

PHA Analytics

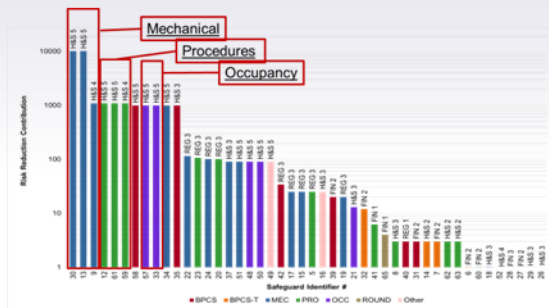
We Convert Hundreds of Pages of This...

Causes	Cause Location	Consequences	CAT	Risk Matrix			Safeguards	CAT	Risk Matrix			Recommendation	Responsibility	Drawings	Remarks
				S	L	RR			S	L	RR				
1. Gas Cooler lowers malfunctions open.	DWG- 1234-AA	2.7.1.1. Freezing of tubes; damage to tubes; leaks; loss of containment of H2S; fire or explosion; health and safety impact.	H&S	5	4	II	1. Other - Personnel in area less than 10% of time. 2. BPCS - TAL-123 alarm with operator action.	OTHER	5	2	II	2. Add freeze protection or fixed gas detection to Gas Cooler to prevent / detect gas leaks due to freezing in tubes.	Process Engineer	DWG- 1234-AA	
		2.7.1.2. Freezing of tubes; damage to tubes; leaks; loss of containment of H2S; fire or explosion; regulatory impact.	REG	3	4	II	1. BPCS - TAL-123 alarm with operator action.	BPCS	3	3	III	2. Add freeze protection or fixed gas detection to Gas Cooler to prevent / detect gas leaks due to freezing in tubes.	Process Engineer	DWG- 1234-AA	
		2.7.1.3. Freezing of tubes; damage to tubes; leaks; loss of containment of H2S; fire or explosion; financial impact.	FIN	3	4	II	1. BPCS - TAL-123 alarm with operator action.	BPCS	3	3	III	2. Add freeze protection or fixed gas detection to Gas Cooler to prevent / detect gas leaks due to freezing in tubes.	Process Engineer	DWG- 1234-AA	
		2.7.1.4. Freezing of tubes; damage to tubes; leaks; loss of containment of H2S; fire or explosion; reputation impact.	REP	2	4	III	1. BPCS - TAL-123 alarm with operator action.	BPCS	2	3	III				1. Existing safeguards are considered adequate.

Into Something You Can Use to Make Decisions:

Safeguard Criticality Analysis

Know which safeguards are providing you the most protection against risk.



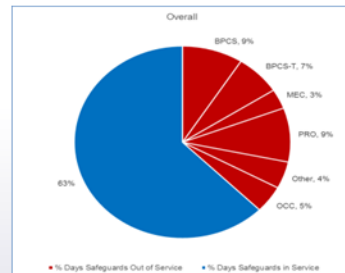
Rank	Rec. Number	Recommendation Description	Rec. Category	Rec. File Reference
1	Rec. 128	Verify and update tube sizes in 1.103.1.103 based on... in Engineering and update tube size reliability (in area equipment)...	Prevention	128
2	Rec. 129	Verify and update tube sizes in 1.103.1.103 based on... in Engineering and update tube size reliability (in area equipment)...	Prevention	129
3	Rec. 130	Verify and update tube sizes in 1.103.1.103 based on... in Engineering and update tube size reliability (in area equipment)...	Prevention	130
4	Rec. 131	Verify and update tube sizes in 1.103.1.103 based on... in Engineering and update tube size reliability (in area equipment)...	Prevention	131
5	Rec. 132	Verify and update tube sizes in 1.103.1.103 based on... in Engineering and update tube size reliability (in area equipment)...	Prevention	132

Recommendation Prioritization

Identify the recommendations to implement in order to quickly improve your safety.

Safe Operating Status (S.O.S) Field Audit

Are the safeguards you need to protect you in place and working?



PHA Analytics

Safeguard Criticality Analysis

Do you know which safeguards in your facility are protecting you the most? By performing a Critical Safeguard Analysis on your HAZOPs, the safeguards providing maximum protection in your facility can be identified. When planning for maintenance or turnaround activities, this data can be used to ensure maximum return on the time and budget dollars spent on safeguards.

Recommendation Prioritization

Out of your list of HAZOP action items, which recommendations will provide maximum value and return for your facility? Does sorting by just the colour on the risk matrix provide enough decision making information? Often, due to the formidable nature of prioritizing and executing recommendations, they are ignored, deferred and eventually forgotten. Recommendation Prioritization applies a risk based methodology to rank actions by their highest value for risk reduction in your entire scope.

Safe Operating Status (S.O.S) Field Audit

What is the gap between the safeguards used for risk reduction in your risk assessments and the current operation? By working with field personnel, historical data, maintenance records and operating procedures, the S.O.S Field Audit is able to address this question. The field audit identifies the safeguards that are currently (or historically have been) bypassed, inhibited, unavailable, undocumented, invalid or otherwise compromised. In addition, information on the key threats to your safeguards will be identified.

