



Grating / Grating Securing

Port of Leith

Initial Hazard Reference



Unsafe Floor Grating

Safety Alert

The Facts

The HSE Energy Division—Oil, Gas and Wind Generation recently issued Safety Alert (SDA-2023) stating the following: "Factors of polymer floor grating systems, used on offshore oil and gas platforms, vessels and wind generation installations, can become dislodged. Workers and others are at risk of tripping on unsecured flooring or falling through the subsequent hole".

Outline of the problem

Inspections have revealed that fasteners used to secure the polymer grating flooring sections have not been installed or positioned as per the original equipment manufacturers (OEM's) guidance, or in line with industry good practice.

Action required from Offshore / Wind Turbine Installations

1. Identify where grating systems are used
2. Duty holders and employers should identify all areas of grating systems across installations and workplaces.
3. Prioritise safety critical areas

Prioritise safety critical areas such as escape routes and carry out a suitable and sufficient review to ensure they are safe to use. This should include but not be limited to ensuring they are installed in accordance with the original equipment manufacturers (OEM) instructions for the use of fasteners.



Issued on behalf of Forth Ports Limited by
Health, Safety & Environment Department

The Solution

Forth Ports' infrastructure, plant and equipment shares similar design traits to offshore platforms including grating, due to a recent event involving a high potential dropped object which grating dislodged and fell within a close hold. Forth Ports would like to raise awareness of the risk posed by loose grating.

Advisory Forth Ports Actions

Review grating integrity and securing mechanisms on all plant, equipment and infrastructure that have grating/mezzanine areas (regardless of grating material).

1. Ensure all grating is appropriately secured without tripping hazards. Critically review grating secured at height.
2. Ensure adequate, secure tack/run welds on grating (including on any repaired areas).
3. Existing clip arrangements are suitable and sufficient.
4. Addition of grating security checks to preventative maintenance regimes and pre use checks.

Key indicators for grating failure:

- Movement of grating
- Clips missing, hanging or on the floor
- Lack of uniformity/evidence of repair.

Awareness of the danger posed by loose grating is critical to incident prevention. When working on any grating platform, all employees are urged to undertake a visual check of the grating and securing mechanism before a task commences.

If the platform is loose, unsecured or unstable, STOP the job immediately and inform your Supervisor.

Secure grating to be done:

Management	Supervisors
Operations	Engineering
Admin	Maintenance
All Employees	Contractors

Form No: A034 Issue No: 01 Issue Date: 30 April 2023



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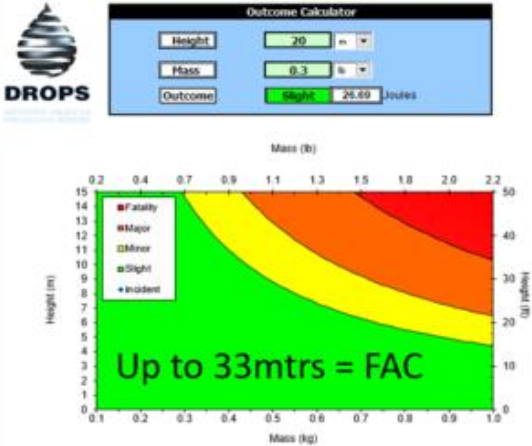
Background Information

