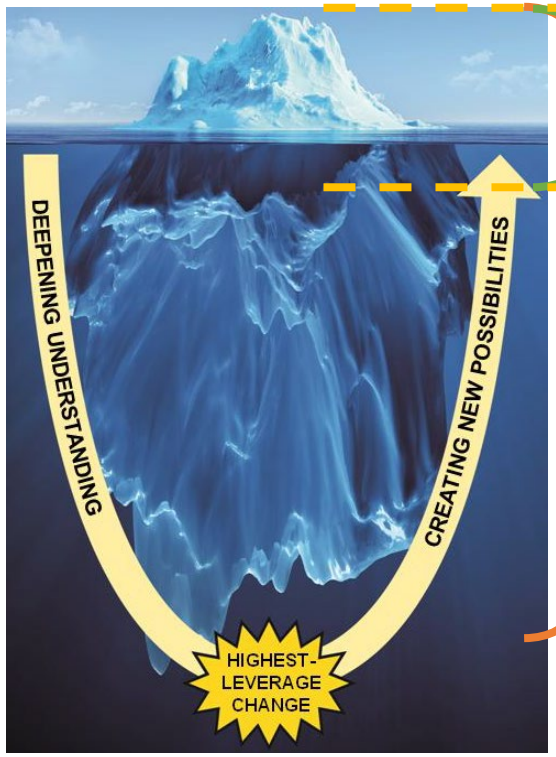
Enhancing Mishap Analysis with Multi-Incident CAST



