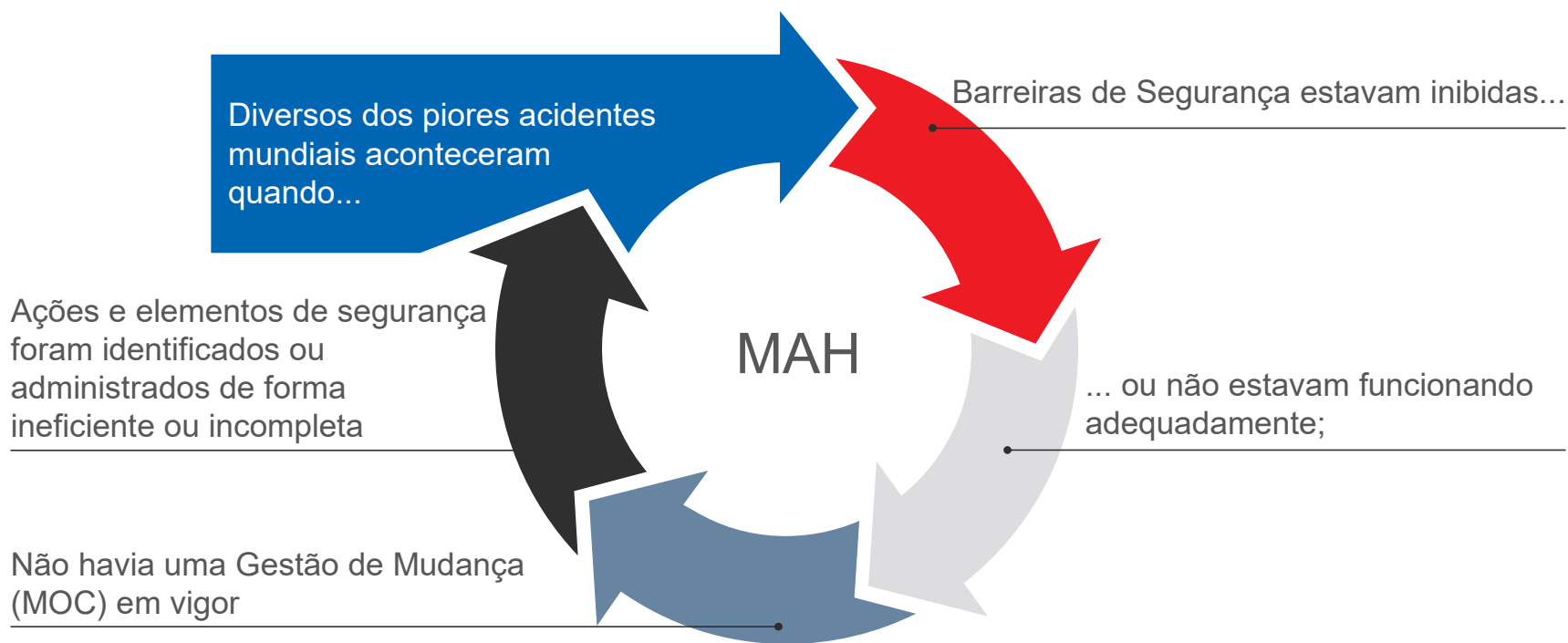


SOMA 2022

*Mateus Bacochina*

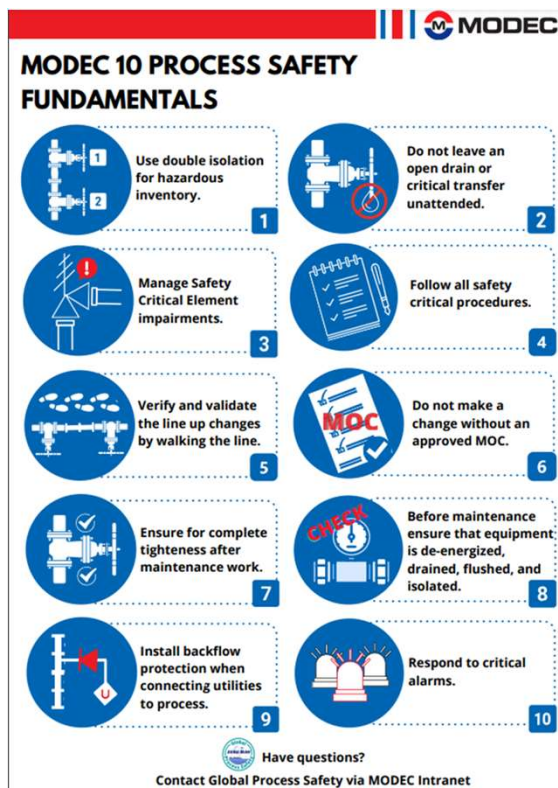
*Operations Reliability Manager*

# Olhar para o passado e aperfeiçoamento para o futuro



**Como aprender com o  
passado e projetar um  
futuro de prevenção e  
melhoria contínua?**

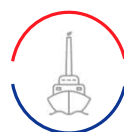
# Cultura e Aprendizado em Segurança de Processos