Grating Clips Information

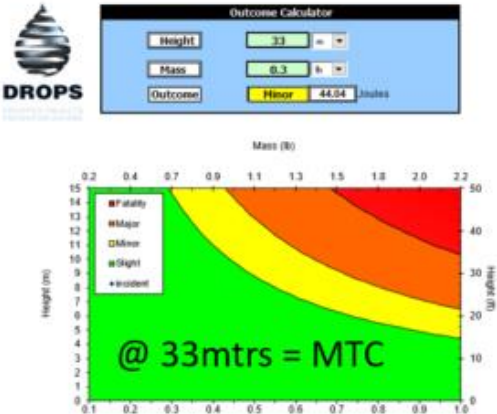
Siwertel



Crane 42



KEY	DESCRIPTION
■	FATALITY: Death resulting from an injury or trauma.
■	MAJOR: A Lost Time Incident (LTI). Non-fatal traumatic injury that causes any loss of time from work beyond the day or shift it occurred. Also referred to as Day Away From Work Case (DAFWC).
■	MINOR: A Medical Treatment Case (MTC). A Work-related injury that does not involve death, day(s) away from work, restricted work or job transfer, and where the employee receives medical treatment beyond first aid.
■	SLIGHT: A First Aid Case (FAC). Limited or no injury. Treatment may be limited to first aid.



Initial Hazard Indicators

Siwertel – Looking for evidence & seeing the indicators

Look for Indicators



Look for Evidence 1



Look for Evidence 2



Initial Hazard Indicators

Siwertel – Looking for evidence & seeing the indicators

Look for Indicators

Look for Evidence 1

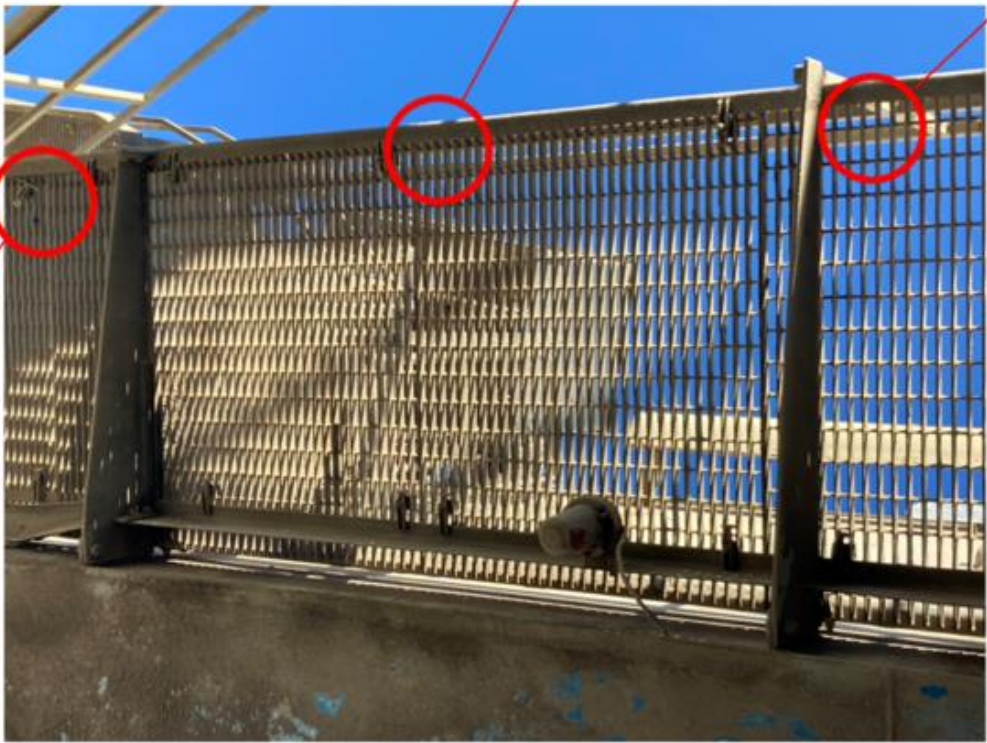


Siwertel – Looking for evidence & seeing the indicators

Clip missing?