Current Methods

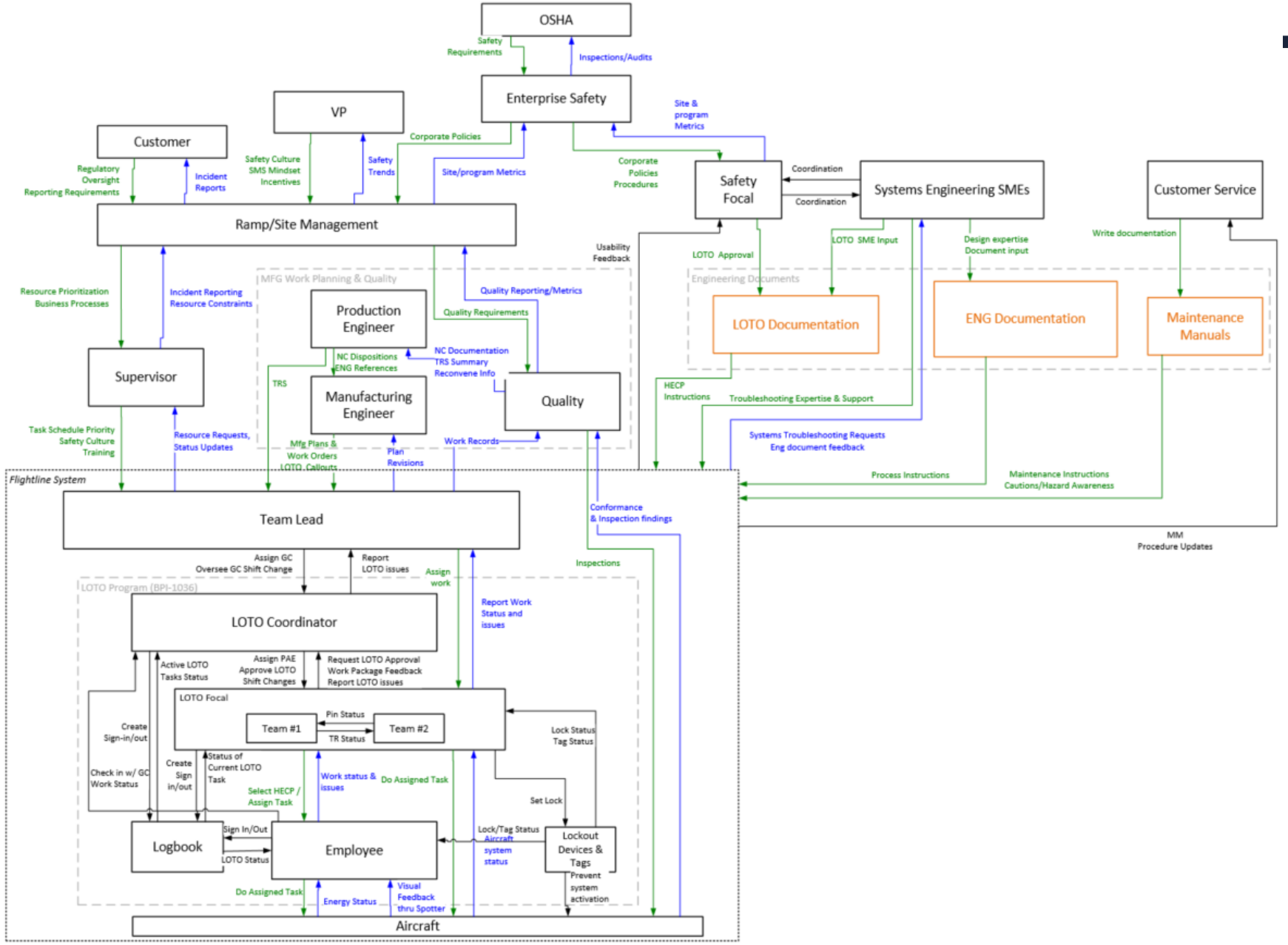
CAST

CAST Indicates Deeper Systems Issues

Site #1	Site #2	Site #2	Site #2	Site #3
Incident A	Incident B	Incident C	Incident D	Incident E
Multiple Sources of Instruction	Multiple Sources of Instruction	Lack of LOTO Understanding & Feedback	Lack of LOTO Understanding & Feedback	Overreliance on Memory
Overreliance on Memory	Uncoordinated Communication	LOTO Underemphasized	Multiple Sources of Instruction	Uncoordinated Communication
LOTO Underemphasized		Responsibilities/ Expectations Inadequately Defined	Overreliance on Memory	Responsibilities/ Expectations Inadequately Defined
Responsibilities/ Expectations Inadequately Defined			LOTO Underemphasized	
			Uncoordinated Communication	
			Responsibilities/ Expectations Inadequately Defined	

