
DROPS
DROPPED OBJECTS PREVENTION SCHEME

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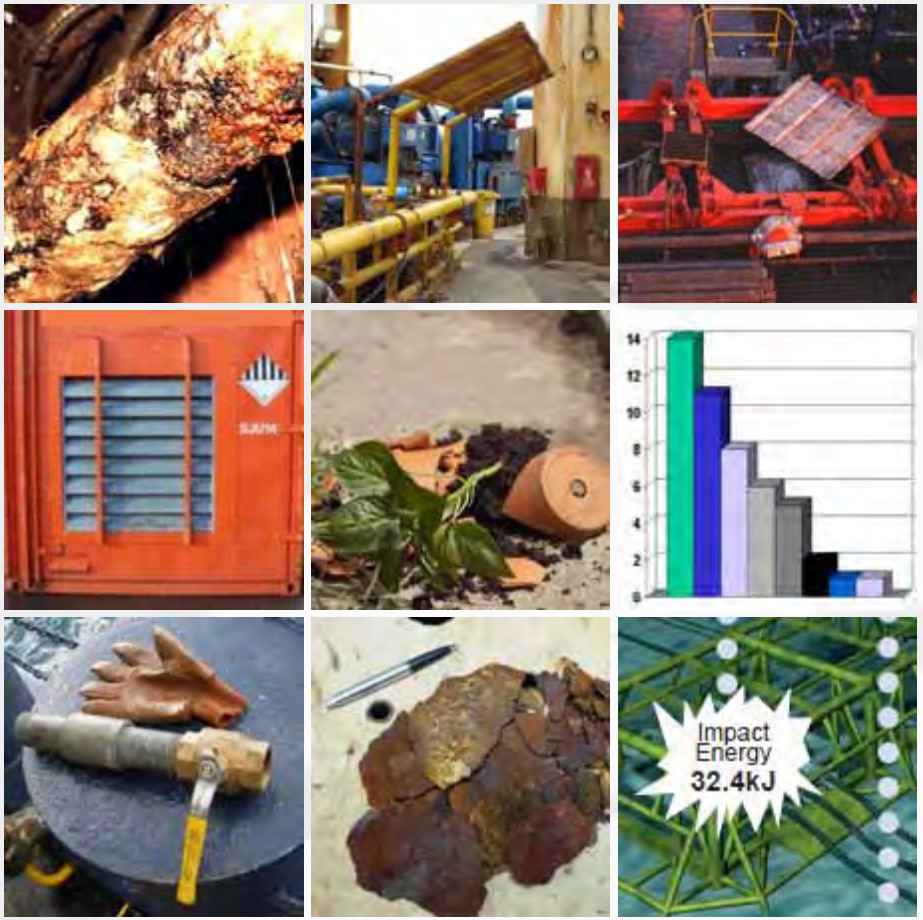
PREVENTION SCHEME