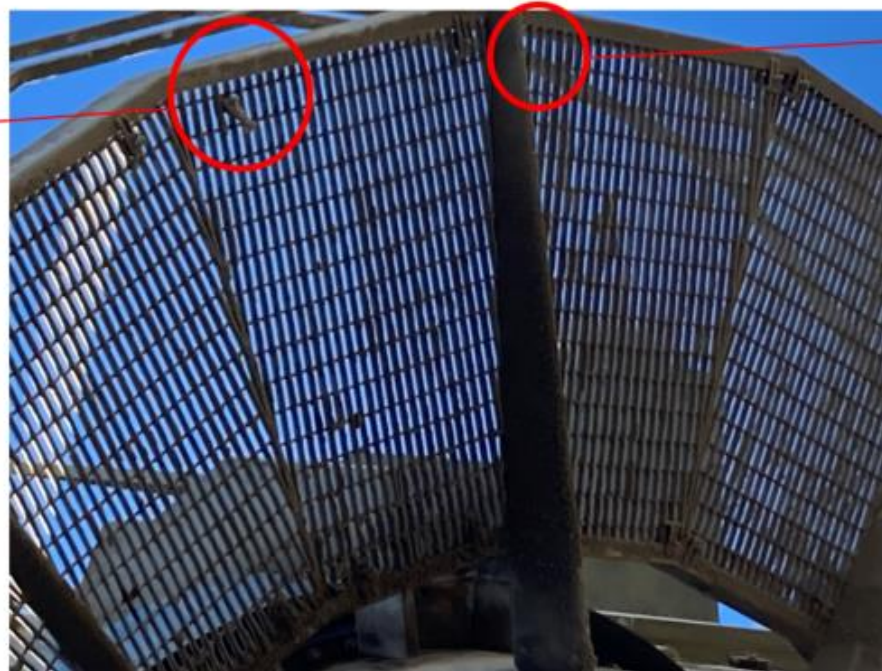
Clip missing?

Clip Loose / hanging?



Siwertel – Looking for evidence & seeing the indicators

Clip Loose



Potentially a clip missing?