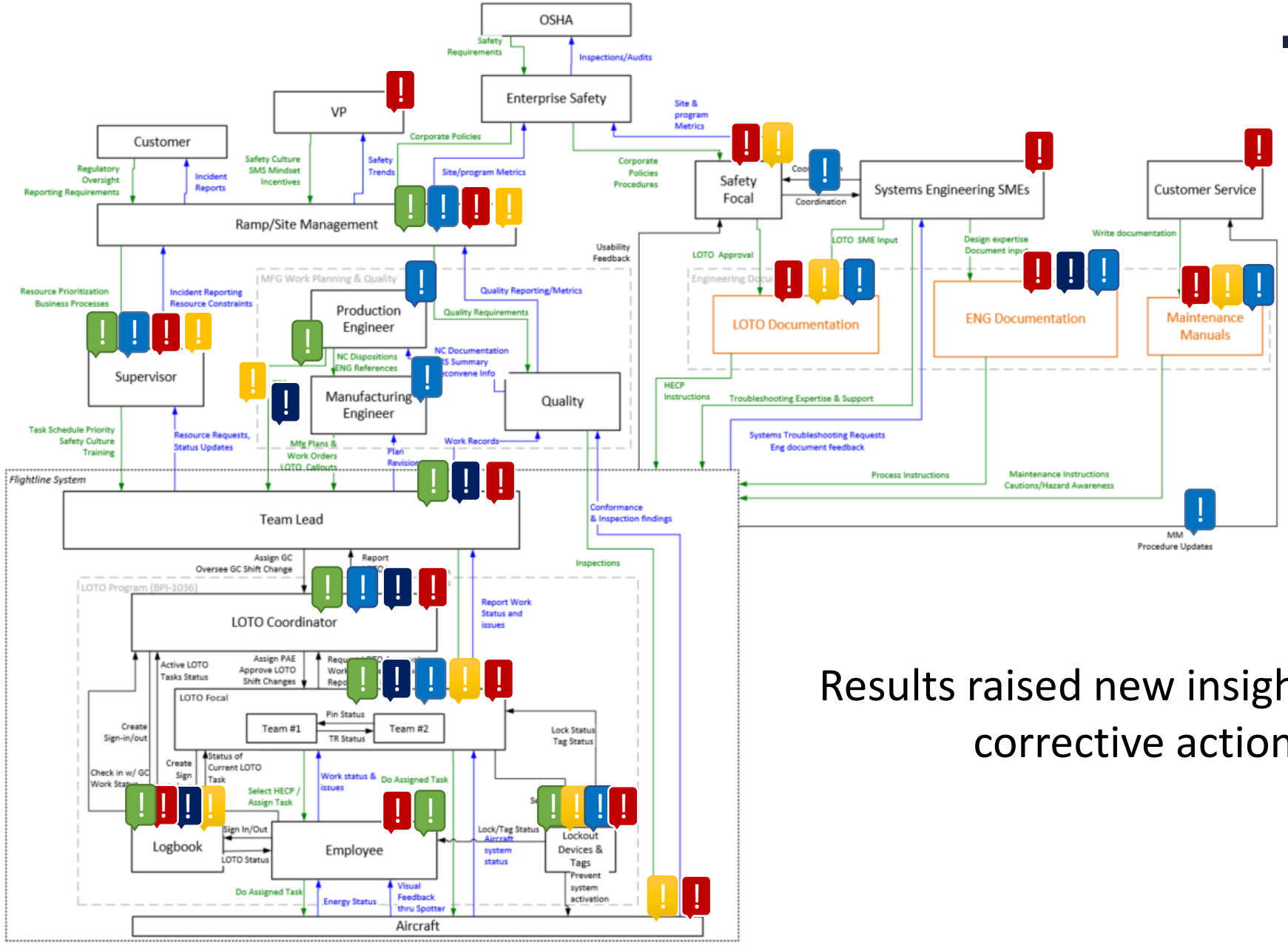
Five CAST studies completed across three sites found six common causal factors

Site #2 Multi-Incident Control Structure Model



Site #2 Multi-Incident Control Structure Model

- Lack of LOTO Understanding & Feedback
- Multiple Sources of Instruction
- Overreliance on Memory
- LOTO Underemphasized
- Uncoordinated Communication
- Roles/Responsibilities/ Expectations Inadequately Defined



Results raised new insights toward corrective actions.

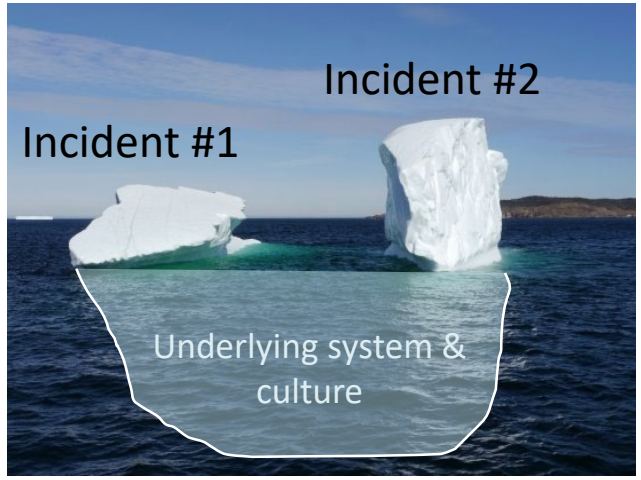
Enhancing Mishap Analysis with Multi-Incident CAST

- Control Structure Models being created for other processes that have had mishaps attributed to human error
- Replicating technique across two sites, plans to expand to Enterprise
- CAST supports leadership commitment to Just Culture and Safety Management System
- CAST enables our Company to look upstream and create targeted corrective actions

Government Customer Comments:

"Detailed analysis that must have provided many 'aha and are you kidding me?!' moments"

"This control structure model is great systems engineering, and doing this work to get the process right is a big deal"



CAST connects seemingly isolated, separate mishaps