



DROPS

DROPPED OBJECTS PREVENTION SCHEME

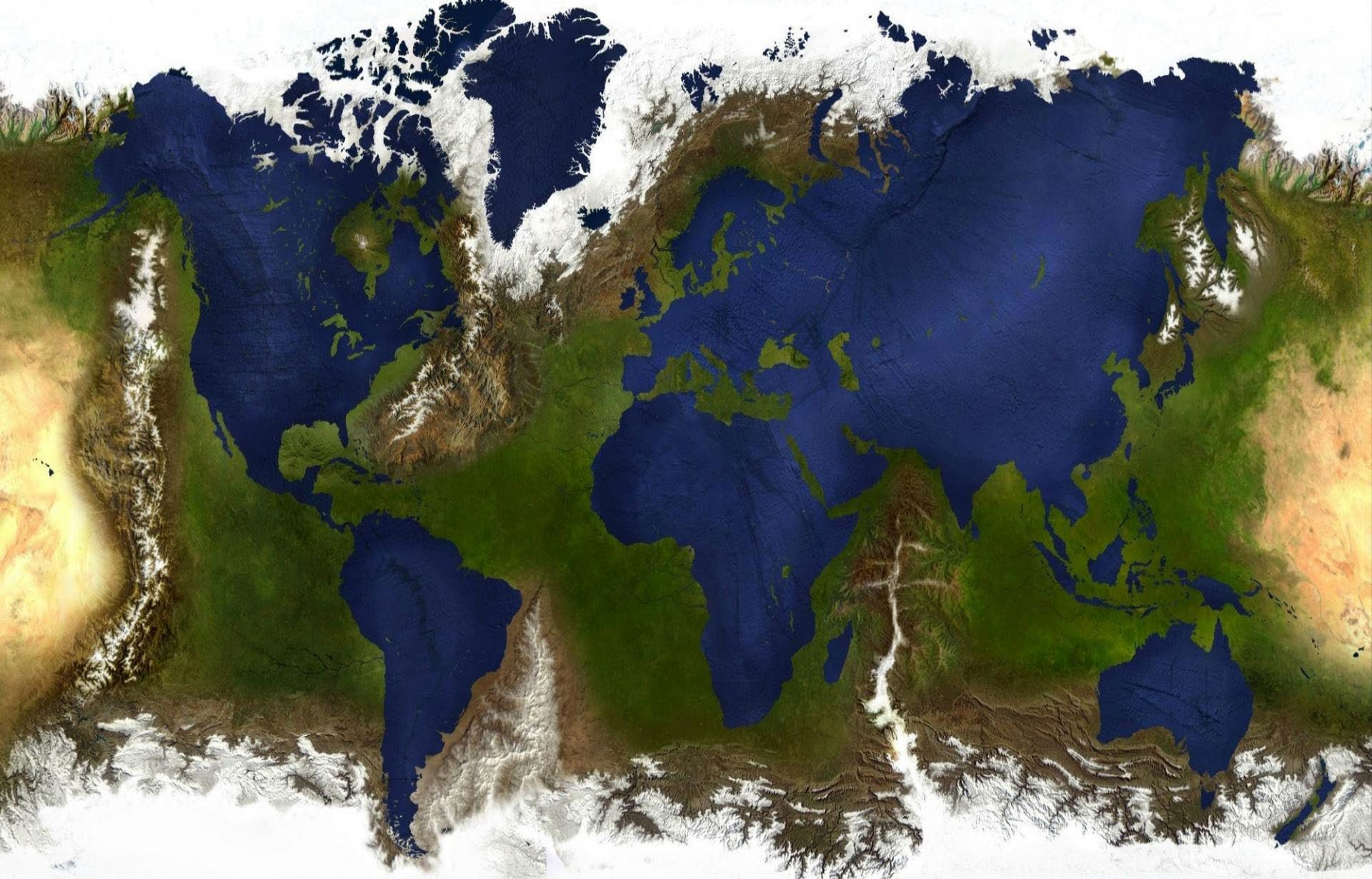
09.30-09.40	Welcome, Safety Brief & Introductions	Allen Smith DROPS
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10.00-10.25	Intrepid Toe Board Links and Self-Closing / Gravity-closing Gates	Walter Haulez, ISP
10.25-10.40	MSF Update	Steve Struthers, Gulfmark
10.40-11.00	COFFEE BREAK	All Attendees
11.00-11.10	Lessons Learned – Incident sharing	Steve Murphy, TAQA
11.10-11.20	IOGP update	Kirsty Walker, Schlumberger
11.20-11.35	Dropped Object Presentation using Deck Management System & Artificial Intelligence	Shreyas Koliyot, Tech 27
11.35-11.55	DROPS Forum survey/Way ahead – table work	All Attendees
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Marcliffe Hotel Aberdeen: Tuesday 30 April 2019

NEXT FORUM: Tues 17 Sept (Aberdeen)








DROPS : Global Update





Capturing global learnings from Regional groups

Incident Sharing challenges

Duty Holder engagement

Event planning

Accounts



DROPS Steering Committee



Regular **UK** Sessions,
events in USA and Canada

Online training concepts for
general awareness and
augmented reality scenarios

Tailored training for
organisations

Full support from DROPS
Admin (TTT resources)

**What about our strategic
partners?**

DROPS Training



Marketing Materials

- Display Banners
- Literature and Materials
- Snakes 'n' Ladders
- Customised



DROPS Networking and Marketing



Online training concepts on mainstream VR hardware

Based on DROPS best practice

Collaborative development and realistic scenarios

Free to use via DROPS

Other viable online options being considered



DROPs Lessons Learned: Cable Ladder Rungs from Derrick Cable Tray

DROPs Description:

- Following a period of high winds 3 x suspected dropped objects were observed on the East Brae Skid Deck by the Deck Foreman.

