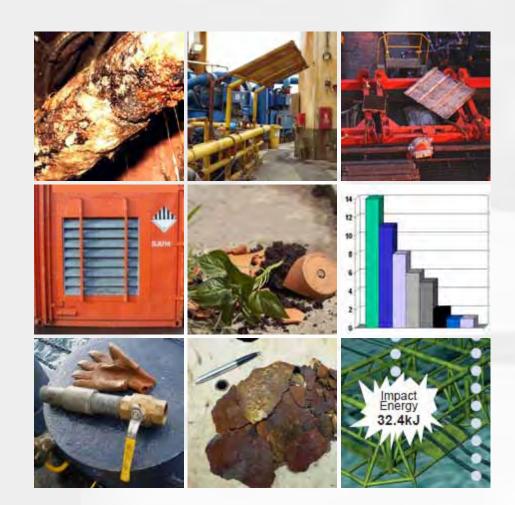




- Overview of DROPS
- Statistics
- DROPS Activities
- 2010 Achievements



DROPS Update

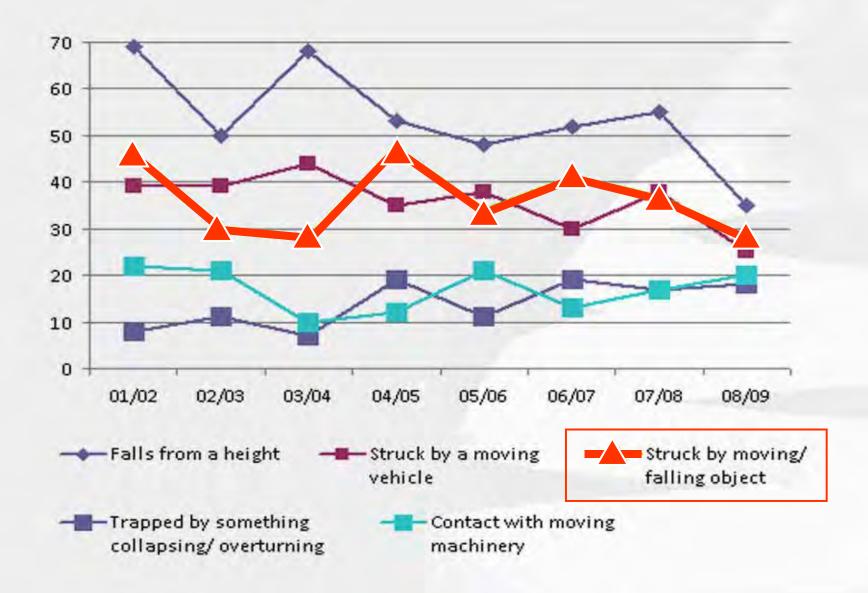




- Oil & Gas Industry Workgroup focused 100% on dropped object prevention
- Globally active, member-funded and non-profit making
- Leading global resource for guidance and support in dropped object prevention
- Addressing all aspects, disciplines and interactions of the full Oil and Gas supply chain, 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

