



DEEPSEA YANTAI

DROPS INSPECTION PICTURE LOG

August 2023 | AXESS PROJECT NO 258034-16 | PO: TBA

DOCUMENT INFORMATION

Subject: Deepsea Yantai DROPS Inspection Picture log 2023			
Client: Odfjell Drilling		Installation: DeepSea Yantai	
Client contact onshore: Kenneth Andersen		Client contact offshore: Chief Engineer	Axess project manager: Elin Gjerde
Axess project no.: 258034-16		Client PO no.: TBA	Document no.: 258034-16-278-01
Revision: 02	Changes: Final report	Written by: Kjetil Ask	Approved by: Elin Gjerde
		28.09.2023	10.10.2023
Revision: 01	Changes: Preliminary report (MOB 2)	Written by: Kjetil Ask	Approved by:
		28.09.2023	
Revision: 00	Changes: Preliminary report (MOB1)	Written by: Roger Eidem	Approved by:
		21.08.2023	

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INFO | SECONDARY RETENTION ON BOLT CONNECTIONS

Finding :
Bolt connections

Location:
At height

Description:
Recommended secondary retention on bolt connections; Spirallock, Nyloc lock Nut, Nord-Lock Washer. Lock-Wiring.

Spring washers, normal washers or double nut are not regarded as secondary retention

Required action:
All bolt connections at height should be secured according to the *SfS Reliable Securing Handbook*



SPIRALLOCK

Self-lock is an all-metal lock nut/bolt and has a specially designed threaded profile that locks when tightened and distributes the tension over the whole length of the thread. This provides better load distribution, which helps to improve the locking of the bolt connection. **Areas of use:** Almost unlimited, frequently used for critical bolt connections. *



NYLOC LOCK NUT

Nyloc lock nuts are extensively used throughout the industry. Nyloc lock nuts should only be used once. Standard Din 985 Nyloc nuts have a temperature rating from -70 °C to +120 °C. **Areas of use:** This type of nut is recognized for locking in connections where a certain degree of lost pre-tension can be accepted. *



NORD-LOCK WASHER

When correctly installed, the Nord-Lock Bolt securing system provides a guaranteed secure bolted connection. Locking is achieved by means of two washers that ensure the clamping force is maintained in the bolted connection. Nord-Lock has DnV (Det Norske Veritas) type approval. **Areas of use:** Particularly suitable for connections exposed to vibrations, e.g. grating, loudspeakers, cable trays, ladders, guide rails etc. But it has an almost unlimited range of applications *



LOCK-WIRING

Lock-wiring of bolts is a locking method adopted from the aviation industry. In brief, the method involves threading a special stainless wire through a hole in the bolt head, twisted and locked to the next bolt or structure, thus preventing the bolt to rotate and loosen. The wire can be used to lock a maximum of three bolts in a row, as shown in the illustration. (For info on the size of the hole in the bolt head, see ISO7378). **Areas of use:** Used extensively for locking external bolted connections on drilling and pipe-handling equipment. Often used where there are no through-bolts and / or there is a need for easy visual control of the locking. *

* Reference: SfS Reliable Securing Handbook

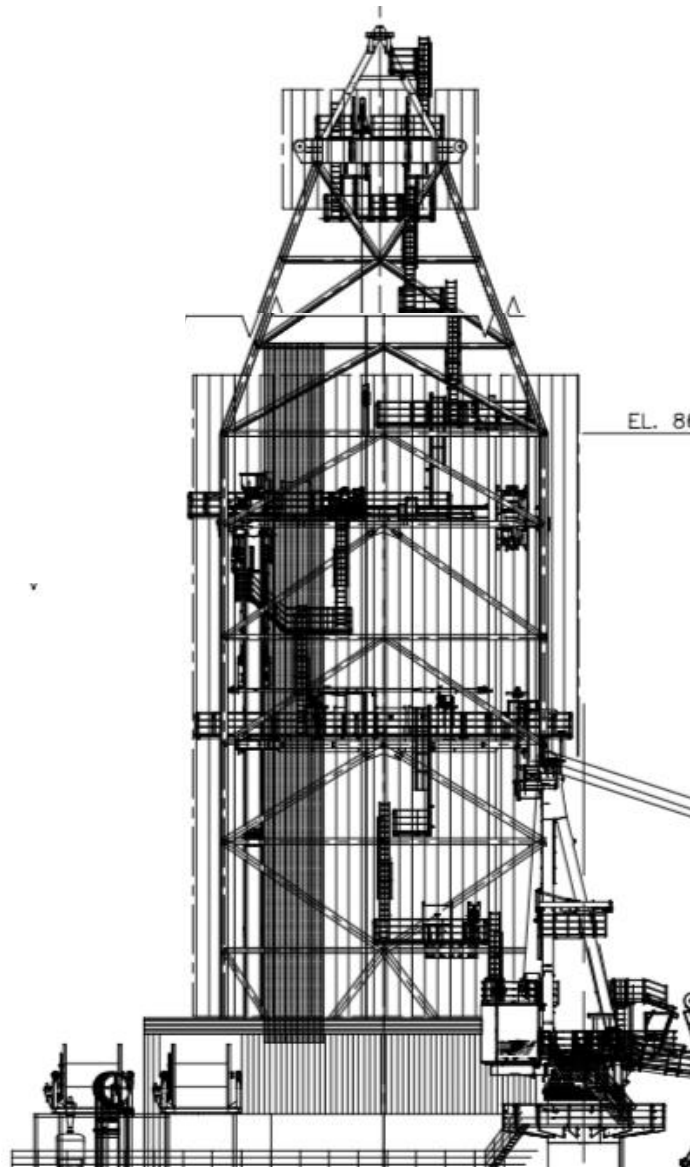
		Classification*				Total
		1	2	3	4	
1.0 Derrick	Findings	3	0	7	4	14
	Findings closed	3	0	6	1	10
2.0 Moonpool	Findings	0	1	1	10	12
	Findings closed	0	0	0	4	4
3.0 LQ	Findings	0	1	0	6	7
	Findings closed	0	1	0	4	5
4.0 STB crane	Findings	0	0	1	2	3
	Findings closed	0	0	0	1	1
4.0 Port crane	Findings	0	0	0	3	3
	Findings closed	0	0	0	2	2
4.0 Pipe handling crane	Findings	0	0	0	2	2
	Findings closed	0	0	0	0	0
Total findings all areas	Findings	3	2	9	27	41
	Findings closed	3	1	6	12	22

* Findings are classified as follows:

1. Immediate need of improvement before taken in use
2. Improve within 3 months
3. Improve within 6 months
4. Assess need for improvement

Note: Findings closed during the inspection will be HIGHLIGHTED

AREA | 1.0 DERRICK



Finding: 1.1

Class: 4

Location:

Draw-works hangar, starboard side.

Description:

Redundant cable tray.

Tag / Ref. no.:

Required action:

Remove, if not required.

Regulations:

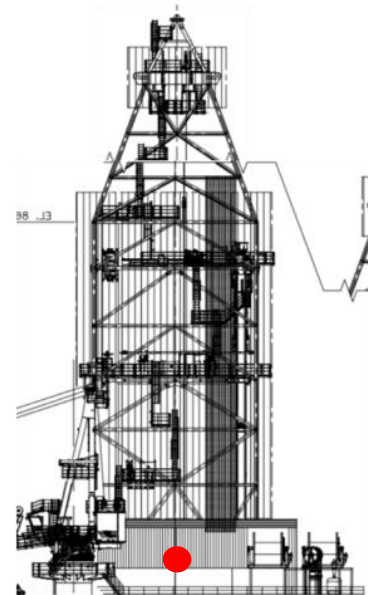
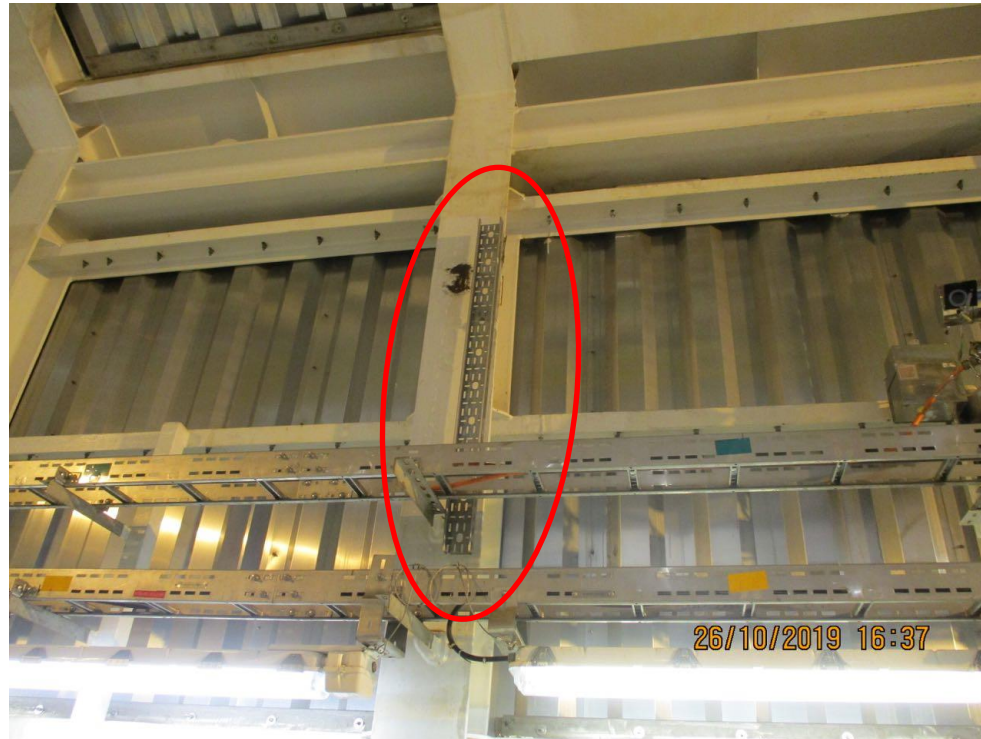
Sfs best practice Chapter 3.

Access:

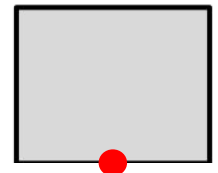
Fall arrest.

Competence:

Mechanic



Fwd.



Finding: 1.2

Class: 4

Location:

Top of derrick

Description:

Redundant brackets

Tag / Ref. no.:

Required action:

Remove, if not required.

Regulations:

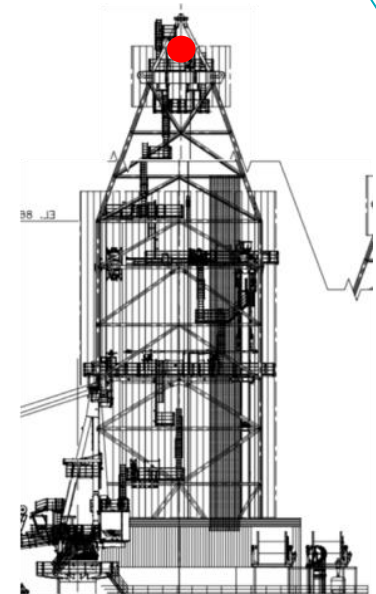
Sfs best practice Chapter 3.

Access:

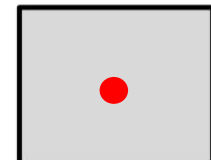
Platform.

Competence:

Mechanic



Fwd.



Finding: 1.3

Class: 4

Location:

Walkway aft on fingerboard level

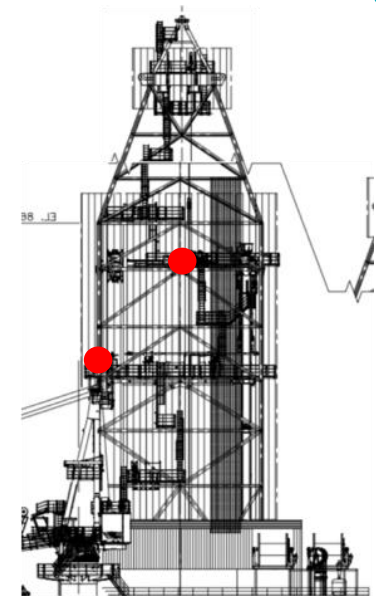
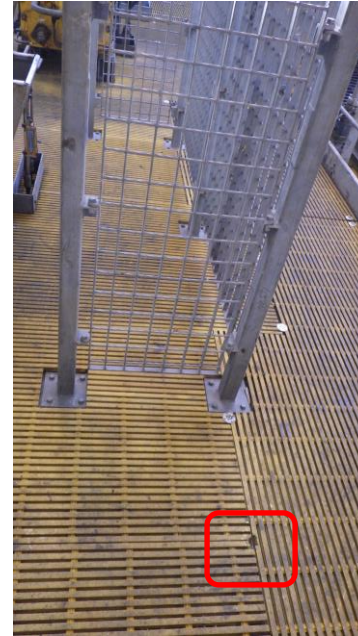
Description:

Missing grating clips.

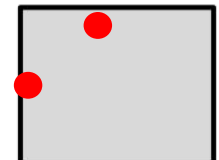
Tag / Ref. no.:

Required action:

Install missing grating clips



Fwd.



Regulations:

Sfs best practice Chapter 7.

Access:

Platform.

