

BEHAVIOUR SAFETY MANAGEMENT AT PLANT LEVEL

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- Implementation of behavioural safety
- Mission “ZERO”
- Five human success factors to reach the ZERO
- External behavioural safety

2

What went wrong?

- Safety behaviour
- Leadership
- Communication/training
- Work atmosphere
- Participation
- Safety and health culture



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Behaviour safety is always a TEAM-challenge

- T Together
- E Enable
- A Act
- M Maximum safety level



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The journey to “ZERO”

Key factor = The human factor

Five
human success factors to reach the
ZERO



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Safe behaviour does
not depend on
regulations alone



1.
Communication

- Daily 5 min safety talk
- Monthly safety theme



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- TOP 5 risk assessment



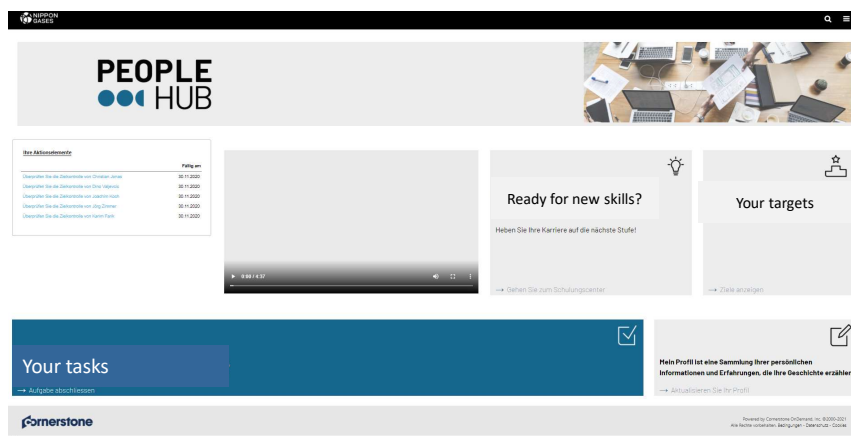
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It needs employees who are active and motivated to develop their workplace further

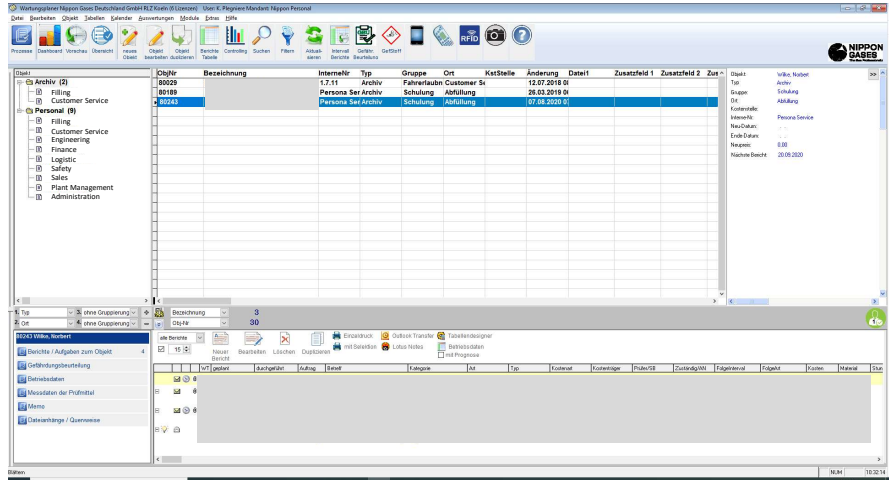


2.
Personnel
development

Self development/
management



Training management tool at plant level



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Own developed processes
=
Greatest possible acceptance