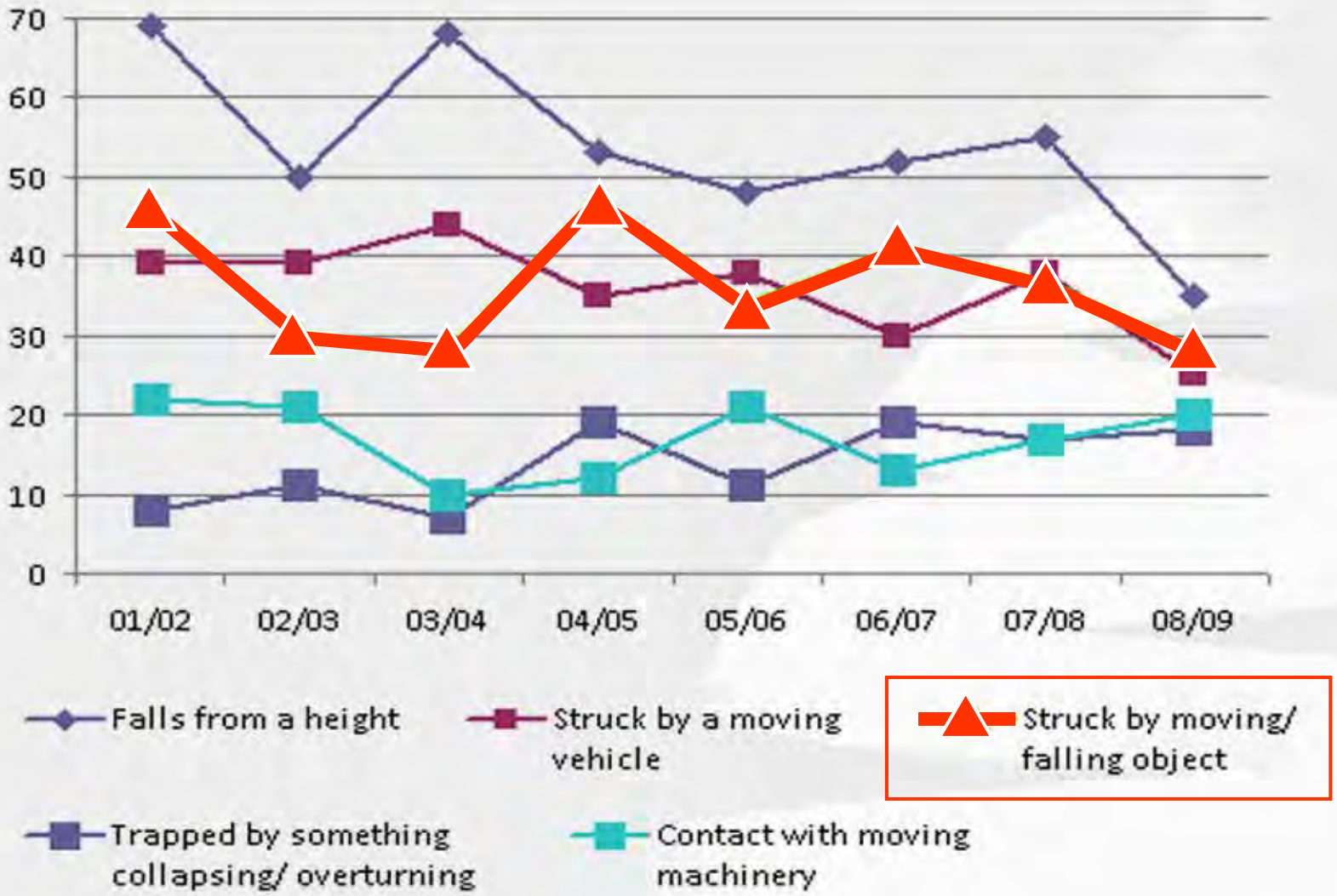


- Overview of DROPS
- Statistics
- DROPS Activities
- 2010 Achievements

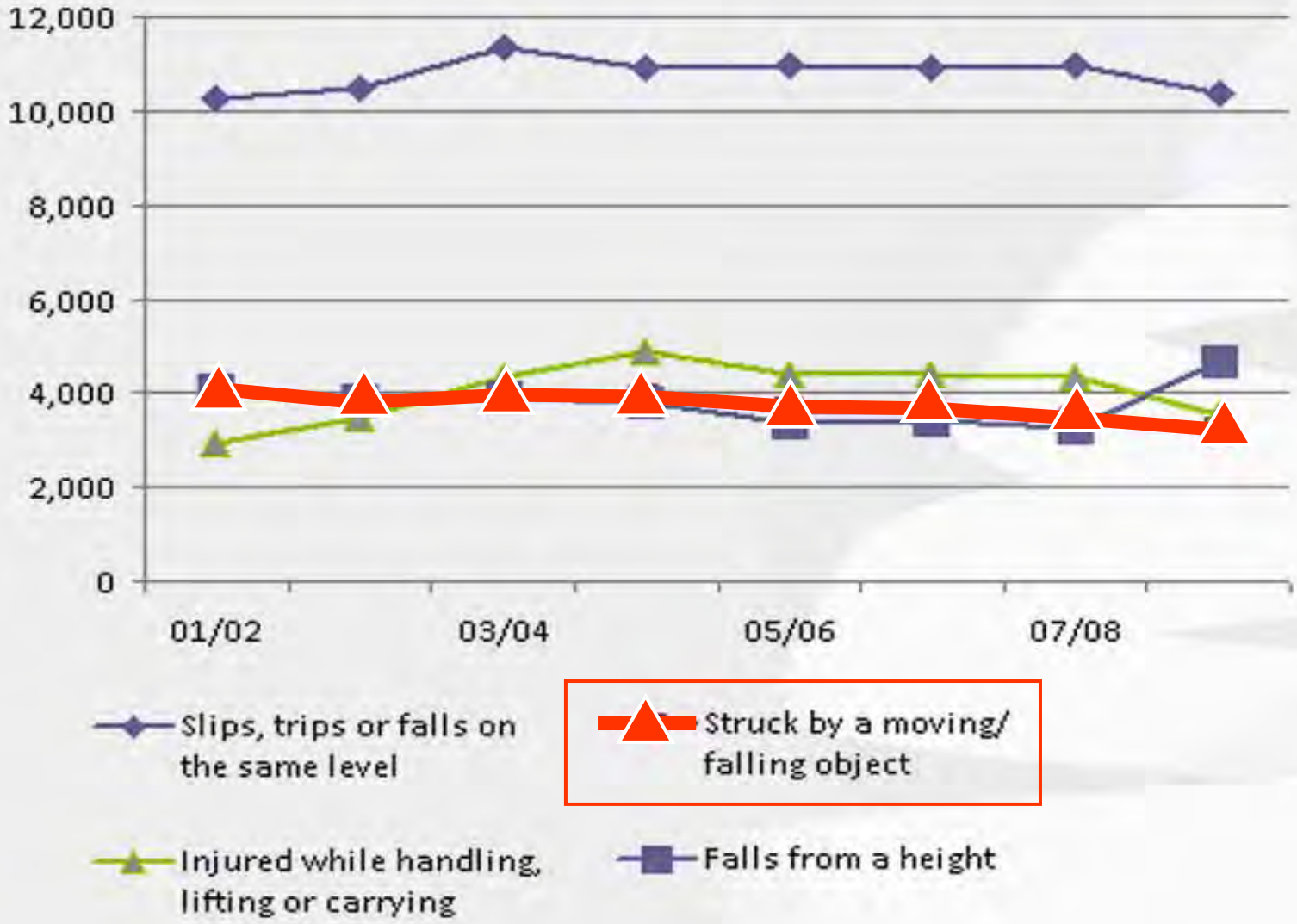
DROPS

DROPPED OBJECTS
PREVENTION SCHEME

- Oil & Gas Industry Workgroup focused 100% on dropped object prevention
- Globally active, member-funded and non-profit making
- Leading global resource for guidance and support in dropped object prevention
- Addressing all aspects, disciplines and interactions of the full Oil and Gas supply chain, including the Marine sector
- Committed to learning, sharing and collaborating with all industry sectors that face similar challenges, eg Construction, Mining, Fabrication and Manufacturing
