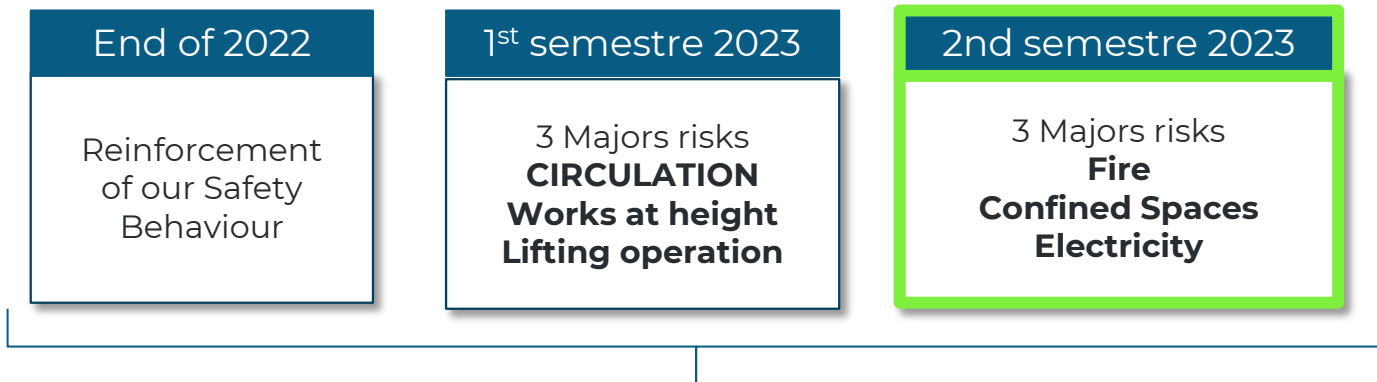


Focus Main Risks

Fire – Confined spaces- Electricity



Actions 2023



Objective 2023: Reinforcement of our Safety Behaviour

- Adopt the 6 major risks and life-saving rules
- Establish the STOP work
- Explore High Potential accident (EHPG)



Because We Care



Video:

11 min

Because we are all concerned

Main risk

FIRE



Extract – Because We Care

[Link to
video](#)

I've always
respected fire.
Because it's
always around
in yards.



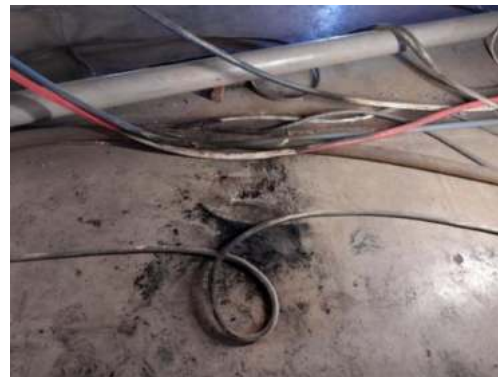
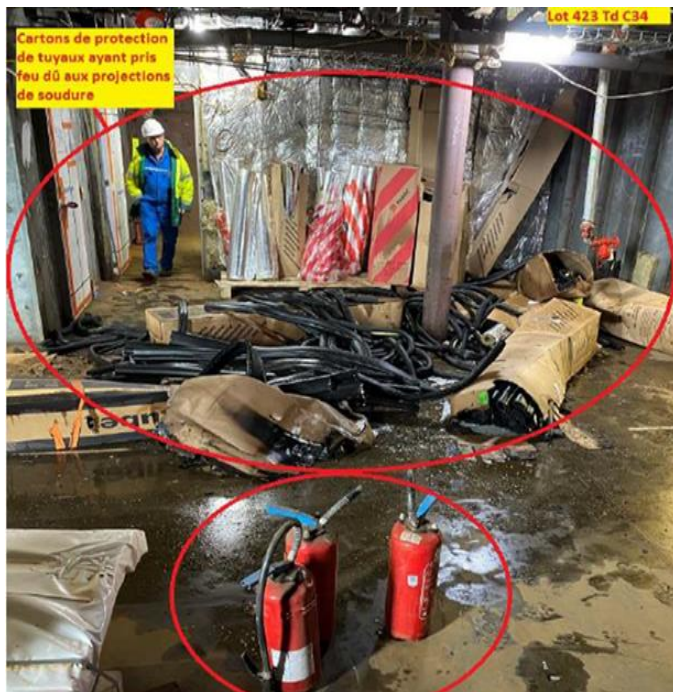
It was a
typical
mistake
and
needless...

Those sparks can
easily start
something that
you don't notice
yourself.