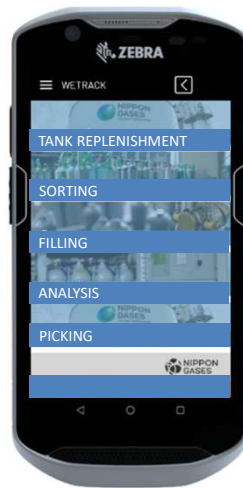


3.
Develop and live processes together

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Cylinder handling system

System related safety checks

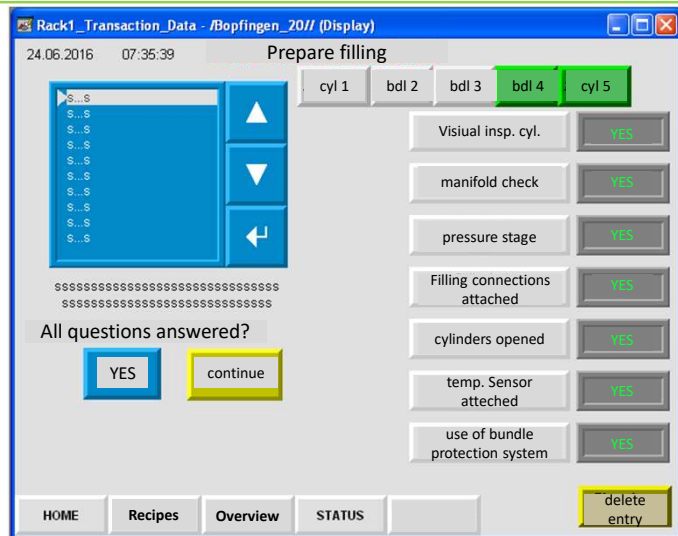


SORTING	
Checkliste	
Pallet pbsp1	
Checkliste	Check
mechanical damages	OK
corrosion	OK
oil/grease, dirt, ...	OK
test date	OK
compatibility product	OK
paint conformity	OK
filling pressure	OK
ownership	OK

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Cylinder filling system

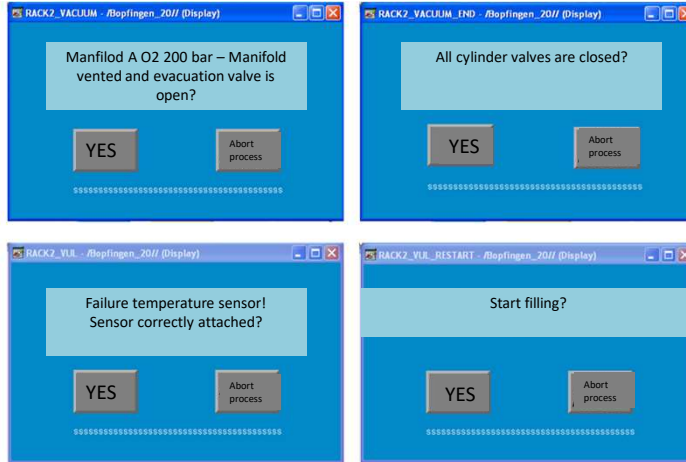
System related pre-fill safety checks



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- Cylinder filling system

System related
during and after
filling
safety checks



Dealing with mistakes
constructively and creating
a healthy error culture





Healthy error culture



Safety incident database

Creation date	Incident #	Report #	Status	Type	Location	Inc. Owner	Short description
12.01.2021	11.01.2021	Sq210026	New	OC			
12.01.2021	11.01.2021	Sq210027	New	OC			
11.01.2021	11.01.2021	Pt210007	Open	OC			
12.01.2021	11.01.2021	Pt210008	New	OC			
11.01.2021	08.01.2021	Sq210005	New	OC			
07.01.2021	07.01.2021	Pt210004	Open	OC			
07.01.2021	07.01.2021	Pt210006	Open	OC			
07.01.2021	07.01.2021	Pt210005	Complete	OC			
06.01.2021	06.01.2021	Pt210003	Open	OC			
08.01.2021	06.01.2021	Sq210003	New	OC			
07.01.2021	06.01.2021	Gw210001	New	NC			
07.01.2021	06.01.2021	Gw210002	Open	SI			
04.01.2021	04.01.2021	Pt210001	Open	OC			
11.01.2021	04.01.2021	Sq210004	New	OC			
05.01.2021	04.01.2021	Pt210002	New	NC			
29.12.2020	29.12.2020	Pt200380	New	OC			
29.12.2020	29.12.2020	Sq20010	New	OC			
30.12.2020	29.12.2020	Pt200289	New	OC			
29.12.2020	28.12.2020	K200108	New	SI			
29.12.2020	24.12.2020	Pt200287	New	SNC			
23.12.2020	23.12.2020	Pt200284	Open	OC			
29.12.2020	29.12.2020	Pt200286	Open	OC			

