1: Modified Ladder Beam

Summary:	*As part of a consignment of scaffolding material recently received on an offshore platform, it was discovered that a 16 foot ladder beam had been modified, probably by welding two shorter pieces together.*
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	As part of a consignment of scaffolding material recently received on an offshore platform, it was discovered that a 16 foot ladder beam had been modified, probably by welding two shorter pieces together. It is likely that the beam had been on a previous installation for some years and had only recently been returned to stock. Had this ladder beam been put into use, there was potential for a scaffolding structure collapse with subsequent serious injury to one or more persons.
Specific Equipment:	16 foot ladder scaffold beam
Lessons Learnt:	The practice of welding scaffolding components together is totally unacceptable. However, it is likely that this practice may have been accepted some years ago in a different safety regime. This raises the possibility that there may be other modified scaffolding ladder beams in existence, particularly among old stock.
Task Description:	No details available.

Recommendations: Check all in service scaffolding set ups for this type of modification and remove any modified items immediately and notify the duty holder. Check all scaffold when dismantling, if any modified item is found it should be taken out of service and discarded to scrap immediately.

Contact Details: none available

2: Derrick climber near miss

Summary:	A 1/4 inch steel cable which connected the “derrick climber” counterweight to the harness failed causing the cable to spool through the sheave and fall out from the derrick.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Lifting, crane, rigging, deck operations
Description:	A Derrickman ascended the rig derrick utilising “derrick climber” apparatus. This apparatus was comprised of a pulley mounted counterweight and a length of 1/4 inch steel line which was attached to the Derrickman using a bosun’s type harness. The counterweight assisted the Derrickman in climbing the derrick by providing a constant upward tension. Note that no fall arrestor was used as it was out of service at the time. After arriving at the monkey board (approximately 85 feet above rig floor), the 1/4 inch steel cable which connected the “derrick climber” counterweight to the harness failed causing the cable to spool through the sheave and fall out from the derrick. The counterweight device fell to a roof below. The failed cable was replaced immediately with 5/16 inch galvanised cable. The failed cable was corroded from the interior out. It is also understood that the cable may have come into contact with one of the derrick beams during operation.
Specific Equipment:	*No details available.*

Lessons Learnt: 1. The Preventative Maintenance (PM) programme associated with both the “derrick climber” and fall arrestor apparatus was inadequate - no clear indication of what should be checked, what should be replaced and by when was given. e.g. The fall arrestor intended for use with the “derrick climber” was not in use due to mechanical failure - it was not properly maintained and was in service beyond its name plate expiration date. This was not known by the rig supervisory personnel 2. A “management of change” process was not utilised when the fall arrestor ceased to function properly and its use was discontinued.3. The incident was not properly reported due to a breakdown in communication between Toolpusher and Company Rep.

Task Description: *No details available.*

Recommendations: 1. Assure yourself that your PM programme identifies, records and replaces items on both “derrick climber” and fall arrestor apparatus at suitable time intervals. 2. Ensure that the derrick climber and fall arrestor apparatus is of the correct design and type and is adequately inspected according to a set procedure and inspection details logged. , 3.Ensure that the counterweight cable has a “free run” and does not rub against the derrick structure., 4. Assure yourself that “management of change” is considered and a formal risk assessment process is used in your business unit for cases such as the fall arrestor being removed from service., 5. Assure yourself that both the process and accountabilities for reporting incidents are clearly understood within your business unit.

Contact Details: *No details available.*


Derrick Climber apparatus attached to counterweight
Fall Arrestor line

3: Failure of mountain bike brake cable

Summary:	A colleague was lucky not to be injured recently when cycling on a busy road after his brake cable failed. With no warning, he was thrown over the handlebars.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Onshore office, support base, heliport
Activity Type:	Off-duty / recreation activities
Description:	A colleague was lucky not to be injured recently when cycling on a busy road after his brake cable failed. With no warning, he was thrown over the handlebars. His front brake cable snapped. The unexpected consequence was that the brake wire snagged on the front tyre (see diagram below). As a result, he was thrown off his bike. It was later noted that his bike was not fitted with a front reflector. Other bikes in the party with the same type of brake were all fitted with front reflectors. Several bicycle shops have since confirmed that the location of the reflector is to ensure that if the brake cable fails, the reflector mounting bracket prevents it from falling into the tyre
Specific Equipment:	*No details available.*
Lessons Learnt:	Bicycles with the brake arrangement shown above and no reflectors will not stop the brake cable from falling into the tyre.
Task Description:	*No details available.*

Recommendations: 1. Check your bikes brake arrangement. In particular assure yourself that you have a front reflector fitted on your bike. 2. Regularly inspect your brake cables for wear and tear.