- Regular Worldwide Forums, Presentations and Training Events



HSE Statistics – UK Industry Fatalities 2001 - 2009

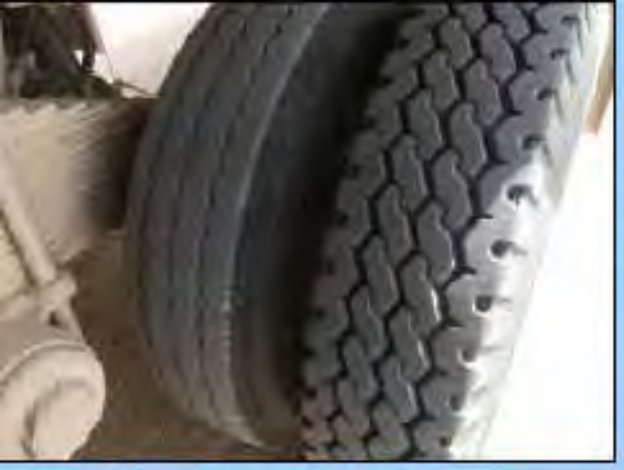


HSE Statistics – UK Industry Serious Injuries 2001 - 2009

AT HOME AND AT LEISURE :

“The top three causes of fatal accidents are… falls from height… being struck by moving vehicles…and **being struck by falling objects.**”

RoSPA Statement



Mixed tyres on same axle
اطارات مختلفة على نفس المحور

Equipment inside cab
معدات داخل الكابينة

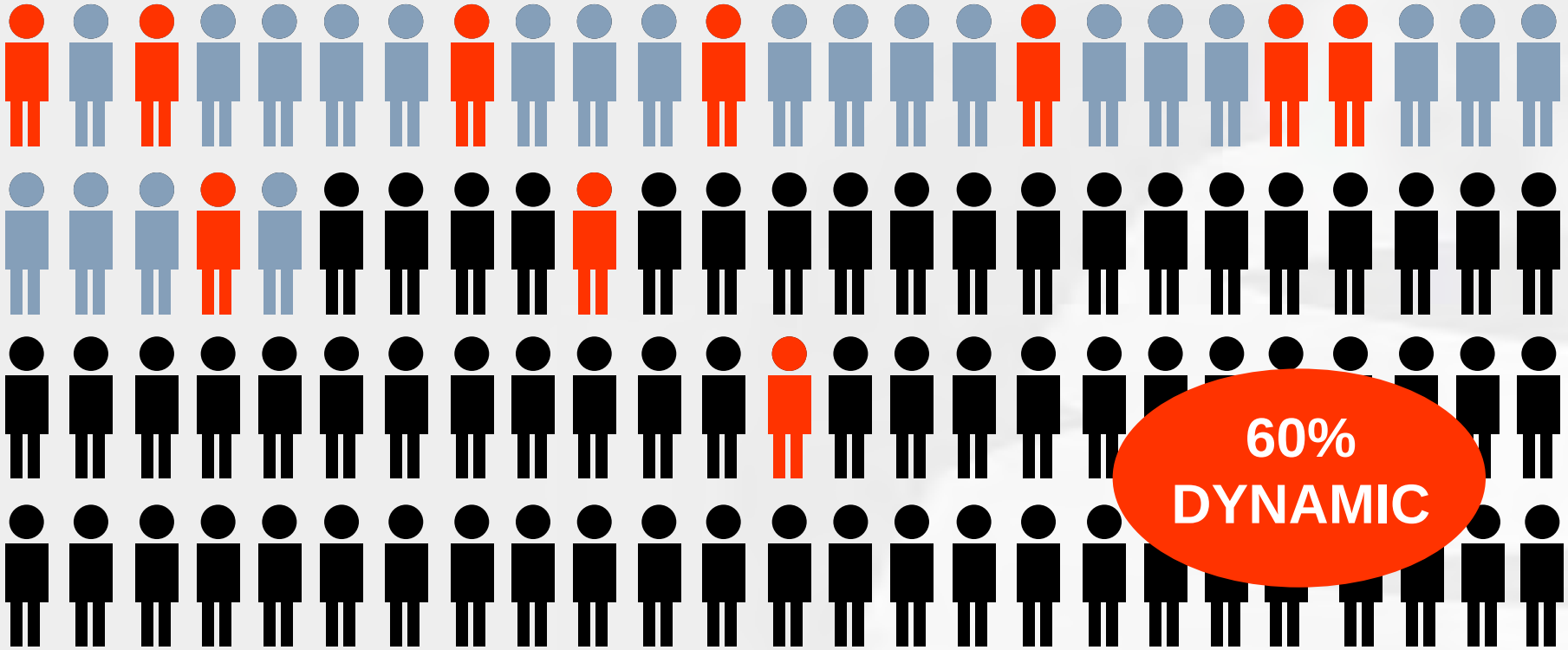
Pipe work NOT set to head board
لم تصل حمولة الأنابيب إلى اللوحة الأمامية