Finding:

- Upon inspection, the objects were identified as rungs from a cable ladder rack located within the drilling derrick. The heaviest rung weighed 0.45kg and fell from a height of 48.4m. Based on the calculated impact energy, this had the potential to cause a fatality.
- The pre-fabricated, cable racks with welded rungs were in place from original build (>30 years).
- Plastic cable fasteners were used instead of the required metal cable fasteners.
- Cables were not adequately secured to the ladder rack with the bundle spanning multiple rungs instead of the minimum of every second rung required for Low Voltage cable.

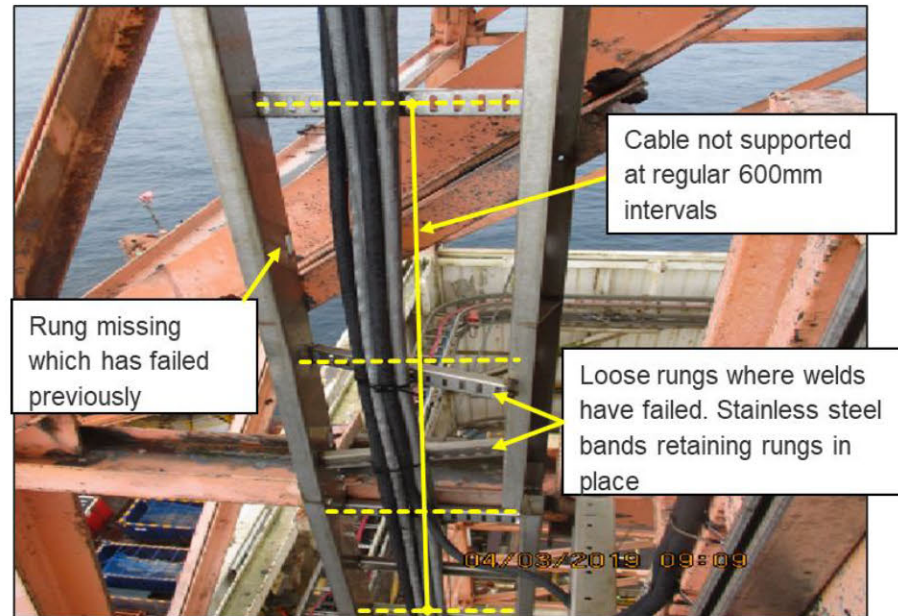
Finding Conclusion:

- Inspection surveys failed to identify:
 - the fatigue caused to the welded ladder rungs by movement in the exposed location, or
 - the cable fasteners were the incorrect specification and used at incorrect spacing.

Initial Actions:

- A full DROPS sweep was conducted by rope access personnel to ensure there were no other areas of loose cable rack within the derrick that could pose a dropped object risk.

Consequence			
Actual	None	Potential	Fatality



Locking Wire

Locking wire should only be applied by competent persons specifically trained in its correct use.

LOCKING WIRE / SAFETY WIRE

Wire locking of bolts is a method adopted from the aviation industry. In brief, the method involves threading a wire through holes in bolt heads to prevent loosening due to vibration and other forces. The wire is twisted before being threaded and is locked to the next bolt.

Areas of use:
Used extensively for locking external bolted connections on machinery and equipment, in particular where there are no through-bolts. The presence of locking or safety wire may also serve to indicate fasteners have been properly tensioned.

Best Practice Recommendations:

- No more than three bolts should be lock wired together and span between bolts should not exceed 150mm
- Lock wires in steel suital environments
- Lock wires in application

May stretch, break or corrode if not properly fitted rotation and loosening when exposed to dynamic

Galvanic Corrosion

As a basic rule, only metal of the same or almost the same nobility should be combined in a corrosive environment.

Galvanic corrosion occurs when two dissimilar metals with different voltage potentials are in contact with each other in the presence of an electrolyte (damp film or seawater / fresh water). **When this happens, the less noble metal becomes the anode and the more noble metal the cathode.**

For example, if a steel bolt is fixed into a stainless steel plate, the bolt will become the **anode** since stainless steel is the nobler metal.

The bolt will rust rapidly as the difference in potential is greater.

If the same steel bolt is fixed into, or is in contact with a less noble material, eg a zinc plate or washer, the bolt will become the **cathode** and will not rust.

The zinc will corrode, as it is less noble than the screw.

Always consider the potential for galvanic corrosion where new materials such as passivated stainless steel are introduced. Certain working environments apply strict controls and guidance with regard to the introduction of alloys. Always check first.