Anything that
can go wrong,
will.

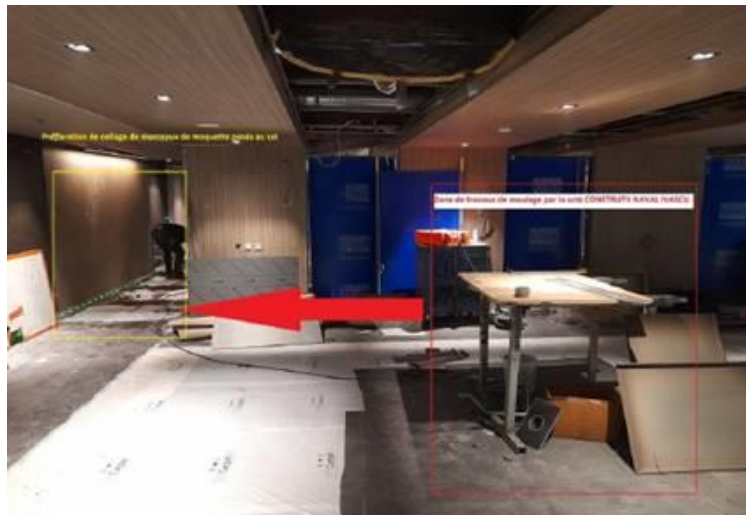
It shouldn't be
possible, but it
happened.

You could also see it



Some events, to remember it

- **Start of fire 2022/06/29 on W34** : Major fire on carpet in preparation
- **Cause** : Projections from grinding work would have ignited the flammable gas fumes from the glue used to stick the carpet to the floor
- Extinguished with **6 fire extinguishers** and a **Hi-fog**.

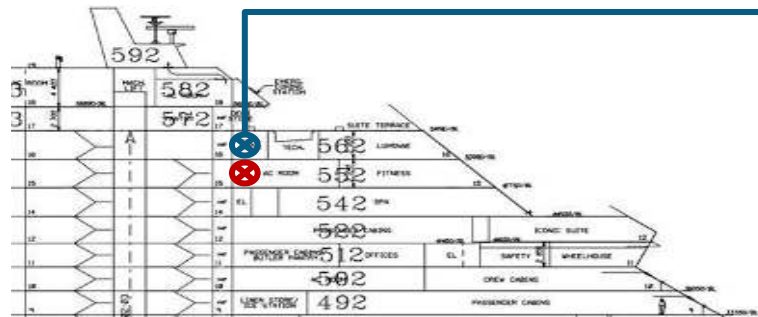


Some events, to remember it

- Start of fire 2018/06/02 0 on J34**

Cause : Projections with welding operation carried out on area 562 caused a fire to break out in area 552 (paint and polyane burnt).

Extinguished with 5 extinguishers.



Our Life-Saving Rules

LIFE-SAVING RULE | FIRE



**DURING HOT WORK,
I PROTECT THE AREA
AROUND ME**



TO MAKE SURE WE CAN ALL GO HOME IN GOOD HEALTH

Our Life-Saving Rules

During Hot Work, I protect the area around me

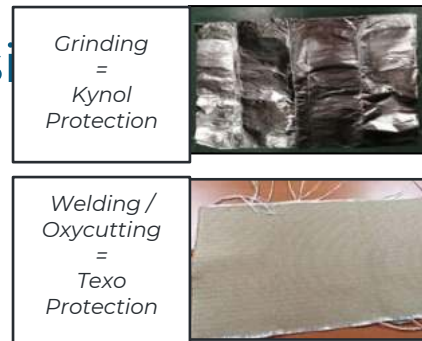
Before Hot Work:

- I carry out a risk analysis before I start working (5D Rule, materials, protection, co-activity).
- I remove any combustible material (waste,...) from the working area (perimeter of 10m).
- I verify to have a suitable fire extinguisher next to me.
- I protect items I couldn't move



5D Rule

Dedans (**Inside**)
Devant (**Front**)
Derrière (**Back**)
Dessus (**Top**)
Dessous (**Underneath**)



Our Life-Saving Rules

During Hot Work, I protect the area around me

During Hot Work:

- I monitor or have monitored sparks projections and their drop-off point.
- I put heated pieces only on suitable bracket.