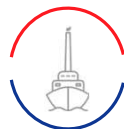
**MODEC 10 PROCESS SAFETY FUNDAMENTALS**

- Use double isolation for hazardous inventory.
- Do not leave an open drain or critical transfer unattended.
- Manage Safety Critical Element impairments.
- Follow all safety critical procedures.
- Verify and validate the line up changes by walking the line.
- Do not make a change without an approved MOC.
- Ensure for complete tightness after maintenance work.
- Before maintenance ensure that equipment is de-energized, drained, flushed, and isolated.
- Install backflow protection when connecting utilities to process.
- Respond to critical alarms.

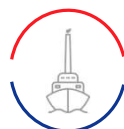
Have questions?  
Contact Global Process Safety via MODEC Intranet



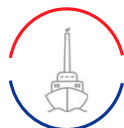
**MODEC 10 Process Safety Fundamentals** - 10 Fundamentos de Segurança de Processos



**MAH Management Lifecycle** - Gerenciamento do ciclo de vida dos MAH (Major Accident Hazards)



**Auditorias proativas** em sistemas críticos de segurança de processos e operacionais (Dilúvio, ESDVs, Drenos, etc) – **com feedback** para os executantes e lideranças;



Entre outros...

# SCEs – Padronização e Direcionamento – Bow Tie

O que é um MAH (Major Accident Hazard)?

Como prevenir/ mitigar?

O que é um SCE (Safety Critical Element)?

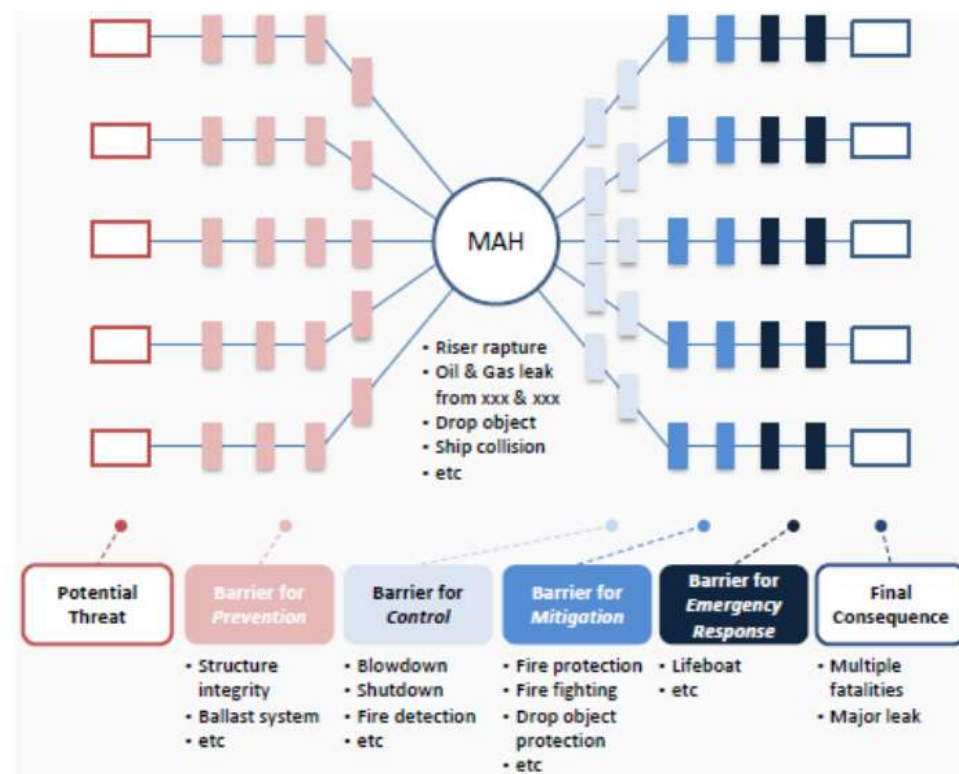
Para que serve?

Por que é importante?

Como os SCEs são selecionados?

Qual o critério de aceitação de um SCE?

Como isso auxilia a gestão de ativo/ manutenção?