Unsafe load with incorrect ratchet strap
حمولة غير آمنة وأشرطة غير سليمة

Pipe work moved on trailer bed
الأنابيب تتحرك على قاعدة الناقلة

Expired RAS
انتهاء صلاحية ملصق راس

…Happening Everywhere



OF 100 TOTAL INCIDENTS – *AN AVERAGE RIG CREW*

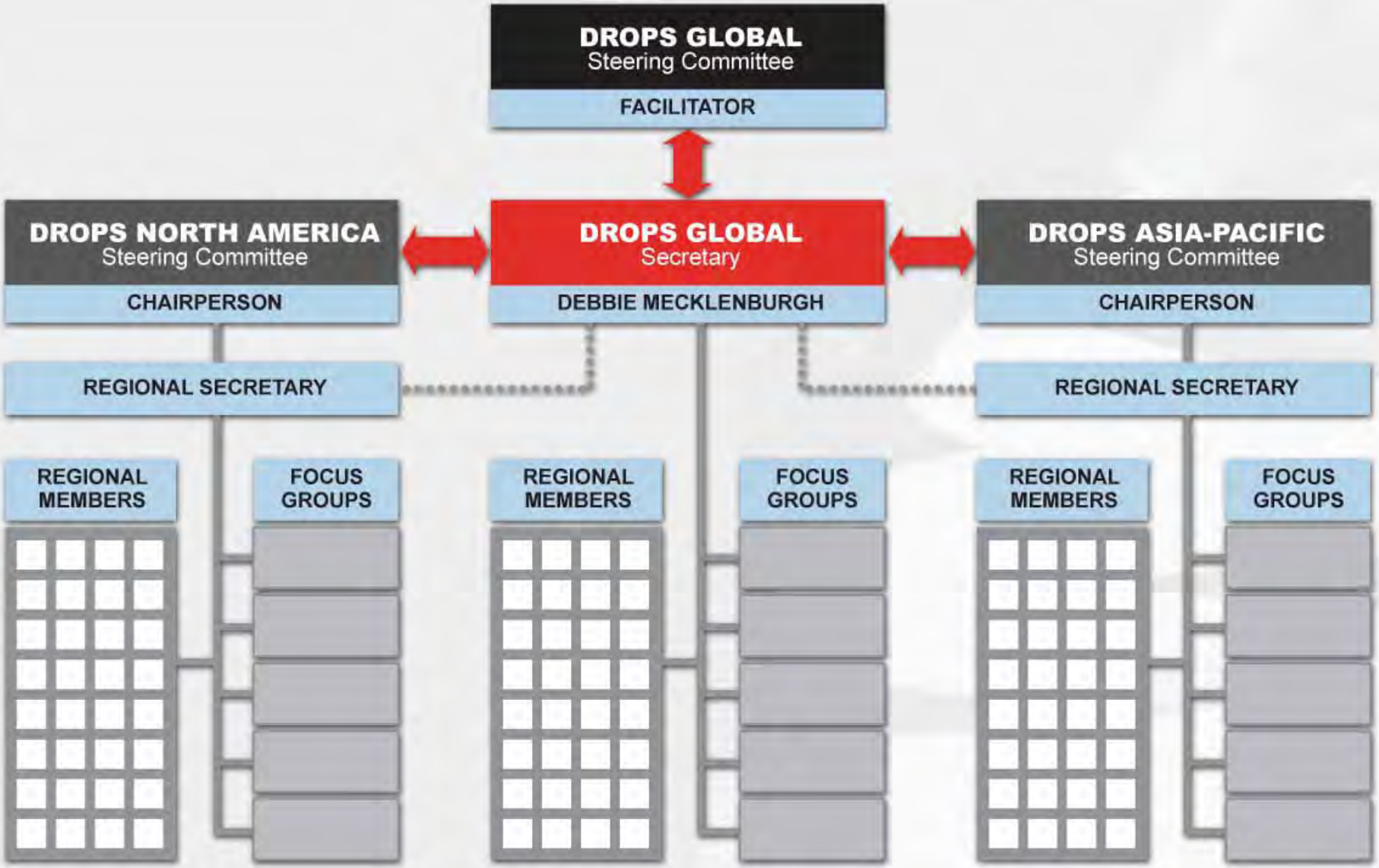
30 ARE DROPS RELATED APPROX 10 HiPo…8 OF WHICH ARE DROPS RELATED

Typical YTD Statistics

“So what are we doing about it?”