Crane 42 (1st Level)
*Looking for evidence &
seeing the indicators*

Clip Loose /
hanging

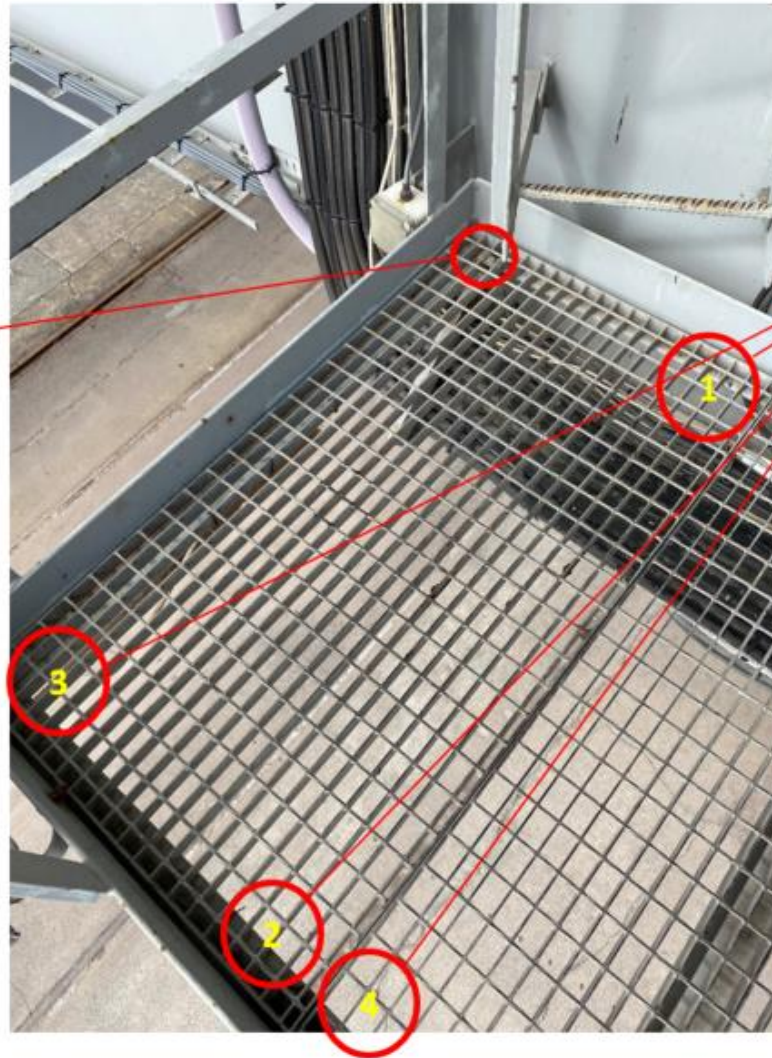


Location of find



Crane 42 (1st Level)
Looking for evidence &
seeing the indicators

Only 1 x Clip
retaining whole
panel



4 Clips missing
means whole
panel loose



Crane 42 (1st Level)

Clip lying on Cable
Tray



Crane 42 (1st Level)

Clip lying on Cable
Tray



Crane 42 (1st Level)

Clip lying on Cable Tray



Crane 42 (1st Level)


Greasing Tube
lying on Cable
Tray






ADDITIONAL POTENTIAL
DROPPED OBJECT FIND



Auditing of Grating Hazards

Grating Survey Report							
FORTH PORTS				PORT OF LEITH			
INSPECTION AREA: Mobile Plant & Equipment							
AREA SPECIFIC DESCRIPTION: Hopper No 2							
ITEM	PHOTOGRAPH	DESCRIPTION	FASTENING METHOD	CONDITION	COMMENTS	Further Action	NAME
1		1st Level of Hopper, Panel at end of walkway not secured	Primary Securing: None Secondary Retention: None	Cheavily contaminated with product	No retention - Loose panel	Requires clips to secure or to be welded into position	GV / NR
2							

Grating Survey Report							
FORTH PORTS				PORT OF LEITH			
INSPECTION AREA: Lock Gates							
AREA SPECIFIC DESCRIPTION: Lock Gate #1							
ITEM	PHOTOGRAPH	DESCRIPTION	FASTENING METHOD	CONDITION	COMMENTS	Further Action	NAME
1		Lock Gate 2 panels nearest Harbour Office	Primary Securing: Securing Clips & Brackets Secondary Retention: Some Welding	Medium	Needs to be retightened.	Add to a PM	GV / NR
2		Lock Gate panels nearest Harbour Office	Primary Securing: Securing Clips & Brackets Secondary Retention: Some Welding	Medium	Needs additional clips	Add to a PM	GV / NR
3		Lock Gate panels nearest Harbour Office	Primary Securing: Securing Clips & Brackets Secondary Retention: Some Welding	Medium	Clip Loose and hanging	Tighten Clip	GV / NR

←
▶
Safety Alert
Lighting Towers
Hopper No4
Hopper No2
Harbour Office
Lock Gate #1
Lock Gate #3

Grating Survey Report							
FORTH PORTS				PORT OF LEITH			
INSPECTION AREA: Mobile Plant & Equipment							
AREA SPECIFIC DESCRIPTION: Hopper No 2							
ITEM	PHOTOGRAPH	DESCRIPTION	FASTENING METHOD	CONDITION	COMMENTS	Further Action	NAME
1		3x Hoisting Clips removed from 1st Level Cable Tray	Primary Securing: None Secondary Retention: None	None			GV / NR
2		3x Hoisting Clips removed from 1st Level Cable Tray	Primary Securing: None Secondary Retention: None	None			GV / NR
3		Level 2 Locking clips Level 3	Primary Securing: None Secondary Retention: None	None			GV / NR
4		Level 2 Clips left inside Hopper	Primary Securing: None Secondary Retention: None	None			GV / NR
5		Level 2 4x Clips Missing	Primary Securing: None Secondary Retention: None	None			GV / NR
		Level 3 Locking clips Level 4 (Cross Skewer) Birds Nest	Primary Securing: None Secondary Retention: None	None			GV / NR
		Level 3 Locking clips Level 2 across Ladder	Primary Securing: None Secondary Retention: None	None			GV / NR