Competence:

Mechanic

Finding: 1.4

Class: 3

Location:

Stb fwd. corner of derrick below drillfloor

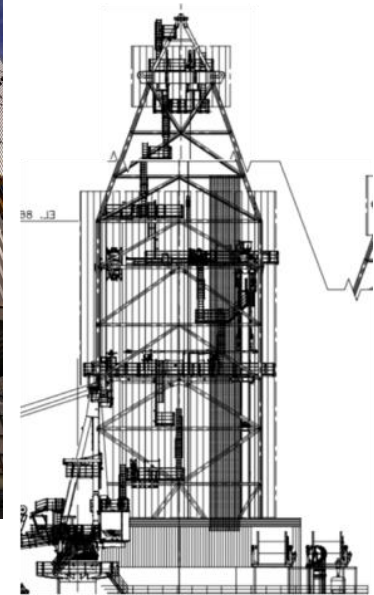
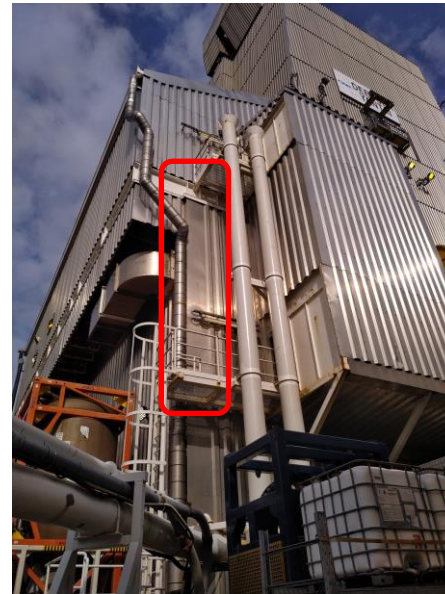
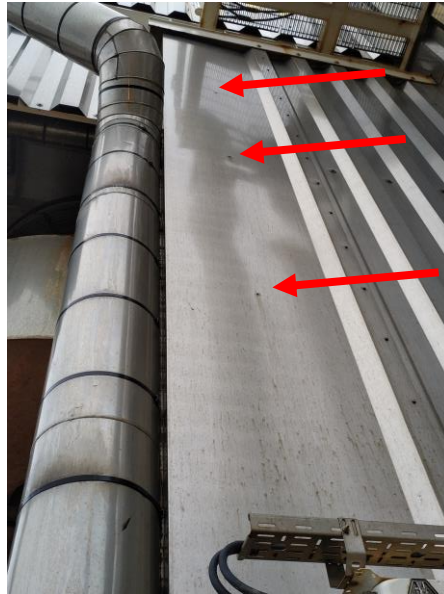
Description:

3 missing bolts on wind wall

Tag / Ref. no.:

Required action:

Install new bolts



Fwd.



CLOSED
FINDING

Regulations:

Sfs best practice Chapter 7.

Access:

Rope access

Competence:

Mechanic

Finding: 1.5

Class: 3

Location:

Derrick. Stand building winch

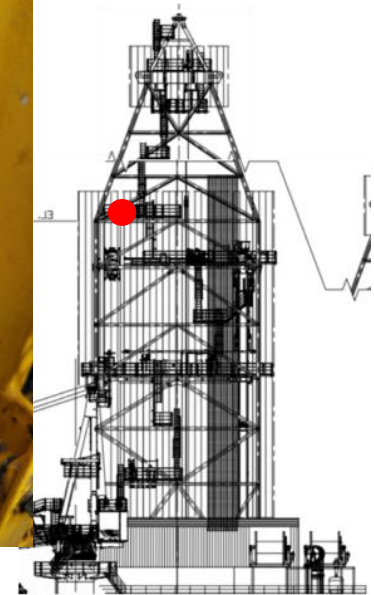
Description:

Broken securing on handle for emergency lowering.

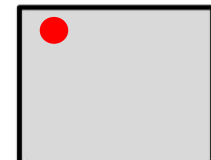
Tag / Ref. no.:

Required action:

Install securing on handle



Fwd.



CLOSED
FINDING

Regulations:

Sfs best practice Chapter 9.

Access:

Platform.

Competence:

Mechanic

Finding: 1.6

Class: 4

Location:

Derrick stb side over winch platform.

Description:

Gap between bolted connection on structure.

Tag / Ref. no.:

Required action:

Shims between connection should be used

Regulations:

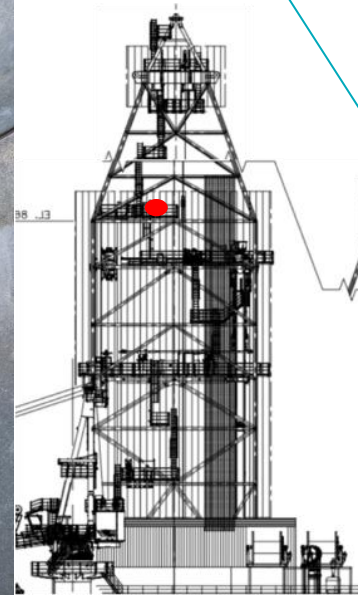
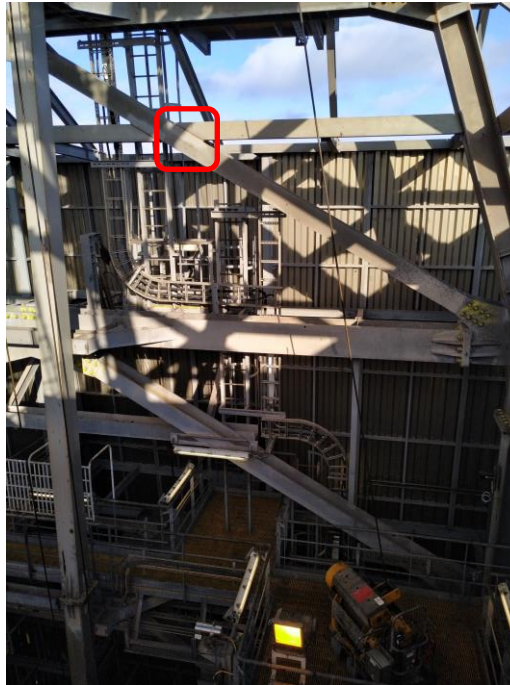
EN-NS 1090-2

Access:

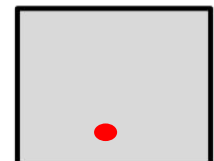
Rope access / fallarrest

Competence:

Mechanic



Fwd.
→



Finding: 1.7

Class: 3

Location:

Stb side of derrick below drillfloor

Description:

Loose bolts on wind walls behind door for moonpool and on aft side of door.

Tag / Ref. no.:

Required action:

Retighten bolts

**CLOSED
FINDING**

Regulations:

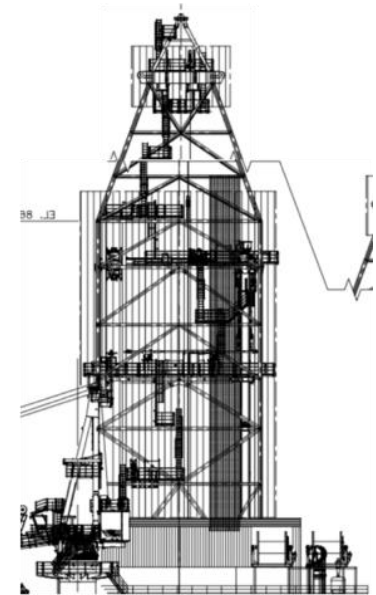
Sfs best practice Chapter 7.

Access:

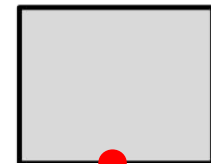
Rope access

Competence:

Mechanic



Fw →



Finding: 1.8

Class: 3

Location:

Aft stb side of derrick.

Description:

Loose and missing bolts on wind wall.

Tag / Ref. no.:

Required action:

Install new bolts (M6 and M8) and retighten loose bolts.

**CLOSED
FINDING**

Regulations:

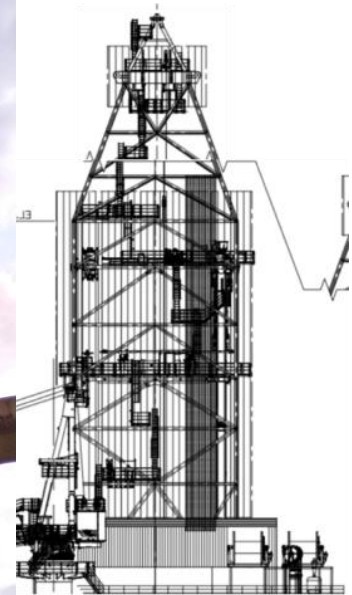
Sfs best practice Chapter 7.

Access:

Rope access

Competence:

Mechanic



● Fwd. →



Finding: 1.9

Class: 3

Location:

Stb fwd. side of derrick below drillfloor

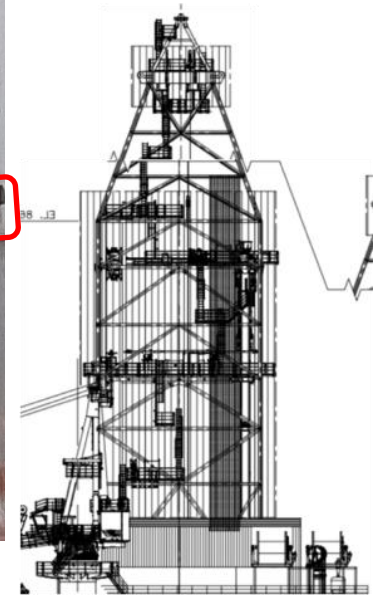
Description:

Loose bolts on wind walls

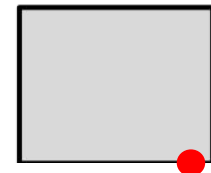
Tag / Ref. no.:

Required action:

Retighten bolts



Fwd.



CLOSED
FINDING

Regulations:

Sfs best practice Chapter 7.

Access:

Rope access

Competence:

Mechanic

Finding: 1.10

Class: 3

Location: Derrick fwd side

Description:

Loose bolts / missing bolts on wind wall.

Tag / Ref. no.:

Required action:

Install bolts and tighten up loose ones.

**CLOSED
FINDING**

Regulations:

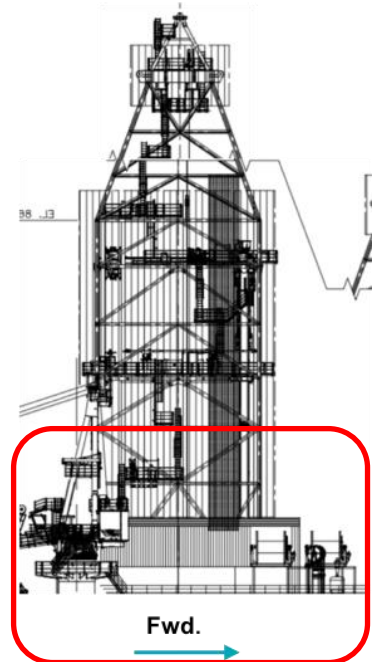
Sfs best practice Chapter 7.

Access:

Rope access

Competence:

Mechanic



Finding: 1.11

Class: 1

Location:
Derrick.

Description:
Loose bolts on pipe brackets

Tag / Ref. no.:

Required action:

Loose bolts have been removed.

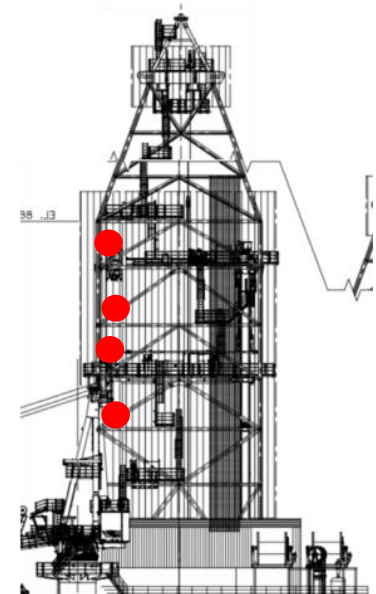
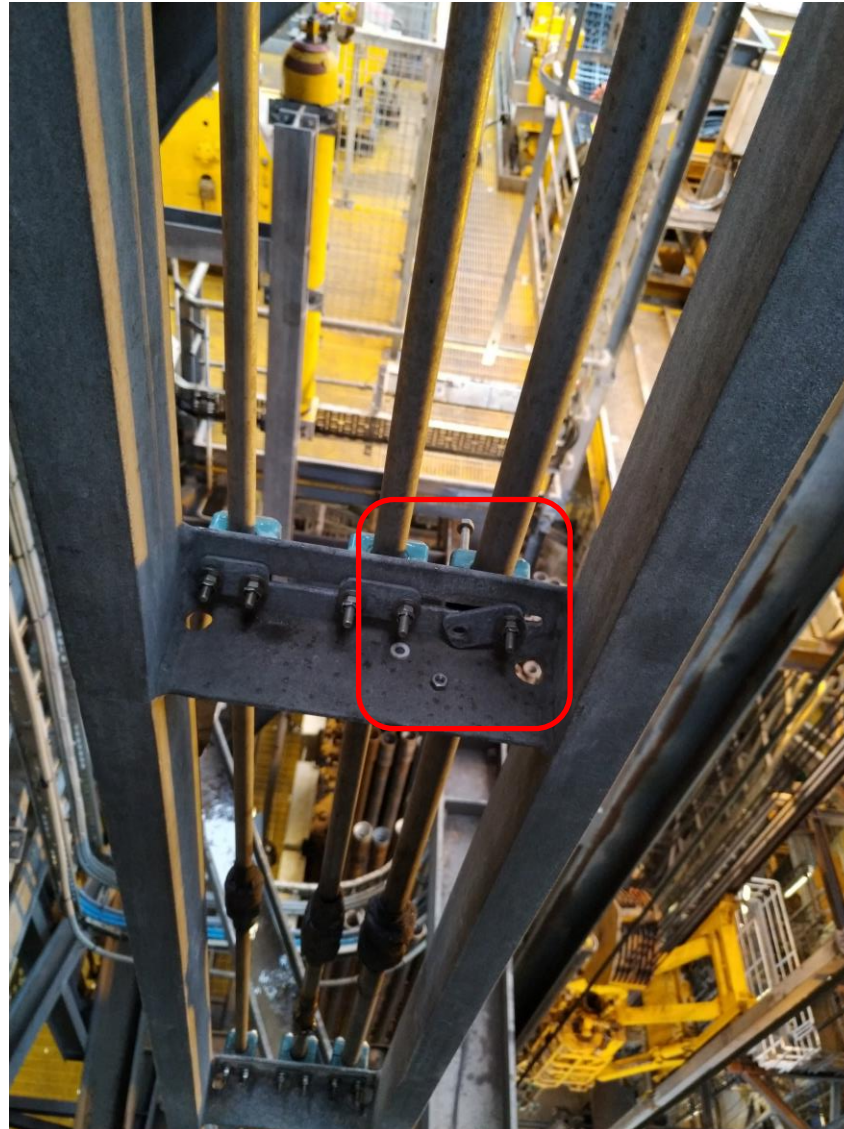
Install new bolt.