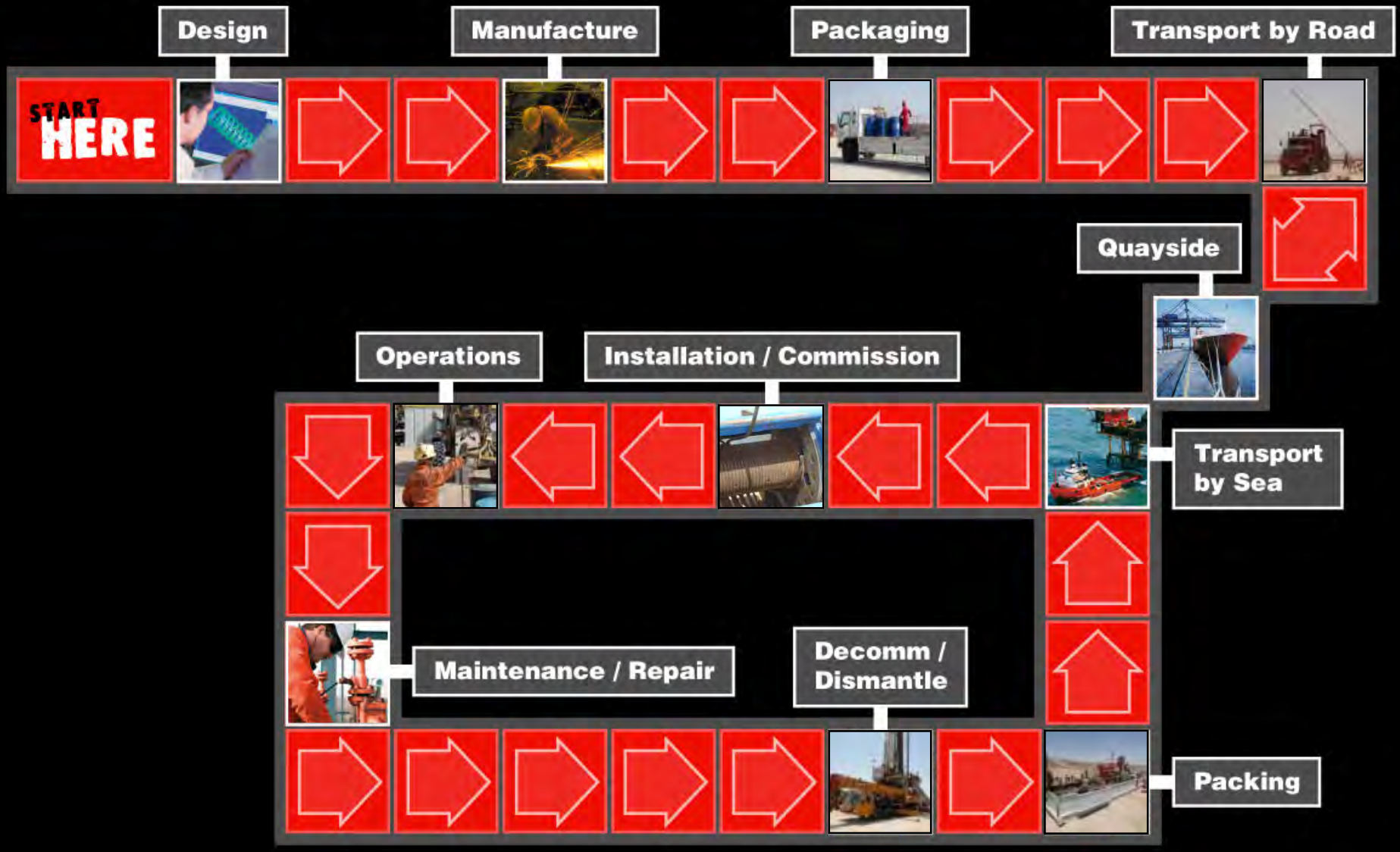
Over 80 Workgroup Members

DROPS Global 2010



DROPS Global Chapters

- **Objective of Forum**
- **Event Planning**
  - Arrangements, invitations and Agenda
- **Facilitation**
  - Minutes
  - Handout Prompts / Updates
  - Sharing Good / Best Practice
- **Focus Groups**
  - Main Focus Issues
  - Quick Hits
  - Feedback to Members



DROPS Beyond Drilling…

- DROPS Training
- DROPS Calculators
- Reliable Securing
- Tools at Height
- DROPS Inspection Best Practice
- Pre-Job DROPS Checks and Prompts
- Red Zone Guidelines
- Awareness Posters
- Website
- DORIS (Statistical Database)

Products Delivered

DROPS Rogues Gallery

TOOLS AT HEIGHT STANDARDS

DROPS RESTRICTED ACCESS AREAS (RED ZONES)

A toolbox talk should be undertaken where a Task or Job Risk Assessment is not required. The toolbox talk should fully review the established operating procedure and all participants should have a copy in hand.