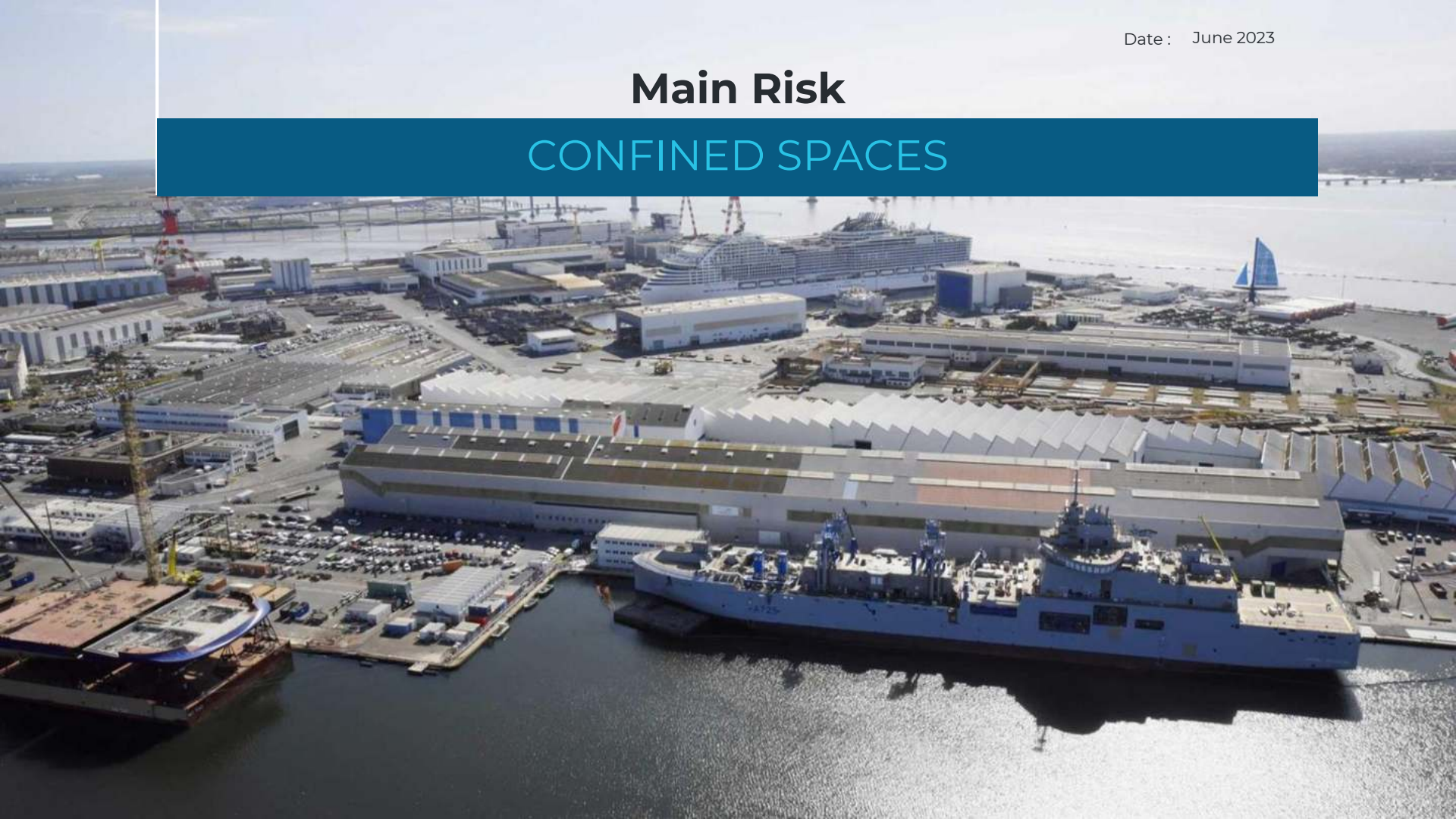
After Hot Work:

- I check the area (direct and indirect) around my working area (smoke, hot spot,...).
- I store my equipment, I clean the area, I take out the waste and protections.



Main Risk

CONFINED SPACES



Extract – Because We Care

[Link to video](#)

It's your own
attitude and
the way you
work that
really what's
important.



You never
think that the
oxygen will
run out... but
it can
happen... in a
blink of an
eye.

Small
things left
undone or
half done.

Suddenly
it became
a big
mistake.

We were so
shocked
Because We
Care.

You could also see it

OK

Open (work in progress)
Warning sign



Closed access
Padlock
Warning sign



NOK

Access not closed (iron bars, ...)
Warning sign



Closed access
No padlock
No warning sign



Connectors fixed with Rilsans
(plastic collars)



Gas pipes fixed with sctoch tape



Some events, to remember it

Accident 2018/12/10 on F34 (Public space)

Circumstances : When entering a cofferdam under a pool to remove taps, 2 employees were intoxicated by inhaling FFAG welding fumes linked to co-activity (closing breaches).