**CLOSED
FINDING**

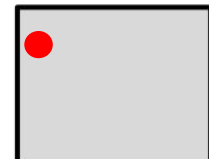
Regulations:
Sfs best practice Chapter 8.

Access:
Rope access.

Competence:
Mechanic



Fwd.



Finding: 1.12

Class: 1

Location:
Derrick.

Description:

Equipment left at height.

Tag / Ref. no.:

Required action:

Remove equipment.

**CLOSED
FINDING**

Regulations:

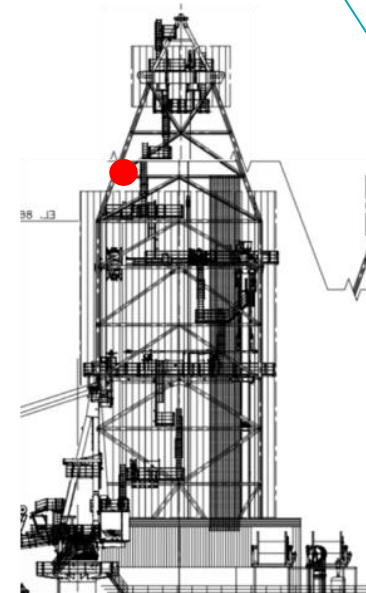
Sfs best practice Chapter 3.

Access:

Rope access.

Competence:

Rope access.



Fwd.
→



Finding: 1.13

Class: 1

Location:

Derrick aft, over fingerboard level

Description:

Equipment left at height.

Tag / Ref. no.:

Required action:

Remove equipment.

**CLOSED
FINDING**

Regulations:

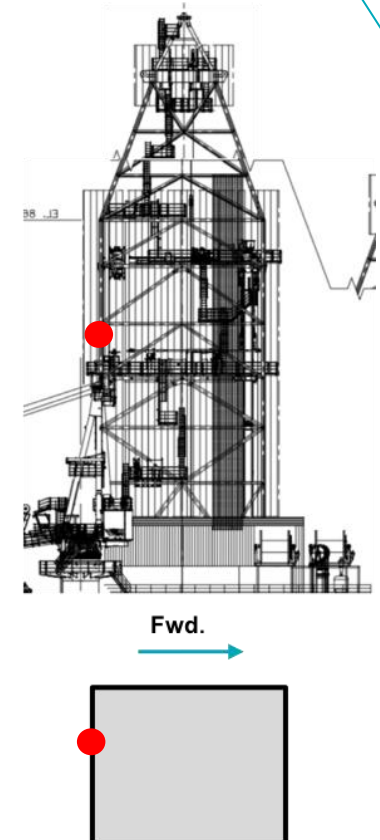
Sfs best practice Chapter 3.

Access:

Rope access

Competence:

Rope access



Finding: 1.14

Class: 3

Location:

Derrick

Description:

Missing bolt on support to cable tray

Tag / Ref. no.:

Required action:

Install new bolt

**CLOSED
FINDING**

Regulations:

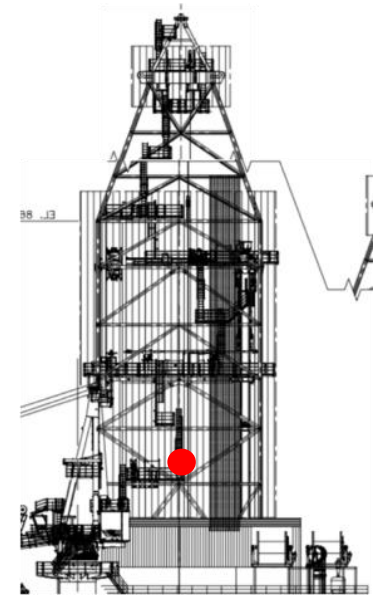
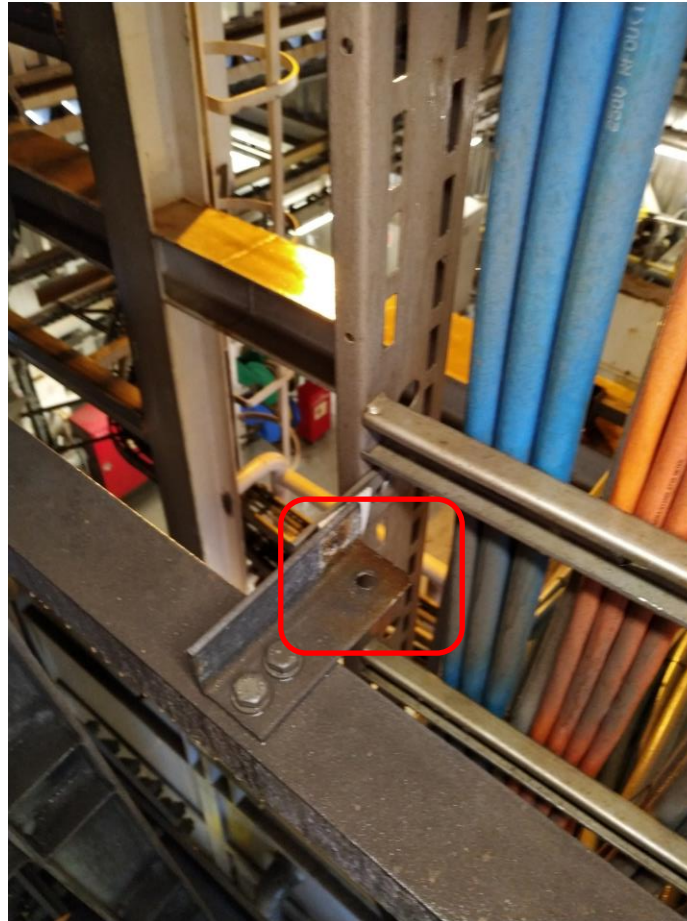
Sfs best practice Chapter 8

Access:

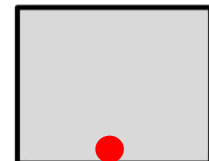
Platform.

Competence:

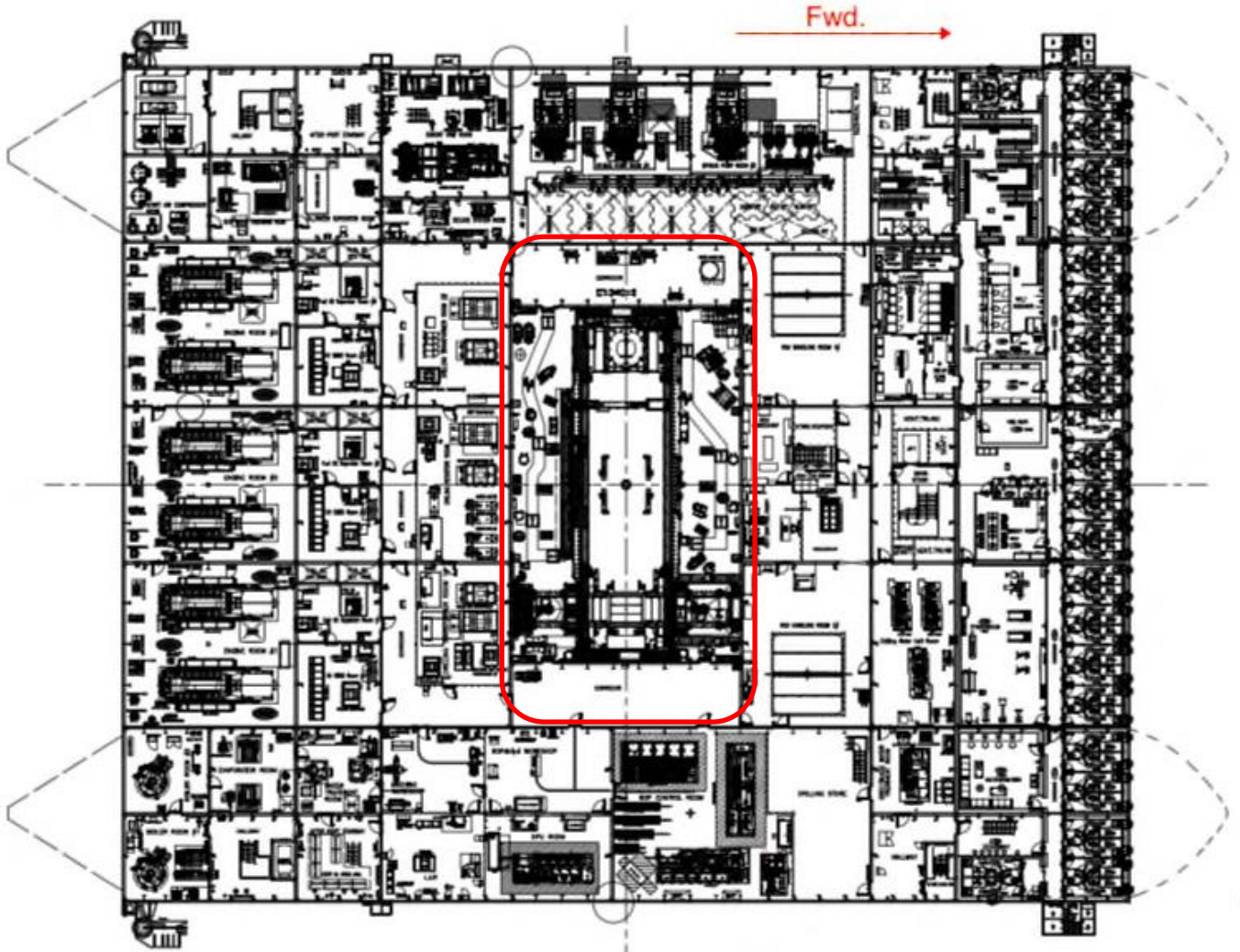
Mechanic



Fwd.



AREA | 2.0 MOONPOOL



Finding: 2.1

Class: 4

Location:

Moonpool stb fwd, deck level

Description: Support wires for hose guide have only one clamp and it's the wrong type.

Tag / Ref. no.:

Required action:

Fit additional/correct clamps.



**CLOSED
FINDING**

Regulations:

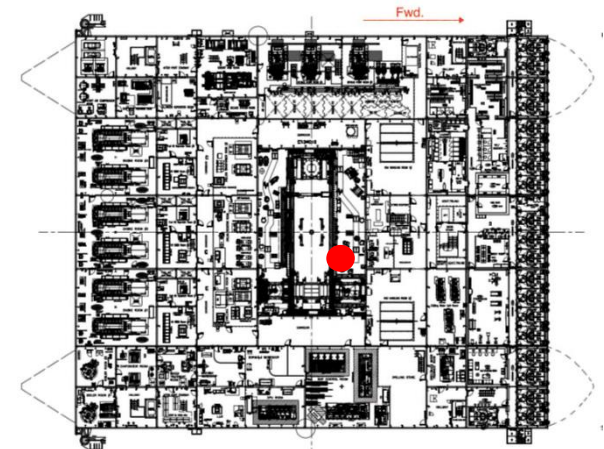
Sfs best practice Chapter 9.

Access:

Deck.