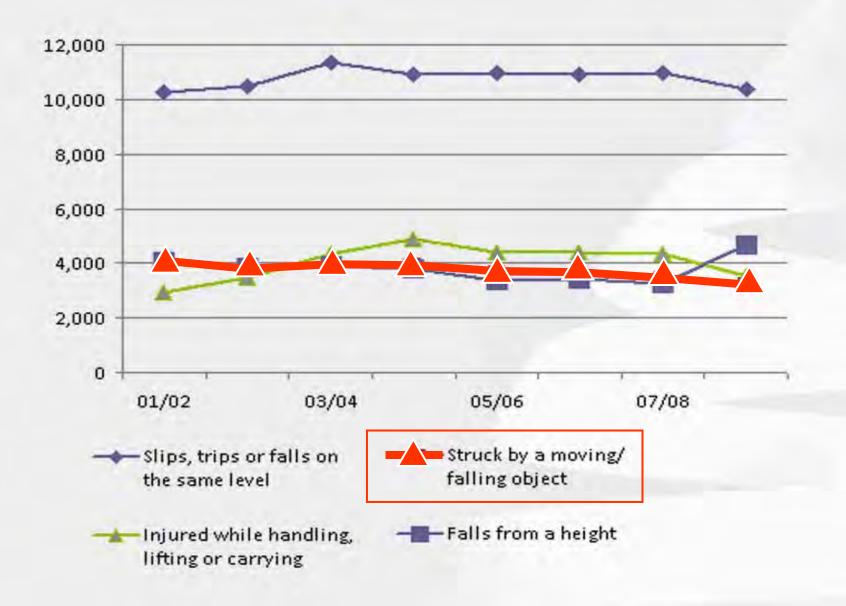






HSE Statistics – UK Industry Fatalities 2001 - 2009





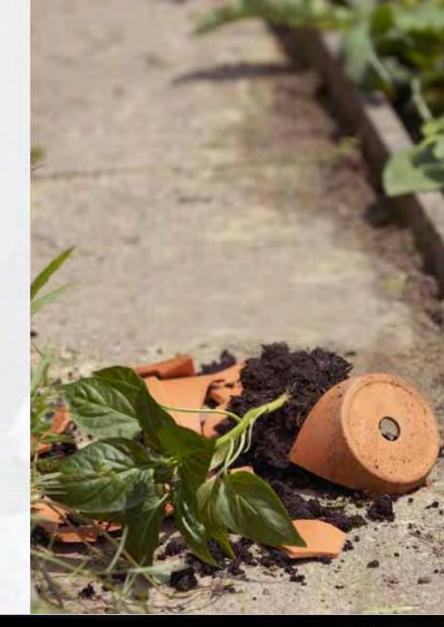
HSE Statistics – UK Industry Serious Injuries 2001 - 2009



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 الکابینة



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

60% DYNAMIC Π

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?"







Aberdeen Egypt Service Company to BI 6 Gen Services 6 Scoply Company



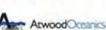
AKER KVÆRNER

AkerSolutions





ASCO



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Chevror



ConocoPhillips



CNR International



DIAMOND





in

Dolphi





HRA GROUP

EGVETIAN DEILLING COMPANY

ENSCO

ENCANA.











Boit securing system

DOS TRAINING INCOMPLETE

.......









400

PETERSONSES

PRIDE

*

RBG

RELIANCE

RIG RESOURCES PELLIN

REEL

irm

CA DEUTAG

HARPON DONTRACTORS LM

MAERSK DRILLING

MARATHON

SF

marine

ModuSpec

nexen



DFFSHORE





SILVERDOT

Safety

Systems

Snap-on

Songa >

sparrowsoffshore

Statoil

STEP CHANGE IN SAFETY

lanagement





















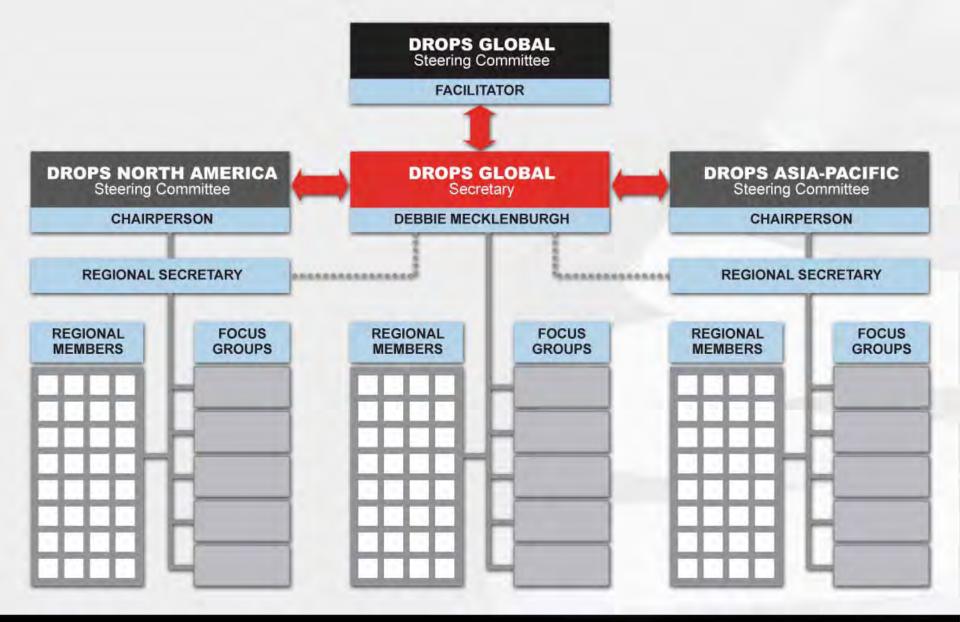






DROPS Global 2010





DROPS Global Chapters



- Objective of Forum
- Event Planning
 - Arrangements, invitations and Agenda
- Facilitation
 - Minutes
 - Handout Prompts / Updates
 - Sharing Good / Best Practice