# Software de Gerenciamento de Inibições



## One Page Report

Inhibit Report

HAZOP

Flame Detector  
Scenarios

Last Refreshed

12/09/2022 15:01:21

Vessel

MV18

MV20

MV22

MV23

MV24

MV26

MV27

MV29

Week

TAG

Long and Short-Term Inhibit Report

Inhibition Type

Todos

Todos

Inhibit Report (>15min)

Short-Term Inhibition  
(<15min)

AFDP

FGS

Process



Total of TAGs inhibited

9

TAGs currently inhibited

Total of TAGs inhibited TODAY

8

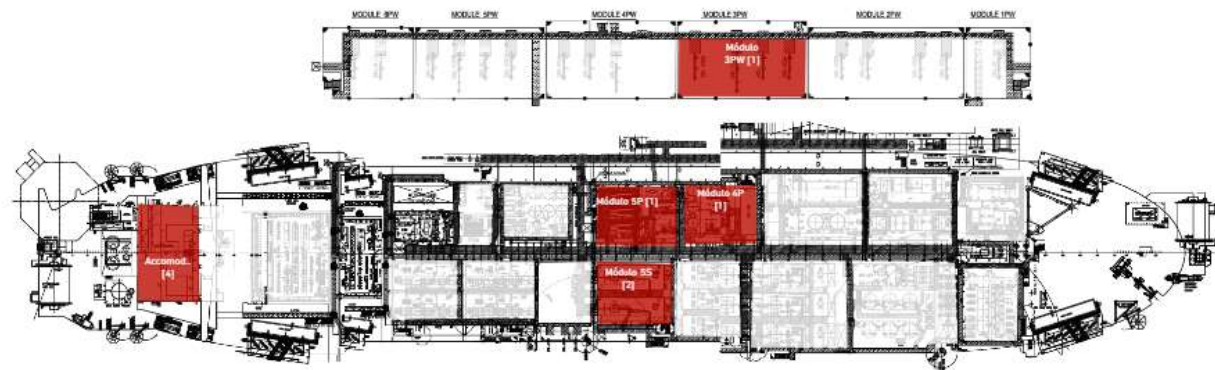
TAGs inhibited in the last 24h

Total SCE TAGs inhibited

5

SCE TAGs inhibited

Inhibitions by Location



Dados genéricos para a simulação do uso da ferramenta\*

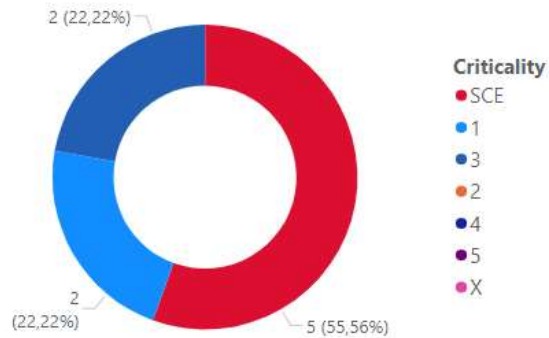


# Gerenciamento de Inibições

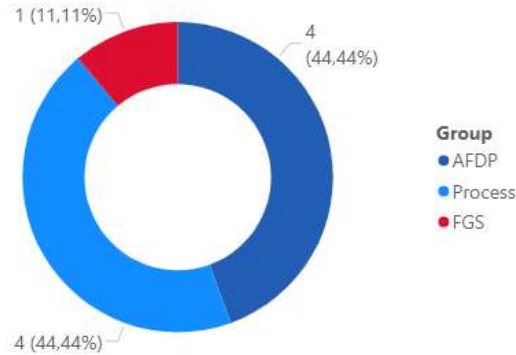


## One Page Report

### Inhibition Criticality



### TAGs inhibited by Group



### MOC and Management Approval

Manager Approval (> 48h)	1
Manager Approval (> 48h)	1
MOC (> 72h)	1
Supt Approval (> 12h)	1