Competence:

Mechanic



Finding: 2.2

Class: 4

Location:
Moonpool stbd aft

Description: Missing brackets on pipe

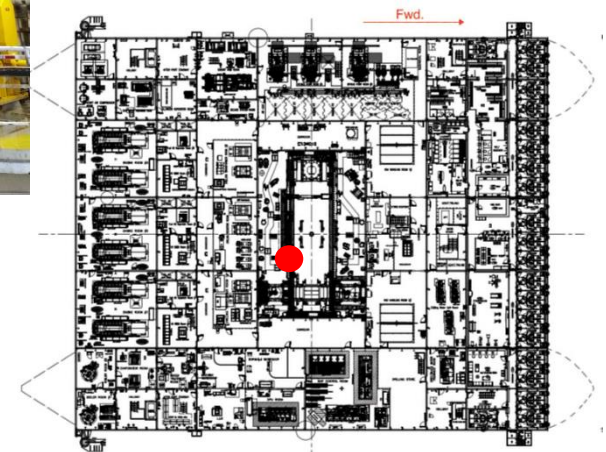
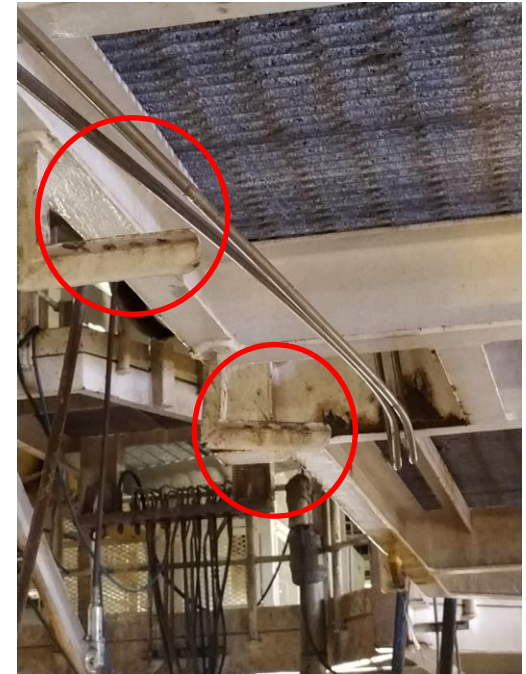
Tag / Ref. no.:

Required action:
Install clamps on pipes

Regulations:
Sfs best practice Chapter 7.

Access:
Access basket

Competence:
Mechanic



Finding: 2.3

Class: 4

Location:
Moonpool Port center.

Description: Insulation cladding damaged.

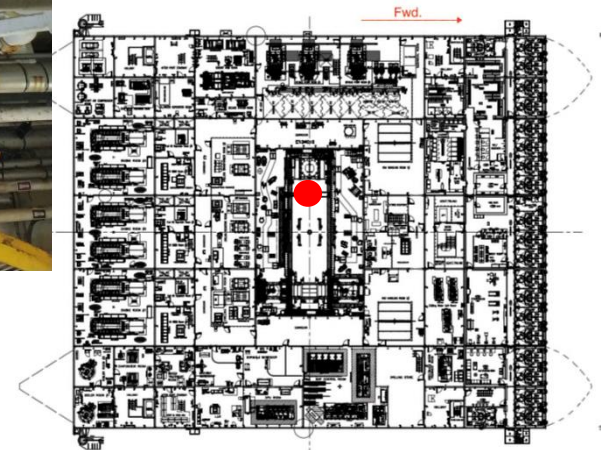
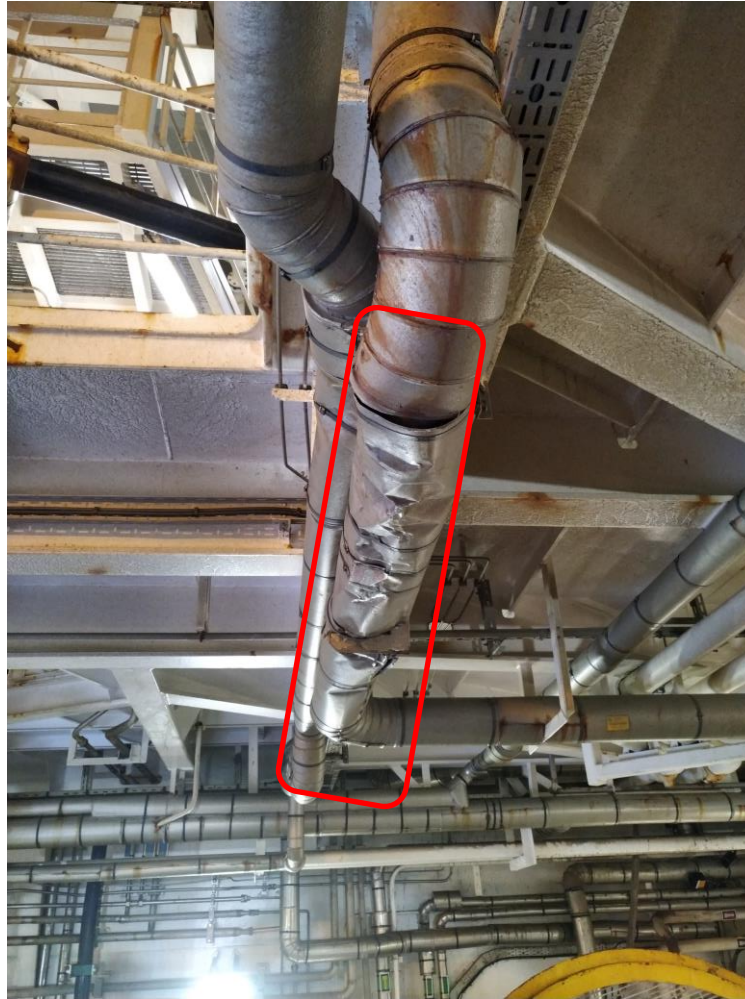
Tag / Ref. no.:

Required action:
Recommend to change.

Regulations:
Sfs best practice Chapter 7.

Access:
Access basket

Competence:
Isolation



Finding: 2.4

Class: 2

Location:
Moonpool port skid.

Description: Movable railings its damaged and not secured with safety bolt in bracket.

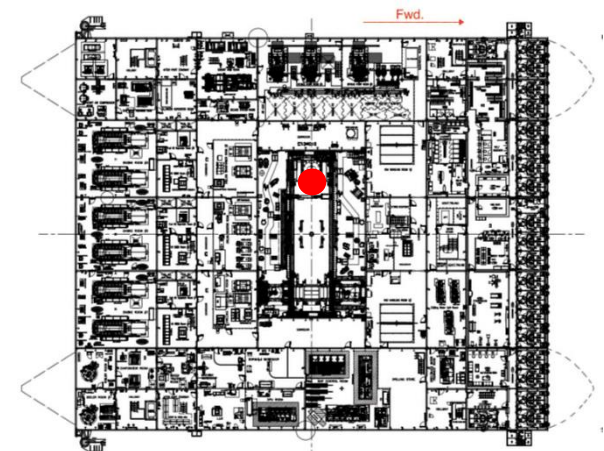
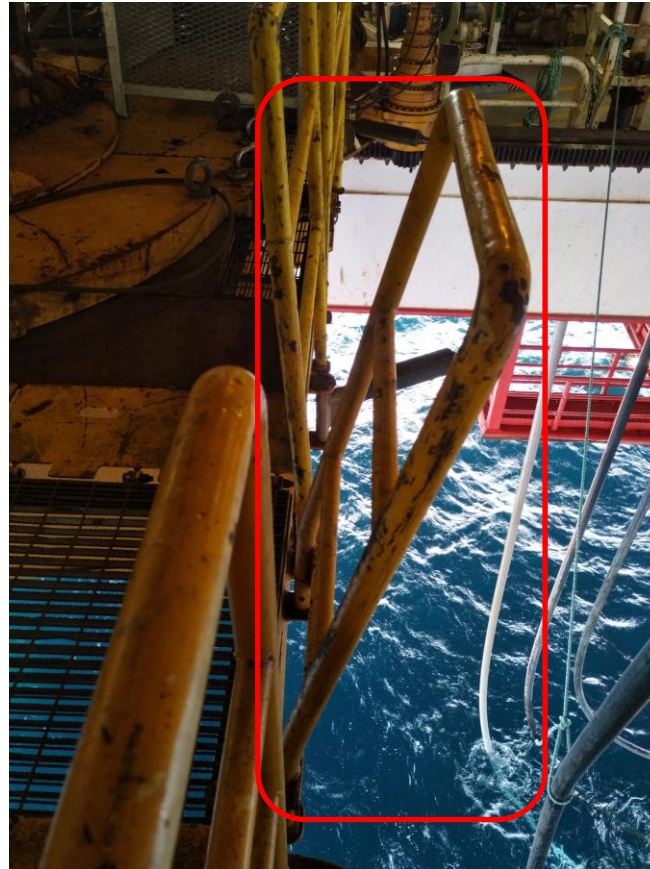
Tag / Ref. no.:

Required action:
Change out damaged railing and secure with bolt.

Regulations:
Sfs best practice Chapter 7.

Access:
Deck

Competence:
Mechanic



Finding: 2.5

Class: 4

Location:
Moonpool upper deck port aft.

Description:

Steel shims between pipes and support are not secured.

Tag / Ref. no.:

Required action:

Recommend to secure shims

Regulations:

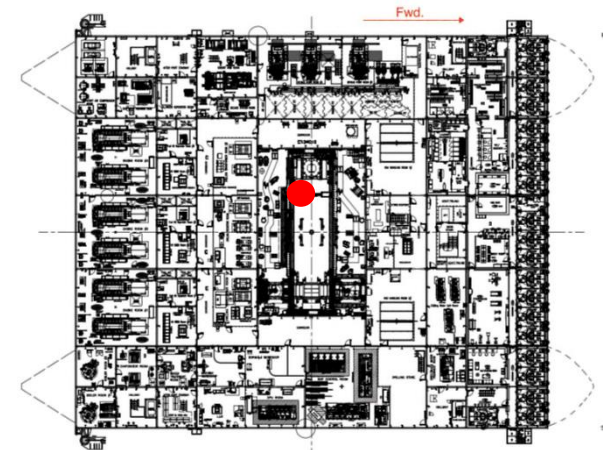
Sfs best practice Chapter 4.

Access:

Deck

Competence:

Mechanic



Finding: 2.6

Class: 4

Location:
Moonpool upper deck port center.

Description:
Missing bolts on wire mesh.

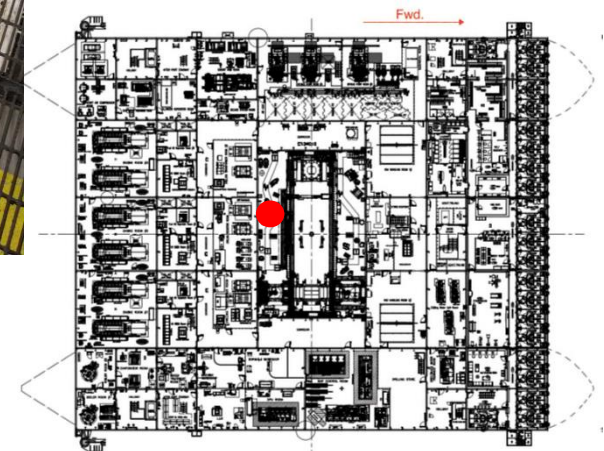
Tag / Ref. no.:

Required action:
Install bolts.

Regulations:
Sfs best practice Chapter 7.

Access:
Deck

Competence:
Mechanic



Finding: 2.7

Class: 4

Location:

Moonpool upper deck center

Description:

Redundant cable tray.

Tag / Ref. no.:

Required action:

If not to be used, we recommend to remove all unnecessary equipment in height.

Regulations:

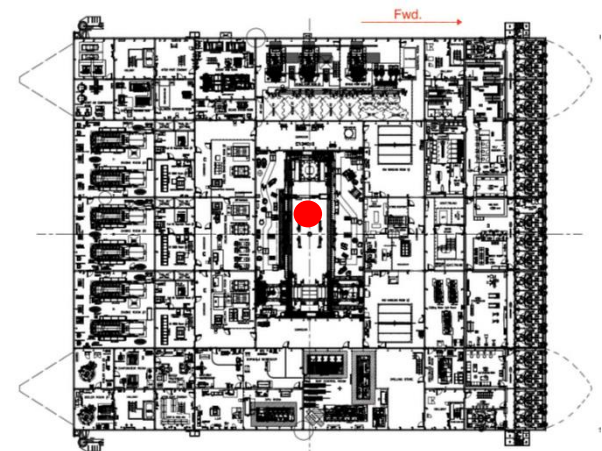
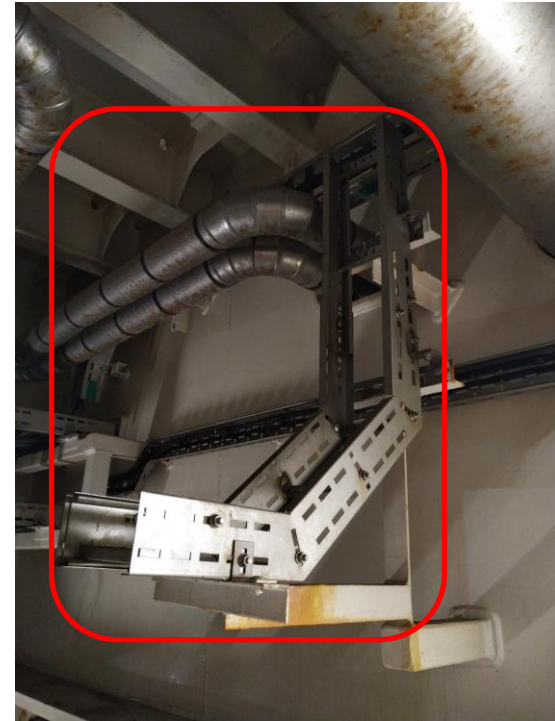
Sfs best practice Chapter 3.