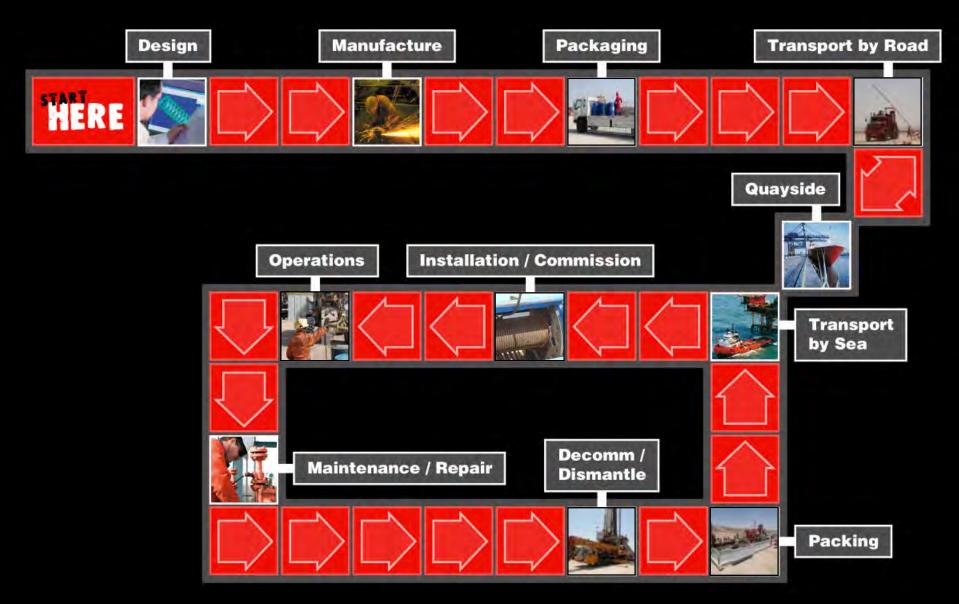
• Focus Groups

- Main Focus Issues
- Quick Hits
- Feedback to Members



DROPS Regional Forums





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 Shared Lessons and Best Practice



DROPS RESTRICTED ACCESS AREAS (RED ZONES)

Access Diagrams / Zone Maps

Access diagrams or Zone Maps should be prepared and mounted (where practicable) 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

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.



DROPS Shared Lessons and Best Practice

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

For YERRY ACTIES, any personnel wan specific tasks in anarizone may enter, Al personnel require the Area Authority's permission to enter or work in that zone.

nak assessment, any personnel in the real Zone mark operation and must be authorized by the Area Authority.

Permission to Enter Restricted Areas

neu zunes, Aurrarization requests shu minimal distraction to the Area Authority.

.

For Yellow Zones, any personnel with specific tasks in that zone may enter. All other

In Red Zones, personnel may be more exposed to taling objects, the movement of

in real Lones, personnel may be more exposed to taking objects, the inovement of remotely operated equipment, high pressure, and/or other histories as determined by

remotery operated equipment, man pressure, and/or other hazards as determined ov risk assessment. Any personnel in the Red Zone **must** be required for the current

The Area Authority must also ensure that any personnel entering a Red or Yellow

The Area Authority INNEX also ensure that any personnel entering a Red or Yellow Zone are aware of moving equipment, 63 top drive and/or drawworks, pipe handing equipment, cranes, holds etc. Furthermore, the Area Authority INNEX ensure an appropriate plan is in place for specific operations in a Red or Yellow Zone, egrunning canon considered, manteenance Stitune 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

a red or verow zone unit a time out tor safety (JOFS) has been cared and the plan discussed. They must have a specific responsibility during the task, understar

the placement of personnel, and be evere of machinery which may be operated during the placement of personnel and be evere of machinery which may be operated during the table of 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 deviced

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

Every effort should be made to identify and define an access route to t

every entor should be made to location within the Green Zone. This y Authority's common workplace location within the Green Lone ring y personnel access to the Area Authority to request authorization into the P personnel access to the area authority to request authorization into the Y Red Zones, Authorization requests should be conducted in a manner the Personnel not required to current operations must not be permitted in

For any activities that require entry to a Red Zone, and for non-routine a

For any activities that require entry to a real Zone, and for non-routine s a Velow Zone, a documented tisk assessment must be performed bet

 any part of the activity is not covered by existing procedures those personnel involved in the teck are not tamiliar with the

those personnel anoned in the task have not been inve

A Task or Job Risk Assessment should be performed when:

there is conflict between procedures

operation for a long period.