When any activity within the Red Zone or a non-routine activity within the Yellow Zone has been completed, the performing individuals shall inform the Area Authority. On notification that the task is completed, the Area Authority shall immediately withdraw the permission to enter the zone.

Controlling Access to Restricted Areas

Access to Red or Yellow Zones **must** be controlled at all times. All access points should be identified and equipped with a physical barrier marking the ... which personnel cannot proceed without approval from the Area Authority. ... barrier may be a chain, gate, door etc. (Emergency egress must not ... The barrier shall always be in place at all access points leading directly ... Red Zones, and at any other access points determined by the Area Aut...

The physical barrier should also include a sign (in both English and ... local language) that communicates the zone is a hazardous area and ... the Area Authority's authorization (see example shown as Figure ... examples of Zone entry marking techniques are shown in Figure 3.

Figure 2 Example Warning Sign

Figure 3 Example Red Zone Marking Techni...

Access to Restricted Areas

For Green Zones, anyone may enter as long as no additional barriers are in place.

For Yellow Zones, only personnel with specific tasks in that zone may enter. All other personnel require the Area Authority's permission to enter or work in that zone.

In Red Zones, personnel may be more exposed to falling objects, the movement of remotely operated equipment, high pressure, and/or other hazards as determined by risk assessment. Any personnel in the Red Zone **must** be required for the current operation and **must** be authorized by the Area Authority.

The Area Authority **must** also ensure that any personnel entering a Red or Yellow Zone are aware of moving equipment, eg top drive and/or draw-works, pipe handling equipment, cranes, hoists etc. Furthermore, the Area Authority **must** ensure an appropriate plan is in place for specific operations in a Red or Yellow Zone, eg running casing, completions, maintenance, lifting etc.

Additional personnel may not under any circumstances join a task being conducted in a Red or Yellow Zone until a Time Out For Safety (TOFS) has been called and the plan discussed. They must have a specific responsibility during the task, understand the placement of personnel, and be aware of machinery which may be operated duri... the task. Potential dropped objects and any other identified hazards must also ... discussed.

The Area Authority, once satisfied, must give approval before the task can resume

Permission to Enter Restricted Areas

Every effort should be made to identify and define an access route to ... Authority's common workplace location within the Green Zone. This ... personnel access to the Area Authority to request authorization into the Y... Red Zones. Authorization requests should be conducted in a manner tha... minimal distraction to the Area Authority.

Personnel not required for current operations **must not** be permitted in... Red Zones.

For any activities that require entry to a Red Zone, and for non-routine ... a Yellow Zone, a documented risk assessment must be performed bef... is given.

A Task or Job Risk Assessment should be performed when:

- any part of the activity is not covered by existing procedures
- there is conflict between procedures
- those personnel involved in the task are not familiar with the ...
- those personnel involved in the task have not been invo... operation for a long period.

Access Diagrams / Zone Maps

Access diagrams or Zone Maps should be prepared and mounted (where practicable) at all access points to Red or Yellow Zones and at the common workplace of the relevant Area Authority. The diagrams should clearly define and demarcate Red, Yellow and Green zones, as well as access and egress routes. They should identify the Area Authority's common workplace location and show green zone access to and from that location.

Figure 1 is an example of an Access Diagram for a typical Drill Floor where the Driller is the Area Authority and his common workplace is the Drillers' Control Room.