Access:

Deck

Competence:

Mechanic



Finding: 2.8

Class: 4

Location:

Moonpool upper deck port center.

Description:

Missing grating clips.

Tag / Ref. no.:

Required action:

Install missing grating clips

**CLOSED
FINDING**

Regulations:

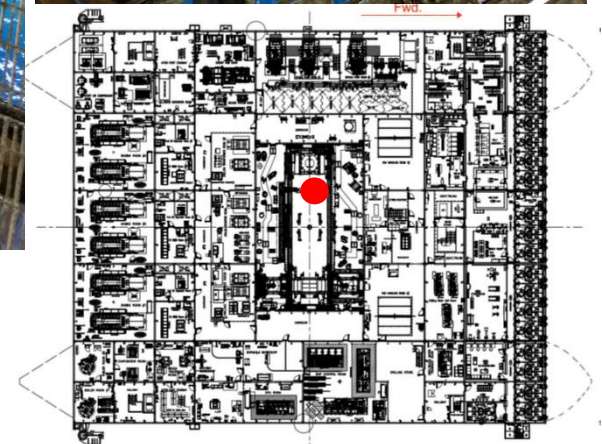
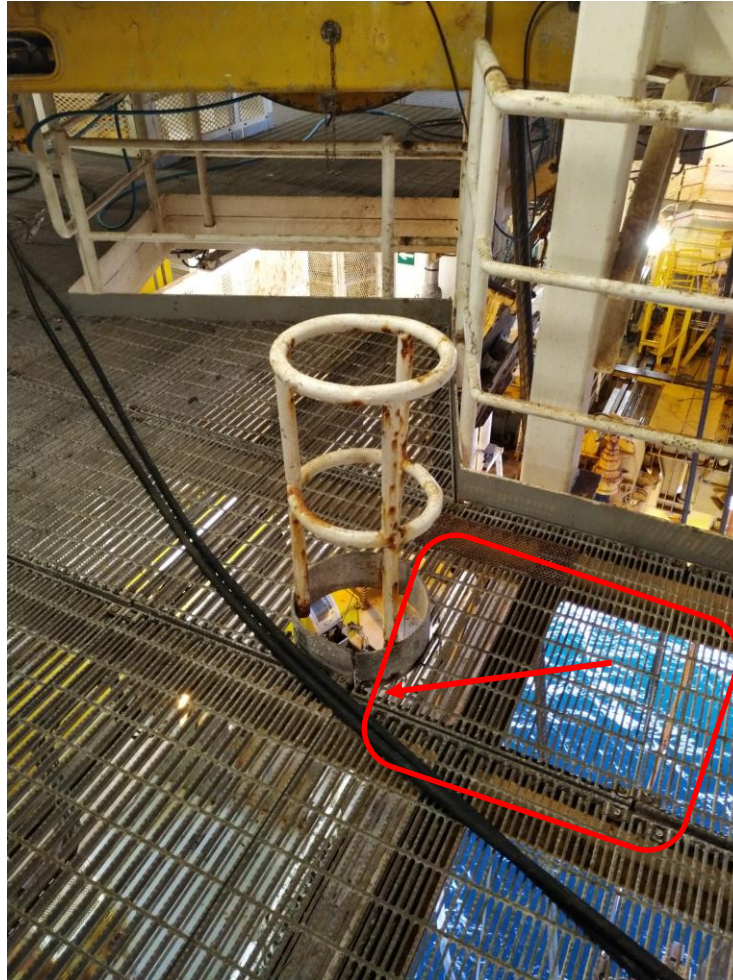
Sfs best practice Chapter 7.

Access:

Deck.

Competence:

Mechanic



Finding: 2.9

Class: 4

Location:
Moonpool upper deck port center.

Description:

Redundant cable tray.

Tag / Ref. no.:

Required action:

If not to be used, we recommend to remove all unnecessary equipment in height.

Regulations:

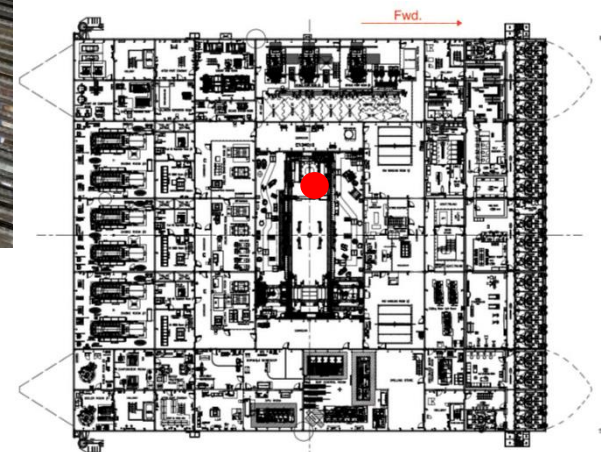
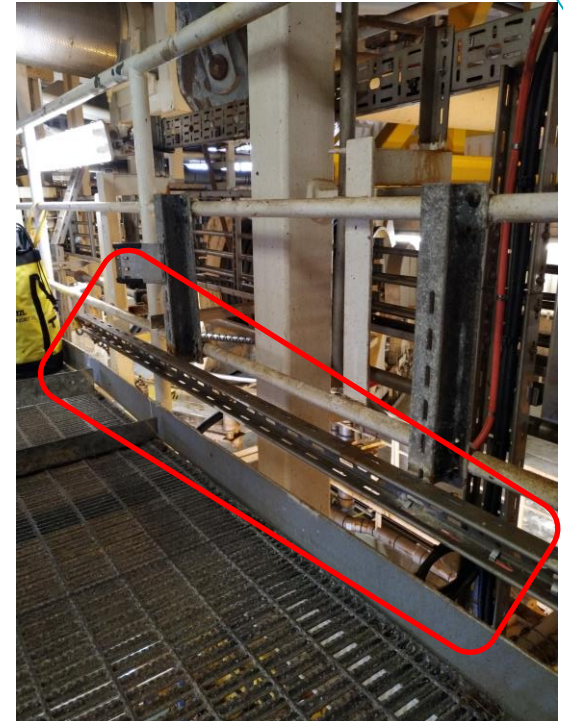
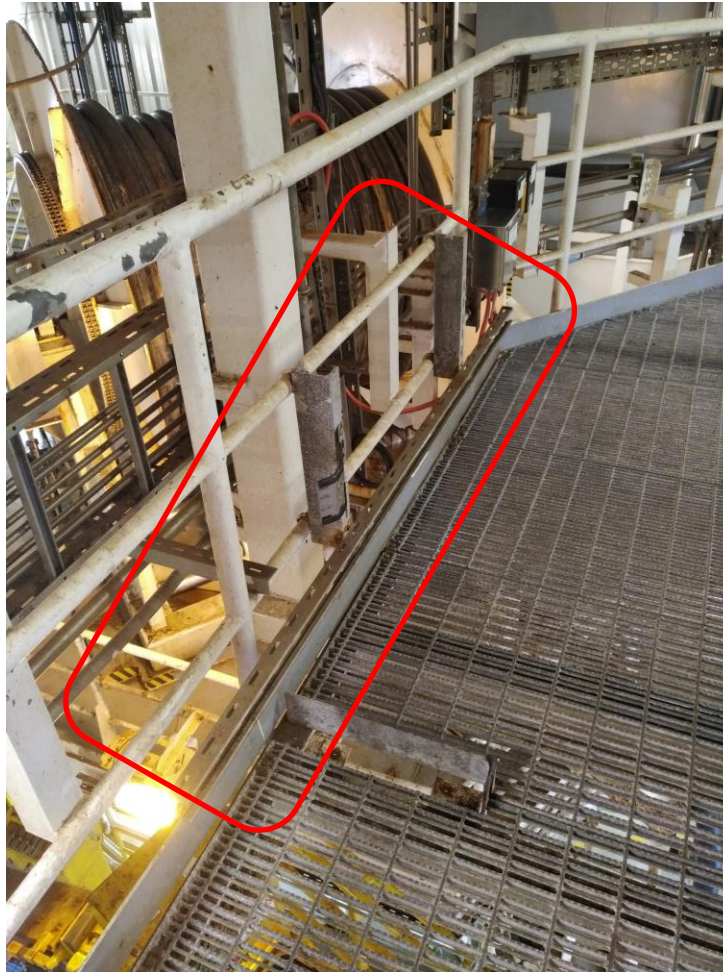
Sfs best practice Chapter 8.

Access:

Deck

Competence:

Mechanic



Finding: 2.10

Class: 3

Location:

Moonpool upper deck port center.

Description:

Missing bolt on washer fluid tank.

Tag / Ref. no.:

Required action:

Install missing bolt.

Regulations:

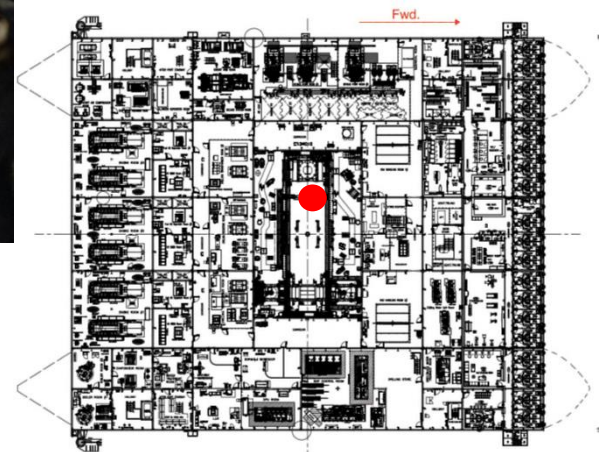
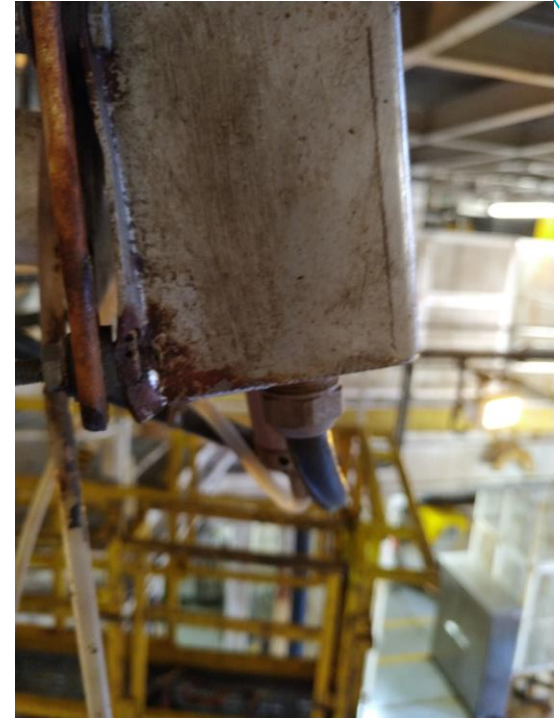
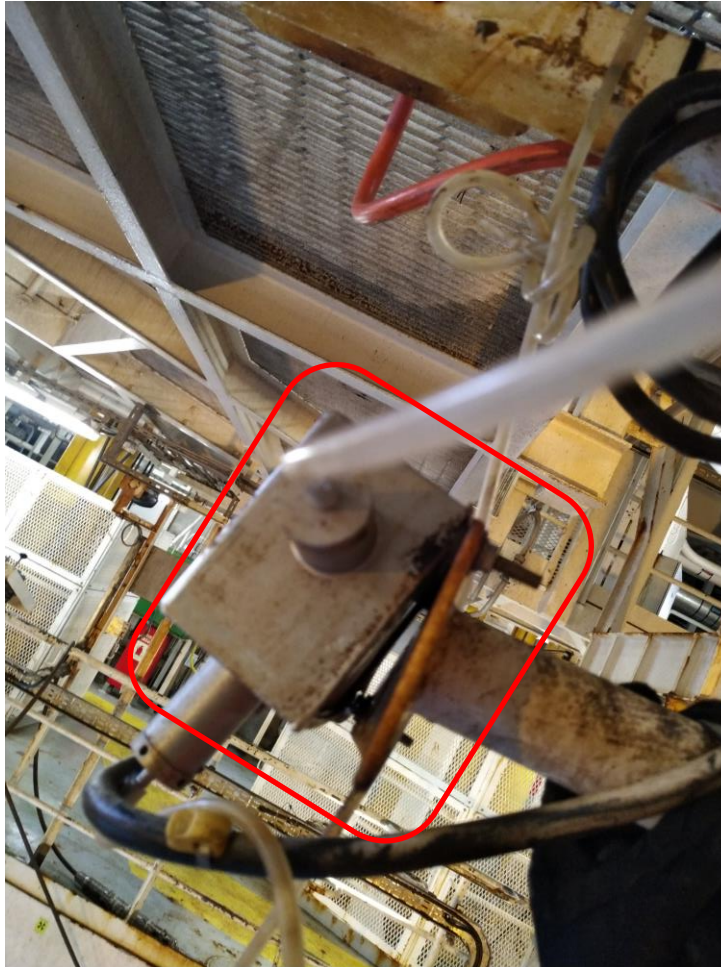
Sfs best practice Chapter 8.

Access:

Access basket.

Competence:

Mechanic



Finding: 2.11

Class: 4

Location:
Moonpool

Description:

3 gates is not self-closing. Spring is broken.

Tag / Ref. no.:

Required action:

Install new springs.