Winter Seminar 2021
Behavioural Safety

European Industrial Gases Association
www.eiga.eu



Healthy error culture



Alert database

Welcome to the Operations Alerts - Europe Database

This database contains data on existing alerts and conditions reports, alerts processed by the alert centers causing significant risk to safety, health or the environment. The list may include people, equipment, product quality, etc. Each alert address hazardous situations in order to prevent or reduce the risk of an accident.

Alert #	Date	Location	Description
OP200001	29.12.2020	...	...
OP200002	29.12.2020	...	...
OP200003	29.12.2020	...	...
OP200004	29.12.2020	...	...
OP200005	29.12.2020	...	...
OP200006	29.12.2020	...	...
OP200007	29.12.2020	...	...
OP200008	29.12.2020	...	...
OP200009	29.12.2020	...	...
OP200010	29.12.2020	...	...
OP200011	29.12.2020	...	...
OP200012	29.12.2020	...	...
OP200013	29.12.2020	...	...
OP200014	29.12.2020	...	...
OP200015	29.12.2020	...	...
OP200016	29.12.2020	...	...
OP200017	29.12.2020	...	...
OP200018	29.12.2020	...	...
OP200019	29.12.2020	...	...
OP200020	29.12.2020	...	...
OP200021	29.12.2020	...	...
OP200022	29.12.2020	...	...
OP200023	29.12.2020	...	...
OP200024	29.12.2020	...	...
OP200025	29.12.2020	...	...
OP200026	29.12.2020	...	...
OP200027	29.12.2020	...	...
OP200028	29.12.2020	...	...
OP200029	29.12.2020	...	...
OP200030	29.12.2020	...	...
OP200031	29.12.2020	...	...
OP200032	29.12.2020	...	...
OP200033	29.12.2020	...	...
OP200034	29.12.2020	...	...
OP200035	29.12.2020	...	...
OP200036	29.12.2020	...	...
OP200037	29.12.2020	...	...
OP200038	29.12.2020	...	...
OP200039	29.12.2020	...	...
OP200040	29.12.2020	...	...
OP200041	29.12.2020	...	...
OP200042	29.12.2020	...	...
OP200043	29.12.2020	...	...
OP200044	29.12.2020	...	...
OP200045	29.12.2020	...	...
OP200046	29.12.2020	...	...
OP200047	29.12.2020
OP200048	29.12.2020
OP200049	29.12.2020
OP200050	29.12.2020

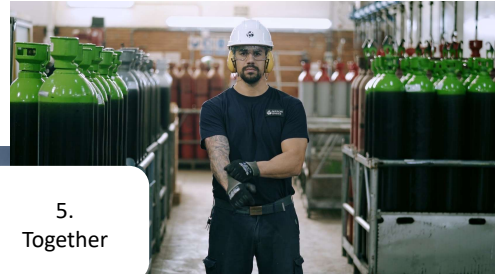
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One Target Success together



5.
Together



Contractor safety management?!

The same target as ours?