Causes :

- Area not classified, so no signage and detectors worn.
- Insufficient coordination of work

=> The risks associated with Confined spaces need also be apply in public spaces.

Some events, to remember it

Fatal Accident Avril 2021 on (M34 construction)

Circumstances :

When welding a flange outside the capacity, an operator had to enter the capacity to secure the pipe.

Causes :

- **Leak**
- **Presence of argon => Lack of oxygen**
- **No detector**

Our Life-Saving Rules

LIFE-SAVING RULE | **CONFINED SPACES**





**I NEVER GO INTO A
CONFINED SPACE
WITHOUT AN
O₂ DETECTOR**



TO MAKE SURE WE CAN ALL GO HOME IN HEALTH

CHANTIERS
DE L'ATLANTIQUE

Our Life-Saving Rules

Every access into a Confined Spaces is regulated!

I never go into a confined space without an O₂ detector

Risks link to confined spaces:

- Asphyxia
- Poisoning
- Fire/ Explosion



Definition of a confined space:

- Confined spaces are totally or partially enclosed spaces with characteristics (openings, small size ...) does not allow a good air exchange or because their configuration may cause an increased risk (burning, electrification, emergency interventions ...).
- According to their potential hazard, zones are classified in Zone A or B.



Detectors



OR



If triggering,
I evacuate.

Our Life-Saving Rules

Difference between Zone A and Zone B

- There are 2 types of confined zones (Zones A and Zones B) that present different levels of risks.
- The level of risk in Zone B is higher than in Zone A.
- The preventive measures are different depending on the level of risk.



Zone A – Yellow Warning Sign



Zone B – Red Warning Sign



Our Life-Saving Rules

I never go into a confined space without an O₂ detector

- Before my work:
 - I declare the intervention
 - I must have a work permit (Zone B)
 - I indicate the confined area with a Warning Sign
 - I check the condition of the area (lighting/ ventilation/ access/ electricity/ gas pipes)
 - I check air quality (Zone B)
- While working:
 - I must wear an O₂ detector in any circumstances, even if I'm just « visiting »
 - I do not work alone. If I do, I must have a means of communication or alarm present. If not, the manager must be present within the zone and be informed regularly of progress. In zone B, I must stay in communication with someone outside the confined space.
 - If the O₂ detector is triggered, I immediately exit the area. There is either a risk of underoxygenation (asphyxia,...) or a risk of overoxygenation (fire,...).



Our Life-Saving Rules

I never go into a confined space without an O₂ detector

- After my work:
 - I declare when my work is done
 - I close the zone when the work sequences are completed (Zone A) or everyday (Zone B)
 - I shut down and take out the energies and fluids



Our Life-Saving Rules

- To go further:**

Classification of Zone A and B and rules linked to them

	Zone A - Restricted Access	Zone B - Access requires authorisation
	. Partially or totally enclosed space with a volume of $\leq 100m^3$ ou . Zone entered via an inspection hatch or similar sized opening or . Zone in which, due to its design or that of the surrounding environment (adjoining tanks, either in use or not, gas mains, etc.) the air cannot circulate freely or within which there are specific risks. or . Zones where analysis reveals that there is a risk of an Argon leak - criteria defined in Appendix 2	. Zones $\leq 100m^3$ and enclosed, entry to which is by a single manhole cover . Very small spaces . Zone in which the results of an Argon leak analysis onboard gives a significant reading. . All confined spaces requiring interventions (re-opening) (FO/DO - Empty Tank, etc.) <i>A few Examples: Tanks, galleries, pits, reservoirs... either in use or re-opened; pods; cofferdams in superstructure (below and around the pools, etc.) - Casings under the ballast ceiling; seawater tunnels; cofferdams or dry cells; chain lockers; ballast tanks; oil tanks; stabiliser compartments</i>
- Intervention declared to Zone Manager	X	
- Intervention requires authorisation		X
- General safety conditions OK (access - lighting - ventilation - electricity - etc.)	X	X
- Highlight zone (Warning Panel - Appendix 4)	X	X
- Verification of safety of air		X
- Wearing of O2 detector	X	X
- Closure after works sequence (dogged - etc.) - removal of energy supplies	X	
- Closure after works sequence (removal of energy supplies)		X
- Verification of zone safety before delivery/closure	X	X
- If working alone	X	
Be equipped with a means of communication, or, the Works Manager must be present within the zone hand kept informed.	X	
Be in direct communications with someone outside		X
For 'definitive' closures:		
One person must stop entry to the zone during the pre-closure inspection	X	X
Close under the authority of the person having just inspected the zone		