**CLOSED
FINDING**

Regulations:

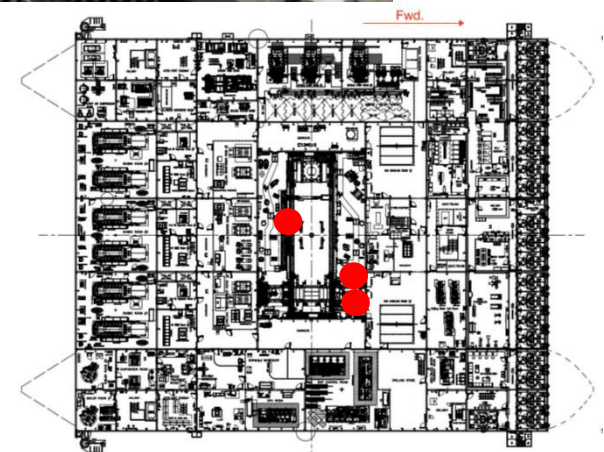
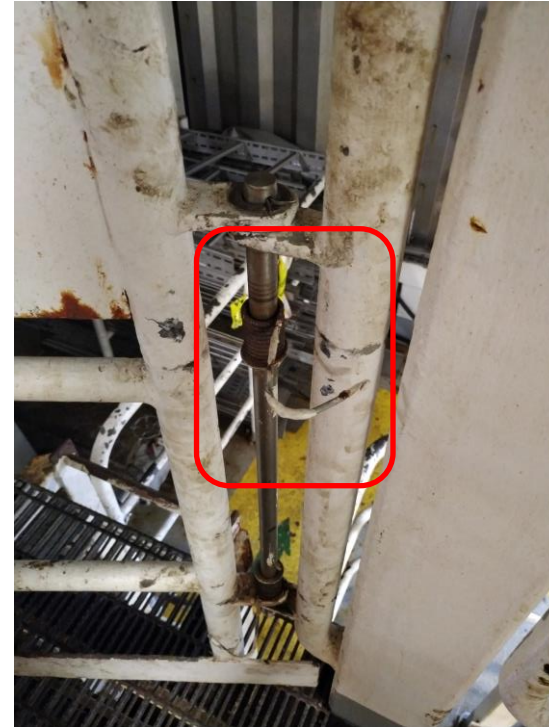
Sfs best practice Chapter 7

Access:

Deck

Competence:

Mechanic



Finding: 2.12

Class: 4

Location:
Moonpool stbd center.

Description: Missing secondary retention

Tag / Ref. no.:

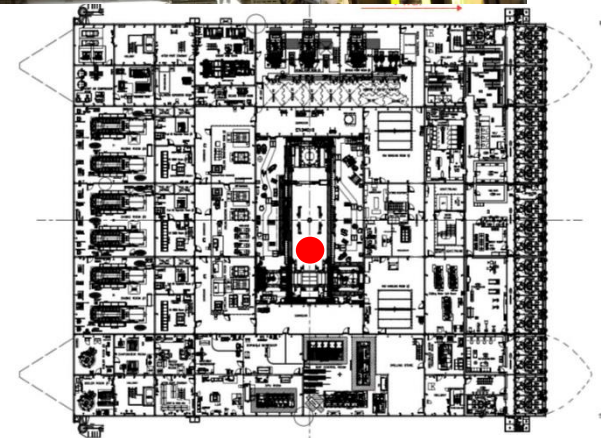
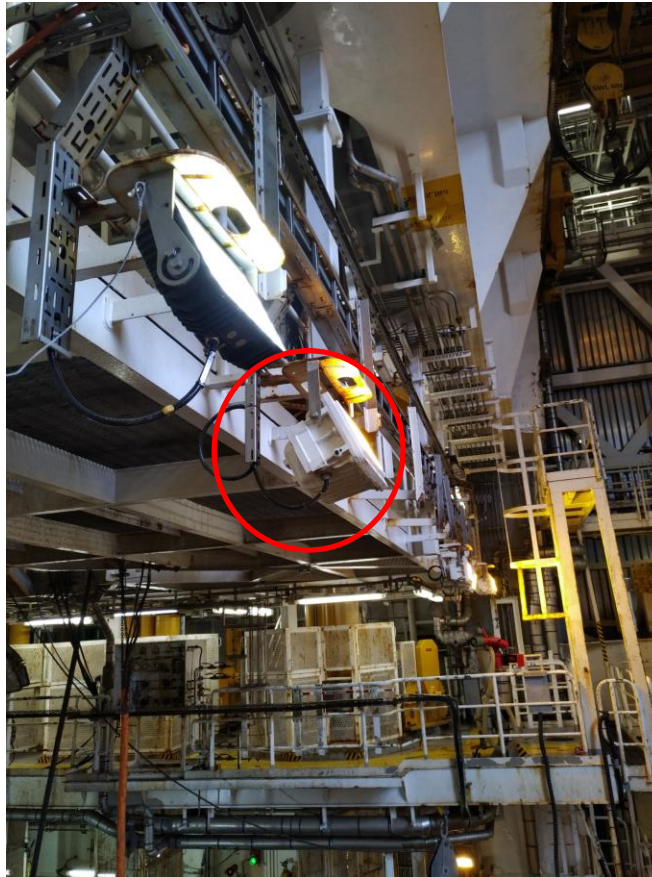
Required action:
Install secondary retention

CLOSED
FINDING

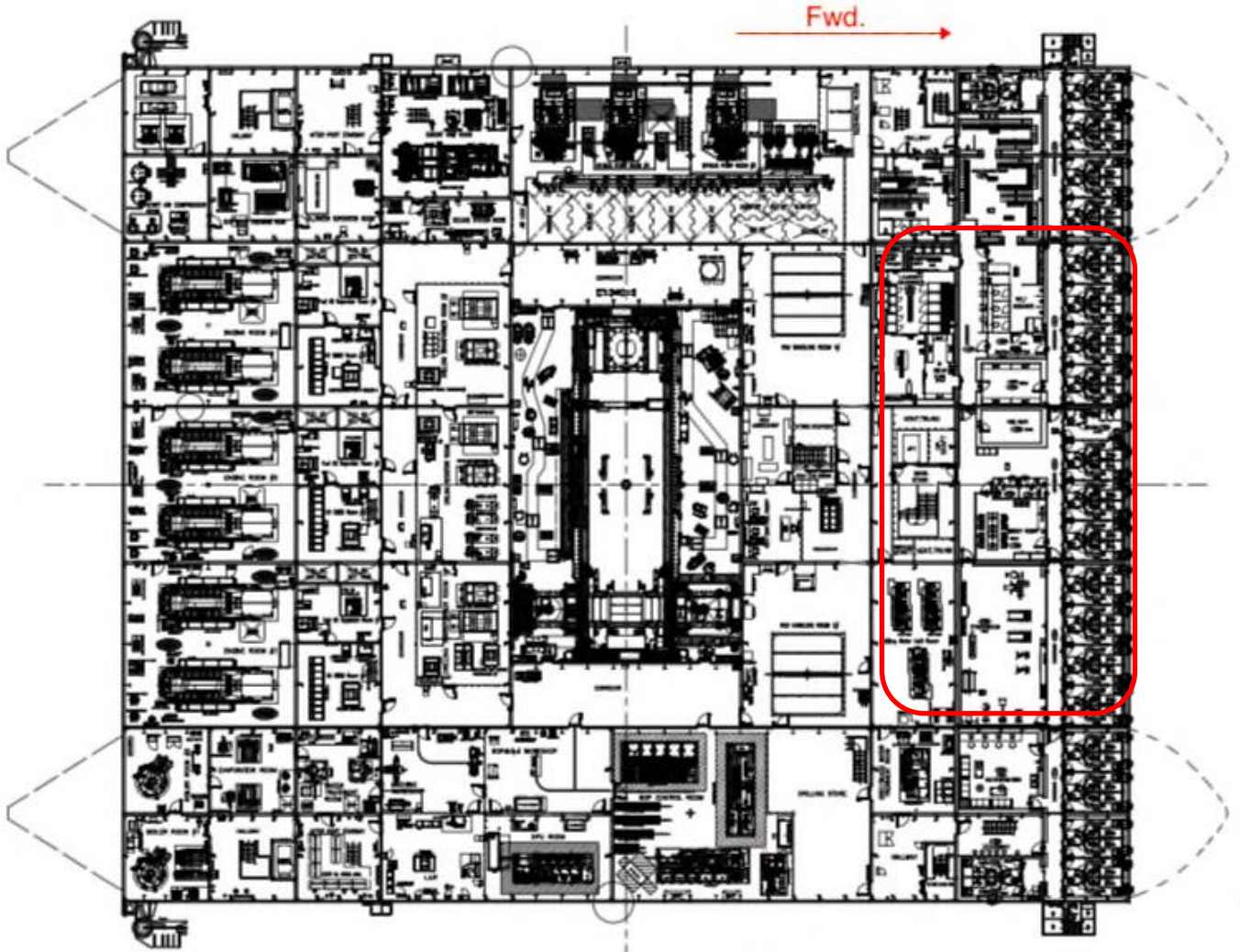
Regulations:
Sfs best practice page 42

Access:
Access basket

Competence:
Mechanic



AREA | 3.0 LIVING QUARTERS



Finding: 3.1

Class: 4

Location:
living quarters FRW PORT side

Description: Redundant brackets

Tag / Ref. no.:

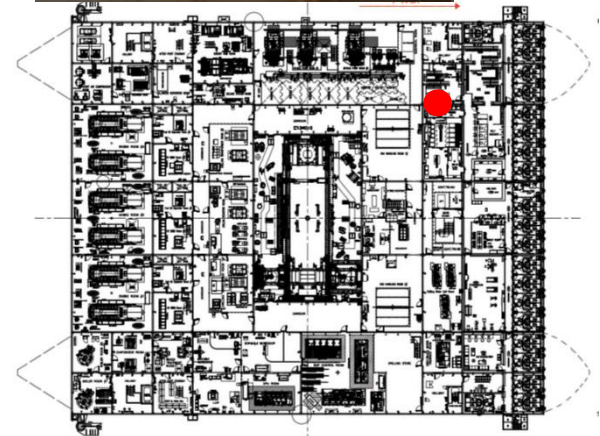
Required action: Remove brackets

CLOSED
FINDING

Regulations:
Sfs best practice Chapter 3.

Access:
Platform

Competence:
Mechanic



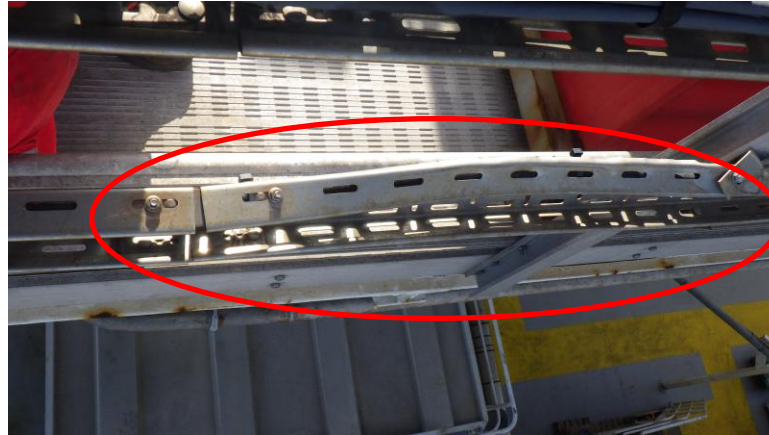
Finding: 3.2

Class: 4

Location:

living quarters FRW PORT side
helideck

Description: Damaged cable tray



Tag / Ref. no.:

Required action: Replace cable tray

Regulations:

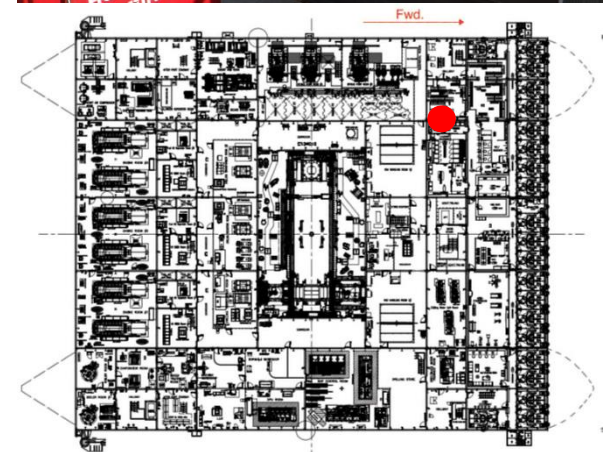
Sfs best practice Chapter 7.