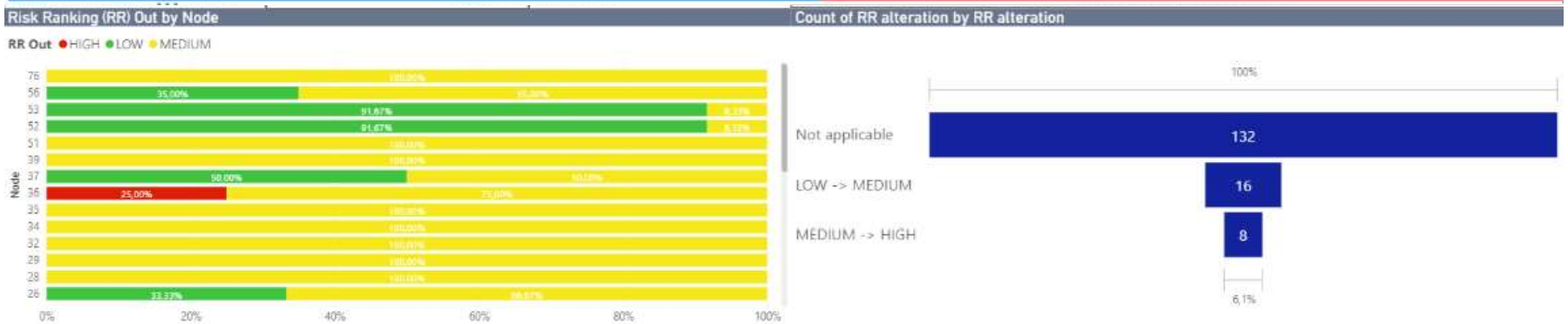
Vessel	Tag SAP	Description SAP	Criticality	Vessel Module	HH/LL	Duration (hours)	StartTime
MV22	MV22-2830-PT-0117-06-3PW	MANUAL CALL POINT	3	3PW	LL	1.375,05	17/07/2022 11:01:29
MV22	MV22-2240-PT-2231B-03-5P	MANUAL CALL POINT	3	5P	LL	48,69	10/09/2022 17:23:03
MV22	MV22-2230-PT-2211B-06-5S	MANUAL CALL POINT	1	5S	LL	35,94	11/09/2022 06:08:03
MV22	MV22-7223-CO2-7223-566-4P	CO2 GAS DETECTOR	0	4P	HH	21,39	11/09/2022 20:41:04
MV22	MV22-7244-HD-7244-004-DA	HEAT DETECTOR	0	DA		7,86	12/09/2022 10:12:54
MV22	MV22-7244-HD-7244-005-DA	HEAT DETECTOR	0	DA		7,86	12/09/2022 10:12:54
MV22	MV22-7244-HD-7244-006-DA	HEAT DETECTOR	0	DA		7,86	12/09/2022 10:12:54
MV22	MV22-7244-HD-7244-007-DA	HEAT DETECTOR	0	DA		7,86	12/09/2022 10:12:54
MV22	MV22-2230-PT-2220B-03-5S	MANUAL CALL POINT	1	5S	LL	3,19	12/09/2022 14:53:04

Generic data for simulating the use of the tool\*

# Gerenciamento de Inibições



**HAZOP MV24**
Last Refreshed  
02/08/2022 05:45:39
← Back



Deviation	Causes	Consequence	Safeguards	Safeguards TAG	RR (original)	RR Altered?	RR (out)
1. More flow	1. Control failure leading to LV1410-01 malfunctions fully open	1.1. Potential for gas blowby to off-spec tank, with potential for overpressure in the offspec tank. Rupture of offspec tank, vapour and oil release. Fire case and potential spillage to sea.	3. LALL 1410-03 on MBM-1410 oil bucket will trip SDV 1410-01 on skim oil outlet	LALL 1410-03	MEDIUM	RR unaltered	MEDIUM
1. More flow	1. Control failure leading to LV1410-01 malfunctions fully open	1.2. Potential for offspec produced water discharge to sea	1. LALL 1410-03 on MBM-1410 oil bucket will trip SDV 1410-01 on skim oil outlet	LALL 1410-03	LOW	RR altered	MEDIUM
1. No / Less Flow	1. Any NRV, manual or remotely operated valves within hull inadvertently closed on crude oil to selected CO's	1.1. Crude transfer pump deadheading, overheating and seal damage with leak and minor fire.	2. PAHH-1185-A/B-02 on discharge of PBA-1185 A/B. Discharge piping is rated at 19.2 barg	PAHH 1185A-02	MEDIUM	RR unaltered	MEDIUM
1. No / Less Flow	1. Any NRV, manual or remotely operated valves within hull inadvertently closed on crude oil to selected CO's	1.1. Crude transfer pump deadheading, overheating and seal damage with leak and minor fire.	2. PAHH-1185-A/B-02 on discharge of PBA-1185 A/B. Discharge piping is rated at 19.2 barg	PAHH 1185B-02	MEDIUM	RR unaltered	MEDIUM
1. No Flow	2. ESDV-1015-04 on inlet of MBD-1015 fails closed	2.1. Potential for over pressuring the piping upstream of the isolation valve (spec break is located upstream of ESDV-1015-04 by well shut-in pressure (max 26.400 kPag). Pressure ratio > 2 class piping rupture, fire case	1. PAHH-1007-02 on production header will alarm and trip all associated riser ESDVs	PAHH 1007-02	MEDIUM	RR altered	HIGH

Dados genéricos para a simulação do uso da ferramenta\*



A large offshore supply vessel is shown at sea during sunset. The vessel is illuminated with lights, and a tall flare stack is visible on its deck. The sky is a mix of orange and dark blue, with the sun low on the horizon. The vessel has a complex structure with various pipes, ladders, and equipment.

**Mateus Bacochina**

**Email: [mateus.bacochina@modec.com](mailto:mateus.bacochina@modec.com)**