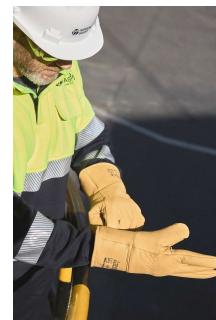


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Bring the safety to a higher level



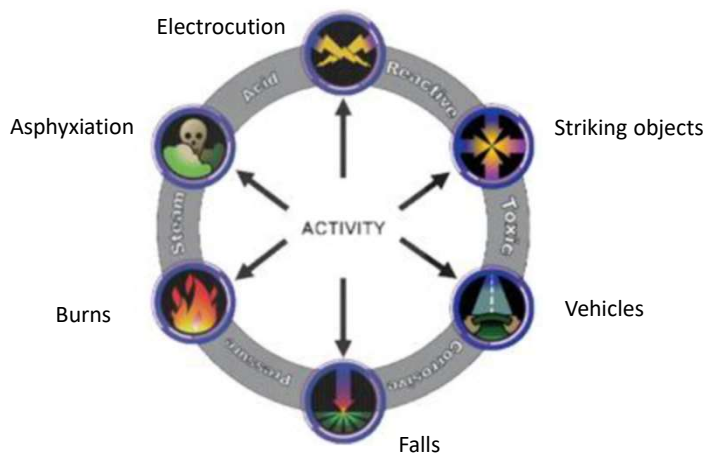
But how?



- Bring our safety culture to external workers/companies
- Hazardous work permit (HWP)

1. Entering vessels or confined spaces and all work or entry into areas where there is the potential for exposure to a hazardous atmosphere including, but not limited to, removal of access covers, inspection ports, manways, or any other portal. A Confined Space permit may also be required. Entry procedures. Atmospheric monitoring is required.
2. Insulation and catalyst handling, removal or replacement
3. Indoor or confined area cleaning operations using products that may create unsafe atmospheres
4. Non routine maintenance, repair, or testing process piping and equipment involving unusual requirements or special care. When venting or unintentional release of gases may occur atmospheric monitoring is required.
5. Maintenance or repairs in areas or to equipment containing hazardous chemicals or gases such as acids, ammonia, carbon monoxide, chlorine, hydrogen, etc.
6. Torch work (arc or gas) away from designated welding areas.
7. Deactivating or shutting off water control valves to firefighting system or personnel safety equipment such as sprinklers, hose cabinets, showers, eye washes, gas monitors, etc.
8. All repairs on overhead cranes.
9. Elevated work: All work on scaffolds, temporary platforms, two-legged ladders, tanks, and elevated positions over 1.8 m (6 ft) above floor level, excluding routine work on platform ladders with guard rails.
10. Use of mobile cranes including, but not limited to working in proximity to exposed electrical power lines/conductors. Maintain a minimum safety clearance in a horizontal plane between any power lines and the crane or any part of the lift (e.g., boom, cable, hook, or load). Refer to document 2.02.11 Attachment 01 Approach Boundaries to Energized Electrical Conductors or Circuit Parts for Shock Protection.
11. Hazardous work involved with installation, removal, or repair at customer sites or on pipelines.
12. Electrical troubleshooting and repairs
13. Scrapping cylinders, containers, and/or vessels.
14. Pressure testing of piping and equipment.
15. Use of adapters for any product transfer (within different products, not for different size fittings for the same product).
16. Excavations (manual greater than one foot and all mechanical).
17. All work on pressurized pipelines.
18. Breaking open equipment or lines that could be expected to contain hazardous materials or conditions.

- Hazardous work permit (HWP) – Risk assessment



- Use existing systems
- Avoid “shortcuts” under all circumstances
- Improve process safety
- Have a strong view at the operational discipline
- Behavioural safety is always a TEAM-challenge

EIGA Ref.	Document title	Link
DOC 02	Job Motivation and Safe Operations in Cylinder Filling Stations	www.eiga.eu
DOC 23	Safety Training of Employees	www.eiga.eu
DOC 23.23	Safety Training Leaflet 23 Work Permit	www.eiga.eu
DOC 40	Work Permit Systems	www.eiga.eu
DOC 51	Management of Change	www.eiga.eu
DOC 90	Incident/Accident Investigation and Analysis	www.eiga.eu
DOC 118	Safe Management of Contractors	www.eiga.eu