Access:

Platform

Competence:

Mechanic



Finding: 3.3

Class: 4

Location:

living quarters FRW PORT side
helideck

Description: Incorrect securing of air
valve

Tag / Ref. no.:

Required action: Install the correct
fasteners

Regulations:

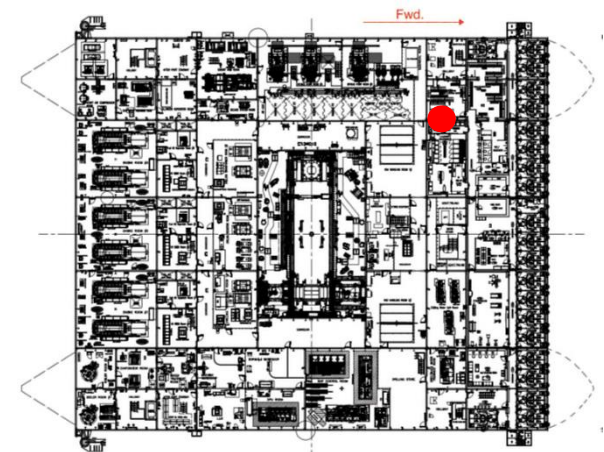
Sfs best practice Chapter 7

Access:

Platform

Competence:

Mechanic



Finding: 3.4

Class: 4

Location:

Living quarters Port fwd

Description: Loose bolts on valve

Tag / Ref. no.:

Required action: Tighten the bolts



CLOSED
FINDING

Regulations:

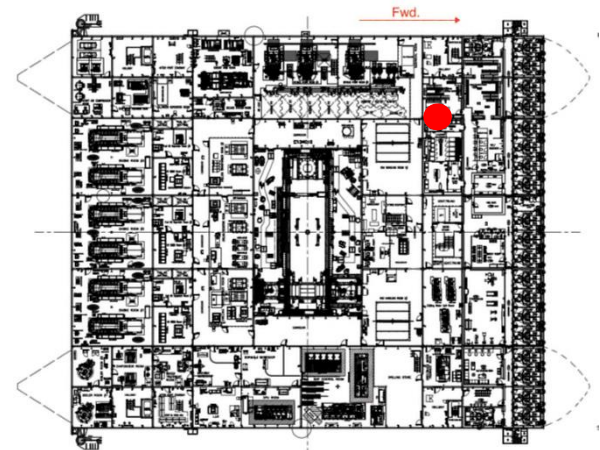
Sfs best practice Chapter 7.

Access:

Ladder

Competence:

Mechanic



Finding: 3.5

Class: 4

Location:

Living quarters Mid Fwd

Description: Broken lock on the maintenance hatch above the pneumatic door



Tag / Ref. no.:

Required action: Replace lock



Regulations:

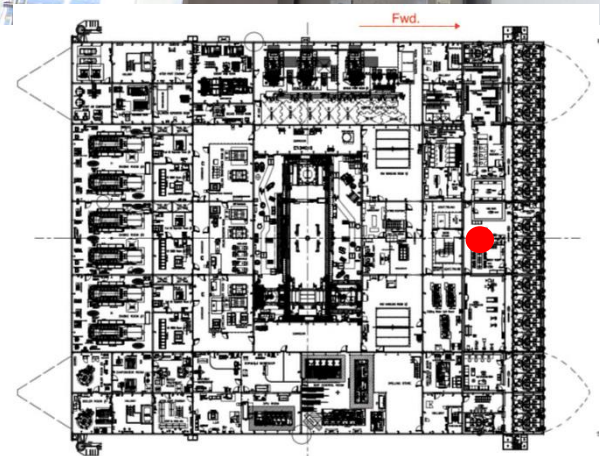
Sfs best practice Chapter 7.

Access:

Ladder

Competence:

Mechanic



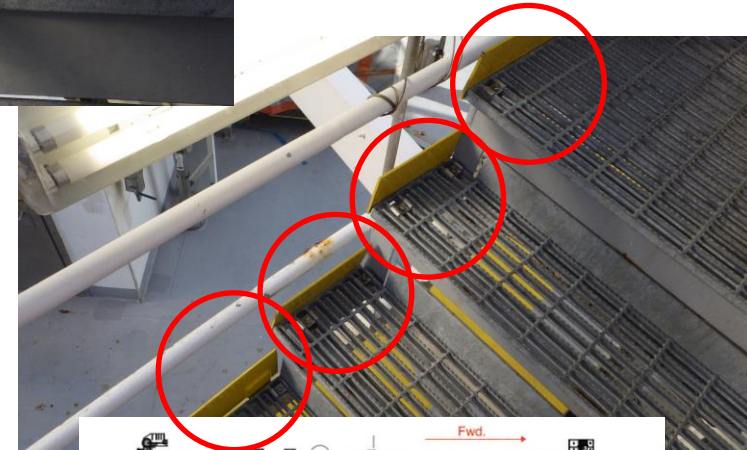
Finding: 3.6

Class: 2

Location:

Living quarters FRW MID

Description: Loose skirting on the staircase to the walkway to the bridge port and stb side



Tag / Ref. no.:

Required action: Replace bolts on skirtings

**CLOSED
FINDING**

Regulations:

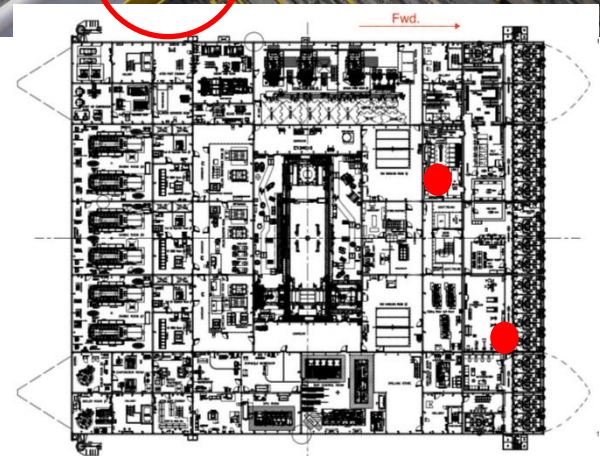
Sfs best practice Chapter 7.

Access:

Ladder

Competence:

Mechanic

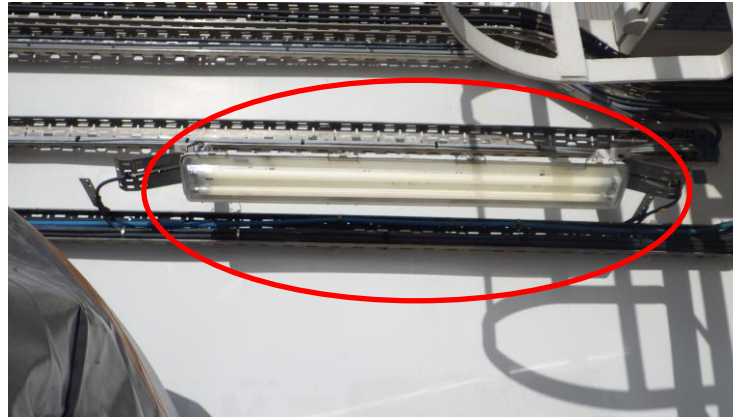


Finding: 3.7

Class: 4

Location:
Living quarters FRW MID

Description: Loose skirting on the staircase to the walkway to the bridge port and starboard side



Tag / Ref. no.:

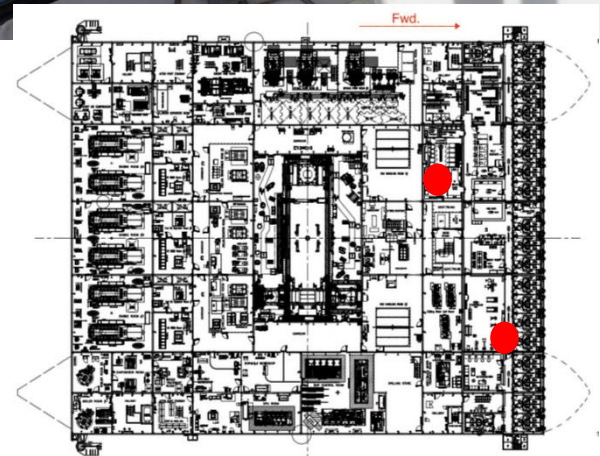
Required action: Replace bolts on skirtings

CLOSED
FINDING

Regulations:
Sfs best practice Chapter 7.

Access:
Ladder

Competence:
Mechanic



Technical drawing of a mobile crane with a lattice boom. The drawing shows the crane's structure, including the lattice boom, counterweight, and lifting mechanism. Key dimensions and specifications are provided:

- Maximum lifting capacity: 9300 kg
- Maximum boom length: 10000 mm
- Maximum height: 17762 mm
- Maximum width: 2200 mm
- Maximum depth: 2200 mm

The drawing also includes a detailed view of the lifting mechanism, showing the hook, pulleys, and cables. The crane is shown in a side view, highlighting its lattice boom structure and counterweight system.

Finding: 4.1

Class: 4

Location:
STB offshore crane

Description: Wind sensor with moving parts should be replaced with an ultrasonic sensor

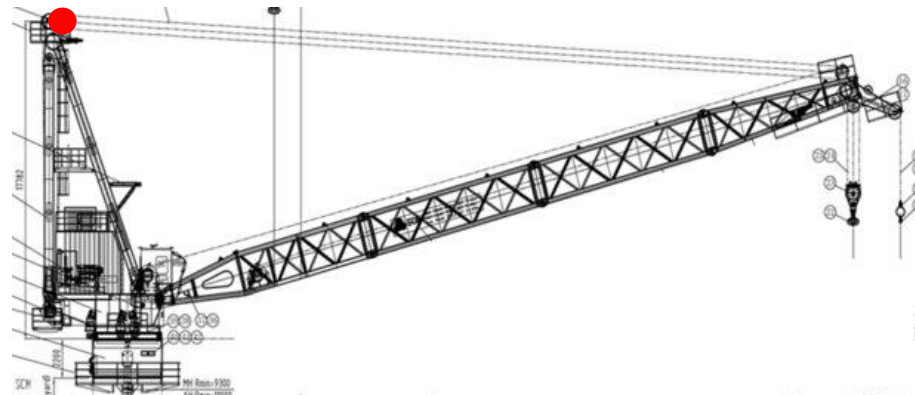
Tag / Ref. no.:

Required action: Replace with ultrasonic sensor

Regulations:
Sfs best practice Chapter 8.9.

Access:
Fall arrest

Competence:
Mechanic



Finding: 4.2

Class: 4

Location:
STB offshore crane

Description: Loose swing beam has no secondary retention

Tag / Ref. no.:

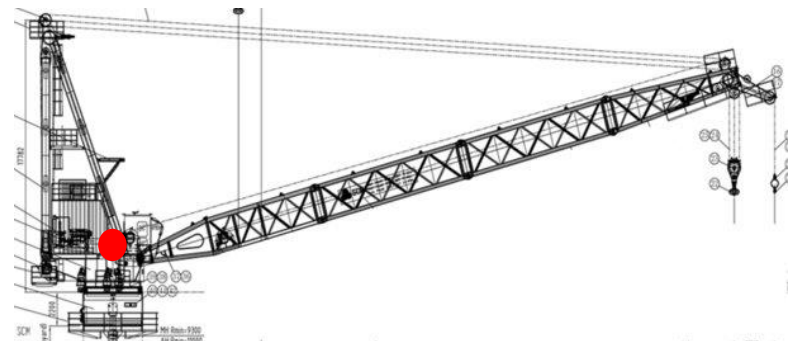
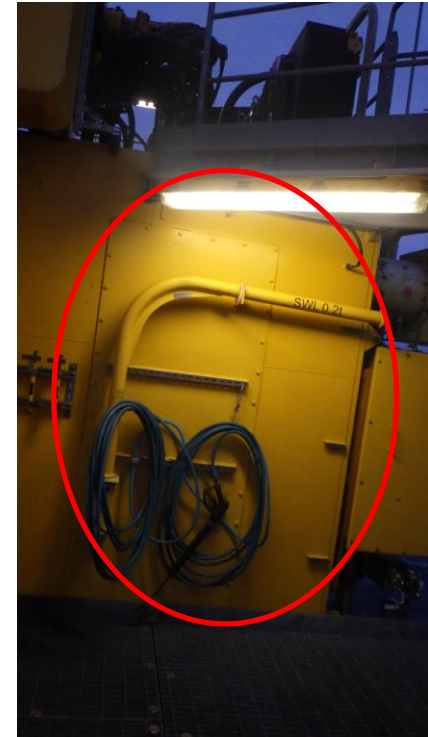
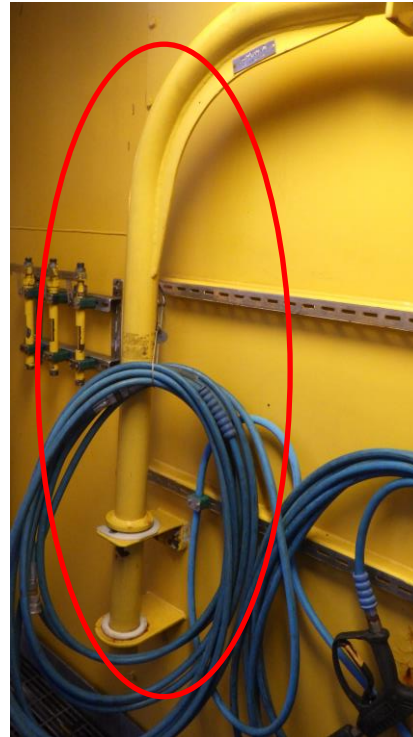
Required action: Install secondary retention

CLOSED
FINDING

Regulations:
Sfs best practice Chapter 4

Access:
Platform

Competence:
Mechanic



Finding: 4.3

Class: 3

Location:
STB offshore crane

Description: The plastic for the foghorn is broken which makes the secondary retention not active