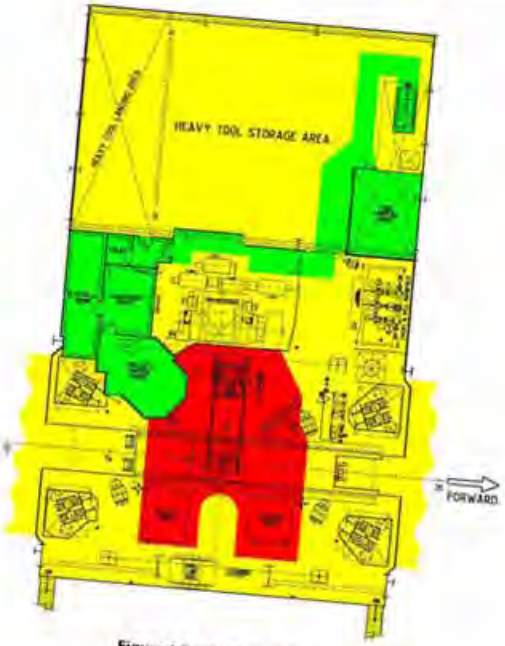
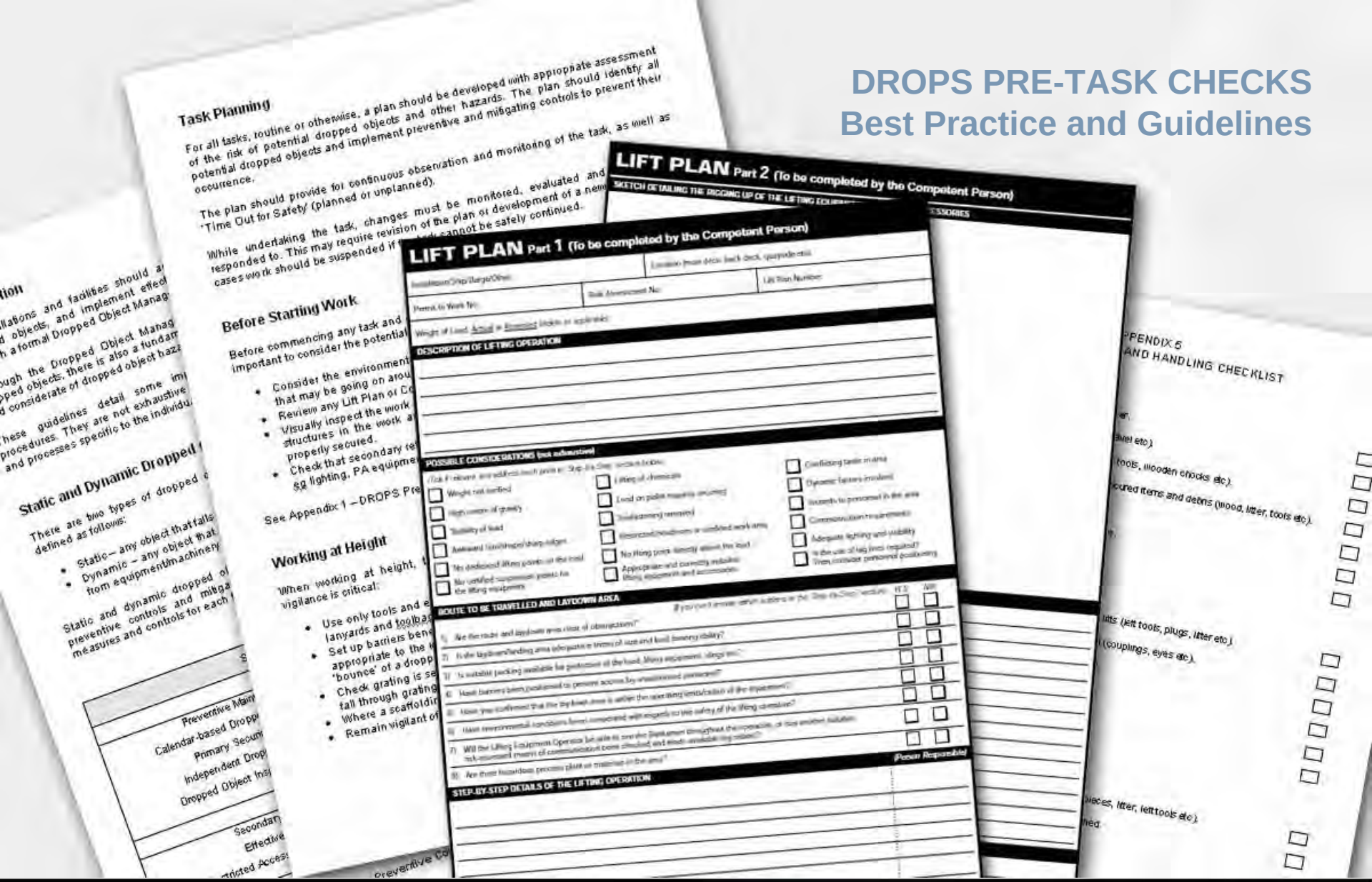