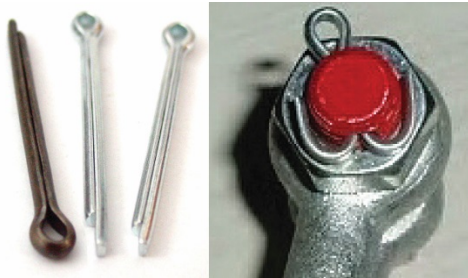


Graphite
Titanium
Silver
Acid-proof steel A4 – passive
Stainless steel A2 – passive
Inconel – passive
Nickel – passive
Silver solder
Monel
Copper/nickel alloys
Bronze
Copper
Brass
Tin
Lead
Tin solder
Cast steel
Steel and iron
Aluminium 2024 – T4
Cadmium
Aluminium 1100
Galvanised steel
Zinc
Magnesium alloys
Magnesium

RELIABLE SECURING PRINCIPLES
Share our learnings with our strategic partners.

(Still Only) Functional Recommendations

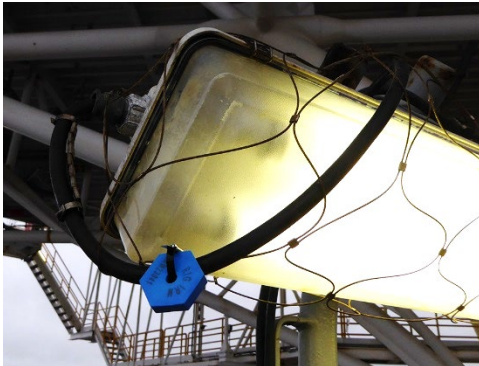




THE HUMBLE BUT CRITICAL SAFETY PIN

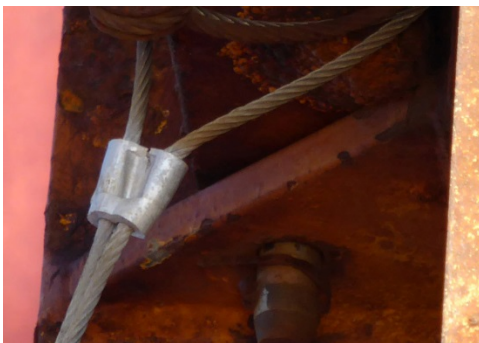
Mandatory requirements for correct installation of split / cotter (e.g. C-NLOPB)

...and what happens when we don't.



WHEN YOU SEE THE RFID TAG

It's not just a 3rd Party project. We're all responsible. Highlights a potential dropped object... get to know how you can help manage the prevention measures.



SAFETY SECURING TRACEABILITY?

Procurement, manufacture, [date of] installation and inspection [criteria] for safety securing devices should be documented.

Reliable Securing Rev04



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- Consolidating what we have regionally and globally
- Broadening the involvement and communications
- Reviewing and improving recommendations and guidance
- Identifying and pursuing new channels and avenues
- Seeking the global DROPS Community consensus

TABLE TOP EXERCISE

Development of an online survey:

- **What questions should we ask?**
- **How should we present them?**

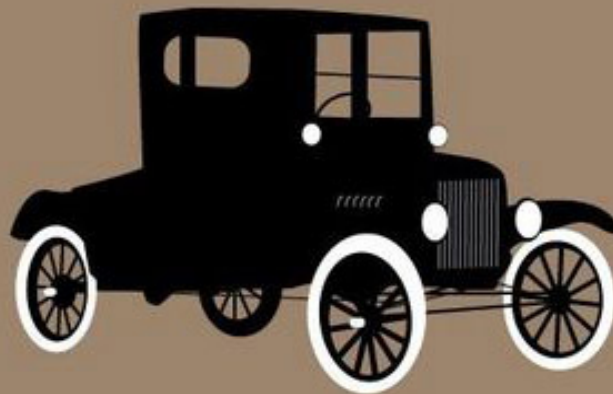


COMING TOGETHER IS A BEGINNING

KEEPING TOGETHER IS PROGRESS

WORKING TOGETHER IS SUCCESS

- Henry Ford

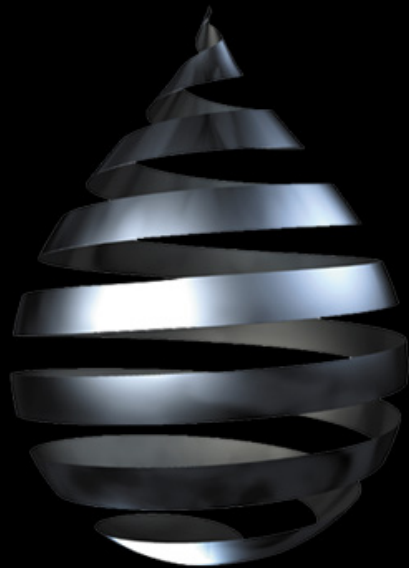


Thank You!



DROPPED OBJECTS

STILL HARMING
STILL KILLING



NEXT UK FORUM: 17th September
Marcliffe Hotel, Aberdeen

DROPS

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www.dropsonline.org