Date : July 2023

Major Hazard Focus

ELECTRICAL HAZARD



You may see

[Link to the video](#)

**Regularly
checking of
electrical tools
to sustain it in
good
conditions.**

**Never use a tool
repaired with
adhesive tape.**



**You should never
operate on
electrical devices,
temporary or
permanent.**

**Operations on
electrical
devices are
saved for
workers with
authorizations.**

**Electrical mobs and
rooms must be
always closed.**

You may see



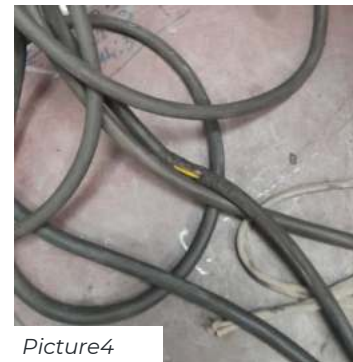
Picture 1



Picture 2



Picture 3



Picture 4



Picture 5

Incidents remind us.

Accident the 07/07/2021 on C34

- During the final intervention in substation 8, excess cable lengths need to be cut (sleeved cables and declared out of order).
- During the cutting operation, an electrical flash happen, and deeply burn the electrician on arms and hands, and the supervisor was thrown.
- *Root causes : the cable was declared power-down, but was connected to a secondry plug/connexion.*



Incidents remind us.

Accident the 25/05/2023 on M34

- During a cutting operation of a connecting cabin cable, the electrician watched an electrical arc between the cable and the electrical pliers.
- The electrician wore his PPE and his isolating tools so he wasn't injured.



Pliers (impact of the electrical arc)

Life saving rules.

LIFE SAVING RULES

ELECTRICAL HAZARD



I NEVER WORK
UNDER
VOLTAGE



POUR QUE CHACUN D'ENTRE NOUS RENTRE CHEZ SOI EN BONNE SANTÉ

CHANTIERS
DE L'ATLANTIQUE

Life saving rules.

I never work under voltage.

Main rules:

I must check my tools before use :

- General conditions (good conditions, unbreached casing,...)
- Connexion cable (bare wired or repaired with adhesive tape which is **forbidden**)
- If there, conditions of the battery (impacts, inflation,...)

Any electrical mob/room must be always closed.

I never fit again a circuit breaker without being authorized and without analysis of the root cause of his setting on.

I avoid to use multi-sockets and in case of using this, i ensure their power capacity.

I unplug my electrical devices at the end of my shift (kettle, coffe pot, chargers,...) or i unplug my socket.



Life saving rules.

I never work under voltage.

Electricians :

- **Any cable on board is considered as under voltage.
(from the electricity connexion phasis of the ship in progress)**
- I wear my PPE and use tools adapted to the task.
- I never go inside an electrical room without authorization.
- I never achieve electrical task without authorization.
- I do systematicly ckecking of the voltage before electrical task.

To go further:

- SEC1-HSE014,
- SEC2-HSE005, SEC2-HSE012,
- SEC3-HSE012, SEC3-HSE033-34-35-36,
- IN1127, IN1287, SEC5-HSE012



9 Life-Saving Rules

TRAFFIC  I RESPECT THE TRAFFIC LANES AND I REMAIN VIGILANT WHEN MOVING AROUND	TRAFFIC  I RESPECT THE FRENCH TRAFFIC AND INSTRUCTIONS GIVEN BY HEAVY VEHICLES OPERATORS	FIRE  DURING HOT WORK, I PROTECT THE AREA AROUND ME
WORKING AT HEIGHT  I USE SCAFFOLDING AND ACCESS EQUIPMENT PROPERLY	WORKING AT HEIGHT  I SECURE MY EQUIPMENT FROM ANY RISK OF FALLING	LIFTING OPERATIONS  I RESPECT THE INSTRUCTIONS GIVEN BY THE OPERATION SUPERVISOR
LIFTING OPERATIONS  I NEVER WALK UNDER A SUSPENDED LOAD	CONFINED SPACES  I NEVER GO INTO A CONFINED SPACE WITHOUT AN O₂ DETECTOR	ELECTRICITY  I NEVER INTERVENE WHEN THE POWER IS ON

GO HOME IN GOOD HEALTH

GO HOME IN
GOOD HEALTH