Figure 1 Typical Access Diagram

DROPS Shared Lessons and Best Practice

DROPS PRE-TASK CHECKS
Best Practice and Guidelines



DROPS Shared Lessons and Best Practice

COMMON STANDARD FOR DROPS INSPECTIONS & SURVEYS

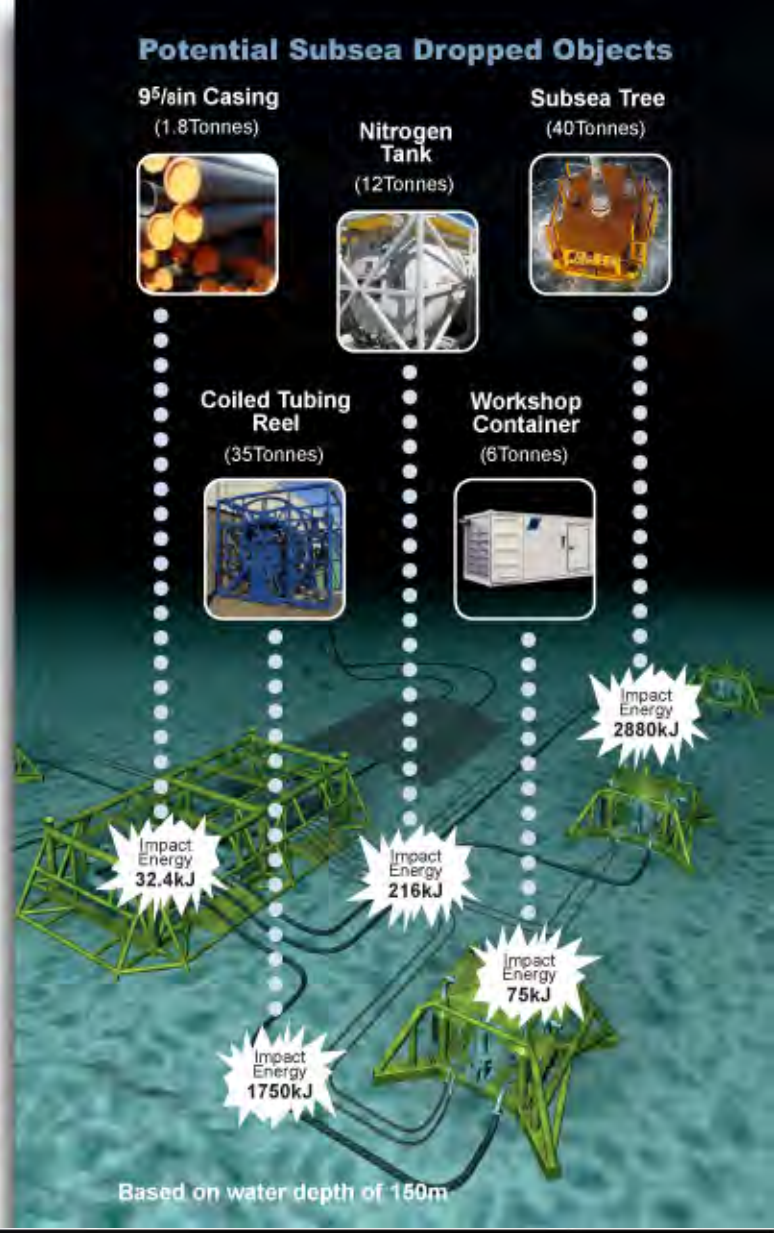
DROPS Shared Lessons and Best Practice

ITEM	Weight (Tonnes)	Max Drop Cone Angle (deg)	Max Drop Radius (m)	Terminal Velocity (m/s)	Impact Energy (kJ)	
30" Casing	5.6	30	64	6	100.8	
16" Casing	2.8	30	64	6	50.4	
11.3/4" Casing	2.4	30	64	6	43.2	
9.1/2" Drill Collars	3.5	30	64	6	63.0	
6" Drill Collars	2.6	30	64	6	46.8	
Well bay Protection Frame	2.5	30	64	6	45.0	
Gravel Pack Screens	11.0	45	110	6	198.0	
Gravel Infuser	2.0	30	64	6	36	
Subsea Tree	40.0	6	12	12	2880.0	
(spool tree)Tree Running Tool	13.0	30	64	10	650.0	
Tubing Hanger c/w pup joint	2.5	30	64	6	45.0	
WOCS Umbilical Reeler	10.2	30	64	10	326.4	
Workshop Container	15.0	45	110	6	270.0	
SenTREE Panel	2.7	30	64	6	48.6	
SenTREE Workshop Container	8.0	45	110	6	144.	
Flowhead & Basket	14.0	45	110	6	252.0	
Welltest Choke Manifold	3.5	30	64	6	63.0	
Welltest Cabin	6.5	45	110	6	117.0	
Surge Tank	26.9	30	64	8	860.8	
Holding Tank	2.0	30	64	6	36.0	
Workshop Container	6.0	45	110	5	75.0	
Air Compressor	6.0	6	12	8	192.0	
Methanol/Glycol Tank	3.6	30	64	6	64.8	
Coiled Tubing Reel	35.0	6	12	10	1750.0	
Coiled Tubing Power Pack	12.0	6	12	10	600.0	
Coiled Tubing Control Cabin	10.0	45	110	6	180.0	
Coiled Tubing Workshop	10.0	45	110	6	180.0	
7" Tubing	0.9	30	64	6	16.2	
5" Drillpipe	1.5	30	64	6	27.0	
Sealed Container	3.5	45	110	3	15.75	
Internal Tree Cap	1.0	30	64	6	18.0	

An impact energy of less than 30kJ may cause equipment damage but is unlikely to cause a release of hydrocarbons

An impact energy of between 30kJ and 50kJ is likely to cause significant damage and a release of hydrocarbons from pipework or pipelines but subsea tree integrity would most likely be maintained

An impact energy of greater than 50kJ has the potential to significantly damage any subsea equipment and is likely to cause a release of hydrocarbons.



Subsea Dropped Objects

DROPS Revised Poster Set

DROPS Awareness – Winter Campaign

DROPS Awareness – Summer Campaign

DROPS New Poster Set

DROPS Website www.dropsonline.org


Personnel Exposure against Injury Category in 158 Actual Incidents
between Jan-2010 and Nov-2010
Personnel
15
12
9
6
3
0
5
6
1
3
2
8
0
13
First Aid
Recordable
LTI / DAFWC
Fatality
Actual Injury
Potential Injury

- **www.dropsonline.org** is the main vehicle for presenting and marketing our products and giving access to free downloads, alerts, contacts, news and general **DROPS** information.

- Developing more products and deliverables is an ongoing process – effectively the output of the **DROPS Work Group.**

- Sale of Campaign Packs and Work Group Membership subscriptions provide the revenue for ongoing product development on a self-sustaining basis.

A Global Resource…


DROPS
DROPPED OBJECTS PREVENTION SCHEME