A toologic talk should be undertaken where a Task or Job Risk Assessment is not required. The toobox talk should hulk review the established operating procedure and A toolbox, talk should be undertaken where a Task or Job Risk Assessment is not required. The toolbox talk should tulk review the established operating procedure and al batticisents should have a cour in hand. When any activity within the Red Zone or a non-routine activity within the yeldary Zone has been completed, the performing individuals shall inform the Area Authority. On

Video env activity within the Red Zone of a non-routive activity within the Yeldow Zone has been completed, the beforming insinduals shall inform the Area Autority chail inmediately with draw notification that the task is completed, the Area Autority shall immediately with draw has been completed, the informing individuals shall inform the area Autority. On officialion that the tack is completed, the area Autority shall immediately withdraw the permission to enter the zone.

Access to Red or Yellow Zones whet be controlled at all times. All at should be identified and equipped with a physical barrier management personnel cannot proceed without approval from the area authority.

should be identified and equipped with a physical barrier marking the personnel cannot proceed valvous approval from the Prea Authority, hervier may be a chain rate, door etc. (Emercency excess must nel personnel cannol proceed willout approval from the Area Authority barrier may be a chain, gate, door etc. (Energency serving direct) The barrier stall always be in place at all access points (exernined by the Area Aut Red Zones, and all any other access boints (elemined by the Area Aut

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 i local lemmany that connecnicates the zone is a hazardoue area and

The physical barrier should also include a sign (n both English and) local languages that communicates the zone is a harzardous area and been break an abundance and contraction from accounts where no final

local language) that communicates the zone is a hazardous area and, the Area Authority's adhorization (see example shown in Figure 3. examples of Zone only marking techniques are shown in Figure 3.

I WARNING I

RED JOHR

MEZZANINE DECK

AUTHORIZED PERSONNEL ONLY HAZARDOUS AREA

Figure 2 Example Warning Sign

Figure 3 Example Red Zone Marking Techni

nonnoausi mar ine user is compa 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 all allowed with a physical barrier marking the i



DROPS Shared Lessons and Best Practice



poten occu The Tir	Planning tasks, toutine or otherwise, a plan should be developed tisk of potential dropped objects and other hazards that dropped objects and implement preventive and mit that dropped objects and implement preventive and mit that the undertaking the task, changes must be monit while undertaking the task, changes must be monit the undertaking the task, changes must be monit sponded to. This may require revision of the plan of de tases work should be suspended if		Part 2 (To be completed by the C and Let or The Let Time courses	nd Guidelines
 on adding and tadifies should all all all all all all all all all a	Minimum working at height, uglance is oritean wighten working at height, uglance is oritea. See Appendix 1 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 1 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 1 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 1 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 1 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 1 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 1 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 1 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 1 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 1 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 3 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 4 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 5 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 6 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 6 - DROPS Pro Weiser working at height, uglance is oritea. See Appendix 6 - DROPS Pro Weiser working at height, uglance is oritea.	AN Part 1 (To be completed by the Com	Uka Tranchemer:	PENDIX S AND HANDLING CHEC KLIST melletoj tools, wooden crocks dc), curea nere: and debris (wood, later, tools dc), curea nere: and debris (wood, later, tools dc), litis (ket tools, plugs, litter etc), (coupungs, eyes dc), litis (ket, fettools dc),

COMMON STANDARD FOR DROPS INSPECTIONS & SURVEYS



DROPS Shared Lessons and Best Practice



ITEM	Weight (Tonnes) 5.6	Max Drop Cone Angle (deg) 30	Max Drop Radius (m) 64	Terminal Velocity (m/s)	Impact Energy (kJ)
30" Casing					
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

Potential Subsea Dropped Objects 9⁵/sin Casing Subsea Tree



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 hydrocarboris from pipework or pipelines but subsertree 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 online

THE DROPPED OBJECTS PREVENTION SCHEME GLOBAL RESOURCE CENTRE

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Personnel Exposure against Injury Category in 158 Actual Incidents between Jan-2010 and Nov-2010

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



A Global Resource...