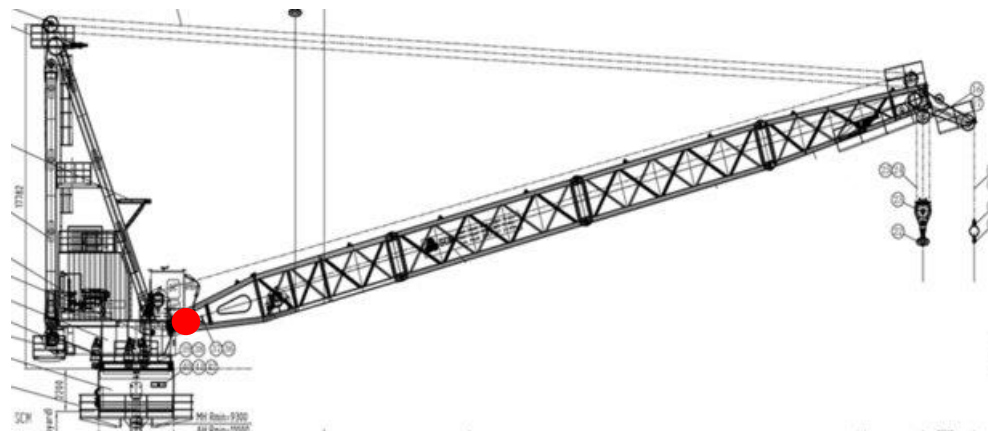
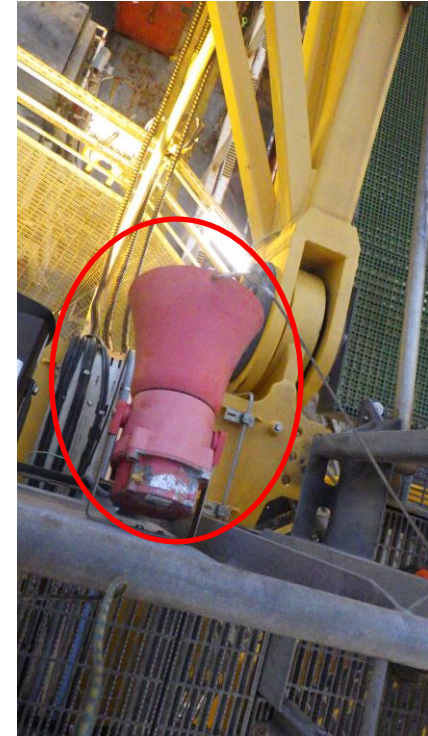
Tag / Ref. no.:

Required action: Install new foghorn

Regulations:
Sfs best practice Chapter 4

Access:
Platform

Competence:
Mechanic



[illegible]

Finding: 5.1

Class: 4

Location:
PORT offshore crane

Description: Wind sensor with moving parts should be replaced with an ultrasonic sensor

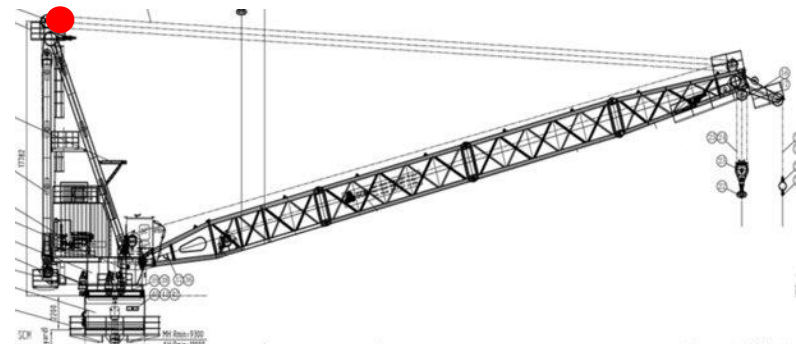
Tag / Ref. no.:

Required action: Replace with ultrasonic sensor

Regulations:
Sfs best practice Chapter 8.9.

Access:
Fall arrest

Competence:
Mechanic



Finding: 5.2

Class: 4

Location:
PORT offshore crane

Description: Loose swing beam has no secondary retention

Tag / Ref. no.:

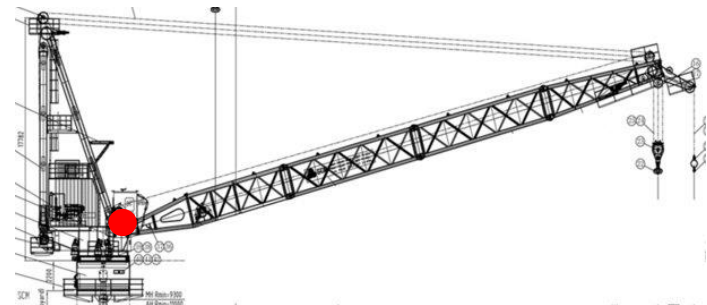
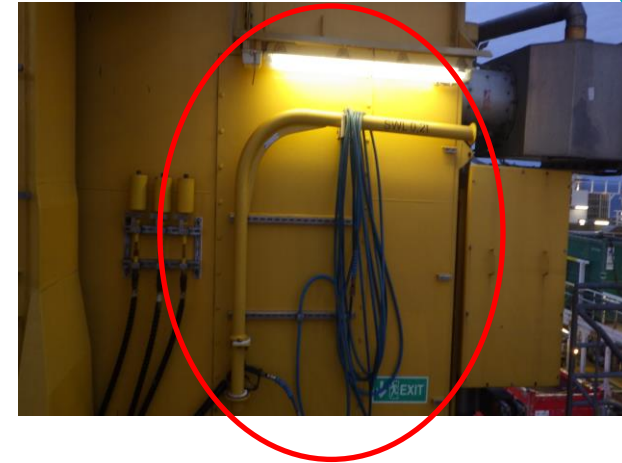
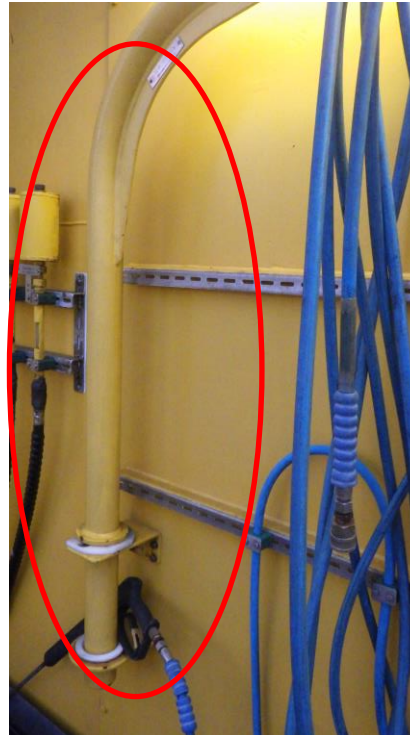
Required action: Install secondary retention

CLOSED
FINDING

Regulations:
Sfs best practice Chapter 4

Access:
Platform

Competence:
Mechanic



Finding: 5.3

Class: 4

Location:
PORT offshore crane

Description: Equipment at height
without secondary retention

Tag / Ref. no.:

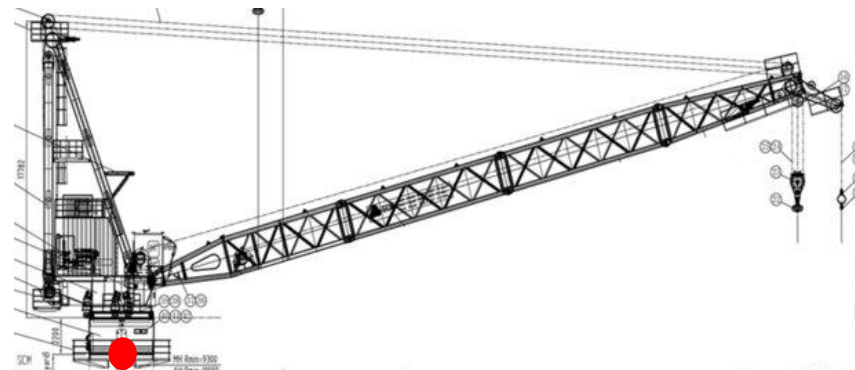
Required action: Install secondary
retention

CLOSED
FINDING

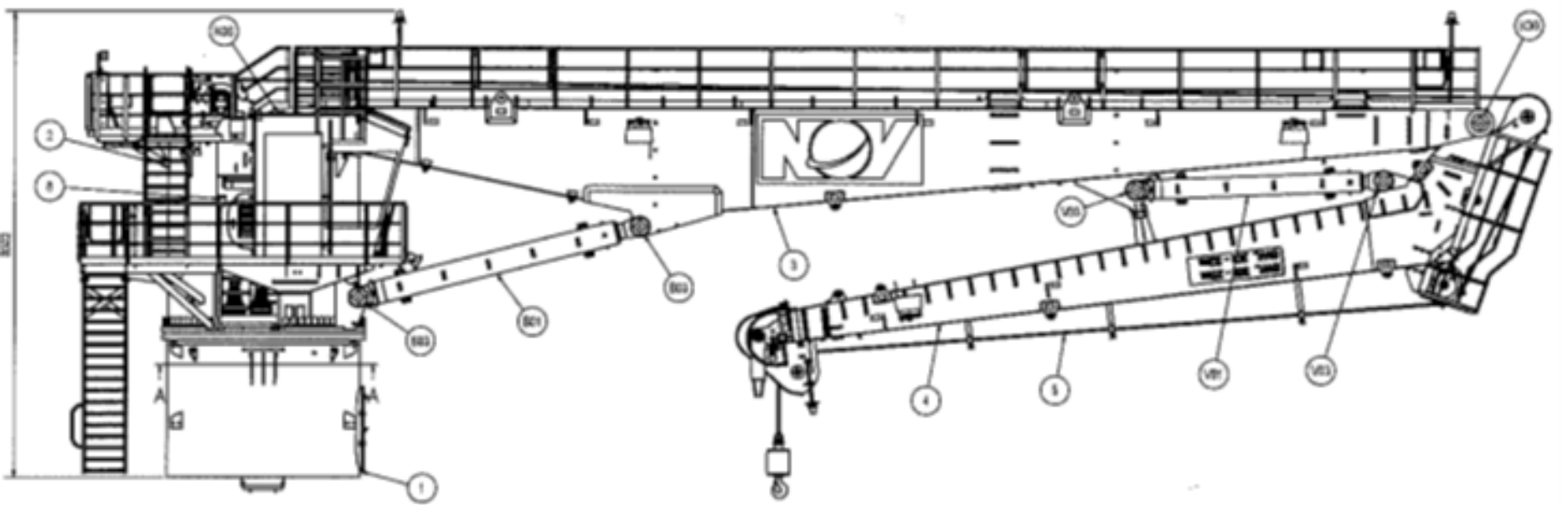
Regulations:
Sfs best practice Chapter 4

Access:
Platform

Competence:
Mechanic



AREA | 6.0 PIPE HANDLING CRAN



Finding: 6.1

Class: 4

Location:
PORT offshore crane

Description: Equipment at height secured with jack strap

Tag / Ref. no.:

Required action: Fit the correct attachment point and remove the jack strap



Regulations:

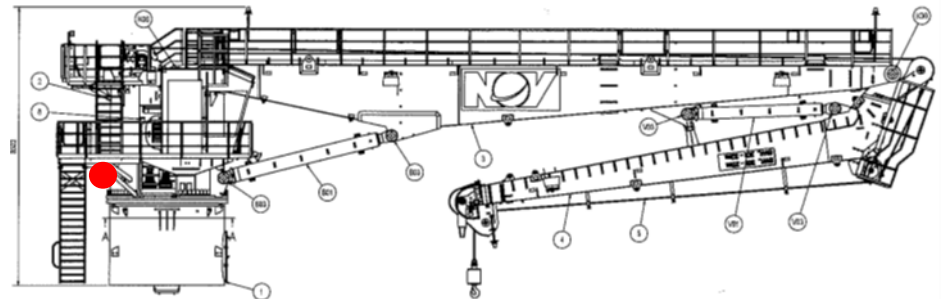
Sfs best practice Chapter 7

Access:

Platform

Competence:

Mechanic



Finding: 6.2

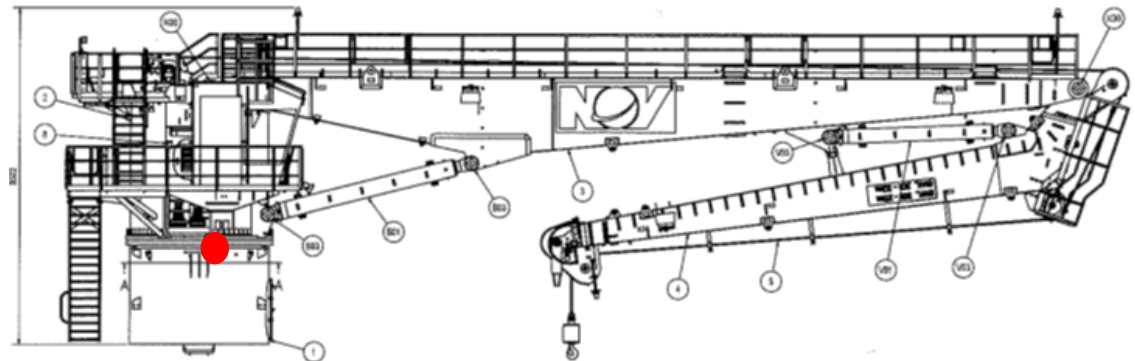
Class: 4

Location:
PORT offshore crane

Description: Washer used for bolt is too small

Tag / Ref. no.:

Required action: Remove old washer and apply correct size washer



Regulations:
Sfs best practice Chapter 4

Access:
Platform

Competence:
Mechanic