Controlling Hazards / Action Planning

Grating PMs Entered into Integra

Job Raised Date	Job Code	Description of Job	Job Status	View Job
24 May 2023	561508	Leith Lock Gates Mechanical defect H&S Action No3 gate 2 x Panels not secure clips missing replace.	OPEN	View Job
24 May 2023	561600	Leith Lock Gates Mechanical defect H&S Action No3 Gate Ineffective Clip, Clip below grating replace.	OPEN	View Job
24 May 2023	561610	Leith Lock Gates Mechanical defect H&S Action No3 Gate Panel rotted Clip Missing / Grating Rotted through and will soon become unstable replace	OPEN	View Job
Grand Total				26

Engineering Jobs By Plant - Leith/Buildings

Job Raised Date	Job Code	Description of Job	Job Status	View Job
24 May 2023	561584	Leith Buildings Mechanical Defect H&S Action Harbour Office fire escape Upper Fire Escape Grating Mezz Lvl 1 x Clip is loose on Large Panel / One side of Spot Welding is unattached. Re-lighten clip	OPEN	View Job
Grand Total				1

Engineering Jobs By Plant - Leith/Dock Infrastructure/Dock Lighting

Job Raised Date	Job Code	Description of Job	Job Status	View Job
24 May 2023	561527	Leith Dock Lighting Electrical Defect H&S Action Seafield Gate Tower Ladder damaged and unusable /Requires damaged ladder to be replaced	OPEN	View Job
24 May 2023	561528	Leith Dock Lighting Electrical Defect H&S Action Seafield Gate Tower Bird Nest at upper mezz: requires Birds Nest to be removed	OPEN	View Job
24 May 2023	561529	Leith Dock Lighting Electrical Defect H&S Action Harbour Office Tower Bird Nest at upper mezz: requires Birds Nest to be removed	OPEN	View Job
24 May 2023	561581	Leith Dock Lighting Electrical Defect H&S Action Tug Base Tower Bird Nest at upper mezz: requires Birds Nest to be removed	OPEN	View Job
Grand Total				4

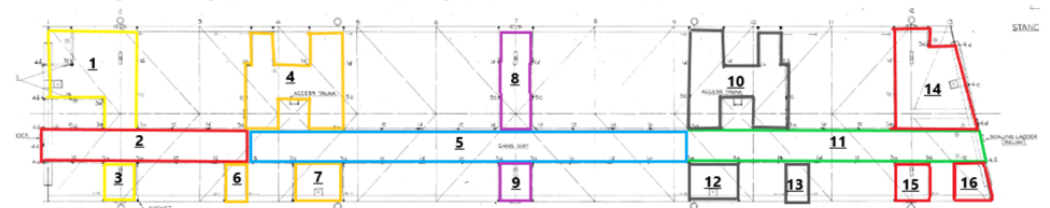
Engineering Jobs By Plant - Leith Cargo Handling Crane 40

Job Raised Date	Job Code	Description of Job	Job Status	View Job
24 May 2023	561611	Leith Electric Cranes Mechanical defect No40 H&S Action Birds Nest at Crown Sheave to be removed.	OPEN	View Job
Grand Total				1

High Risk Area Risk Planning Implemented

Caisson Grating Inspection Check List

Grating panels to be inspected for any signs of damage or heavy corrosion that could cause failure, if identified please action immediately or barrier off damaged area. Grating clips should be counted with any missing clips replaced, see list below of clip quantities for each section.



"A" Caisson

Section 1 – 2 x clips also welded check weld condition.

Comments:	
Inspected/Repaired By:	

Last Phase –

Audit to ensure all areas covered and target equipment improvements are implemented.