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4: Overpressure of a Lube Oil Drum during Pumping Operations

Summary:	During a pumping operation a drum was found to be of poor condition with a defective NRV.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	An operations technician was topping up the lube oil on an MOL pump by using an air operated barrel pump inserted directly into a 45 gallon drum. The technician connected up the pump and left the immediate area to turn on the air supply. When he returned to the pump he noticed that the drum had started to distort at both ends so immediately shut the pump down.The pump set up had not been checked prior to starting it and the vent on the drum had not been removed. The pump was found to be in poor condition with a defective NRV.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Tasks that are considered routine can go wrong if the appropriate checks are not made. 2. The vent should always be removed from a drum when using a barrel pump. 3. Barrel pumps should not be started from remote locations. 4. Barrel pumps need to be kept in good working order.
Task Description:	*No details available.*
Recommendations:	The safe operating principles of barrel pumps including pre use checks, drum ventingrequirements and pumping

	unit isolation to be brought to the attention of all relevant personnel.
Contact Details:	*No details available.*

5: Floorman struck by elevators

Summary:	A floorman was laying a drillpipe when he was struck by the elevators and sustained bruising to his thigh.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	While laying out 5” drillpipe in singles via the mousehole a floorman was struck by the elevators and sustained bruising to his thigh. To carry out this operation the link tilt stop dogs had been tied back to allow full travel of the link tilt/elevators to reach the mousehole. On this occasion the rope used to tie back the link tilt stop dogs had partially slackened off, allowing the stop dogs to prevent full travel of the link tilt. As the elevators were released from the joint in the mousehole they swung back towards the rotary table which caused the stop dogs to disengage and the elevators to swing back out again towards the mousehole. As they swung out the elevator horn hit the floorman standing beside the mousehole on the thigh.The link tilt stop dogs are designed as a safety feature to prevent the elevators from any possible collision with the monkey board/racking area. They can be manually released when the elevators need to be extended beyond the normal distance eg to reach the mousehole. It is common practice to tie back the stop dogs during laying out drillpipe to avoid the need for a floorman to manually release the stop dogs each time a joint of drillpipe is laid out.

Specific Equipment:	*No details available.*
Lessons Learnt:	If link tilt stop dogs must be tied back to allow full travel of the elevators the method of tieing back must be secure and regularly checked.
Task Description:	*No details available.*
Recommendations:	.1. If link tilt stop dogs are temporarily tied back to lay out tubulars in the mousehole, consider use of a more secure method to tie back or use of an alternative procedure which avoids tieing back the stop dogs altogether. Note some manufacturers can supply link tilt systems that allow infinite positioning of the elevators to avoid the need for manual intervention. 2. Raise awareness of personnel of the risk of the elevators extending suddenly in the event that the link tilt stop dogs disengage unexpectedly.
Contact Details:	No contact details available

6: Electrical Flash Burns

Summary:	A floorman was laying a drillpipe when he was struck by the elevators and sustained bruising to his thigh.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	While laying out 5” drillpipe in singles via the mousehole a floorman was struck by the elevators and sustained bruising to his thigh. To carry out this operation the link tilt stop dogs had been tied back to allow full travel of the link tilt/elevators to reach the mousehole. On this occasion the rope used to tie back the link tilt stop dogs had partially slackened off, allowing the stop dogs to prevent full travel of the link tilt. As the elevators were released from the joint in the mousehole they swung back towards the rotary table which caused the stop dogs to disengage and the elevators to swing back out again towards the mousehole. As they swung out the elevator horn hit the floorman standing beside the mousehole on the thigh.The link tilt stop dogs are designed as a safety feature to prevent the elevators from any possible collision with the monkey board/racking area. They can be manually released when the elevators need to be extended beyond the normal distance eg to reach the mousehole. It is common practice to tie back the stop dogs during laying out drillpipe to avoid the need for a floorman to manually release the stop dogs each time a joint of drillpipe is laid out.

Specific Equipment:	*No details available.*
Lessons Learnt:	If link tilt stop dogs must be tied back to allow full travel of the elevators the method of tieing back must be secure and regularly checked.
Task Description:	*No details available.*
Recommendations:	.1. If link tilt stop dogs are temporarily tied back to lay out tubulars in the mousehole, consider use of a more secure method to tie back or use of an alternative procedure which avoids tieing back the stop dogs altogether. Note some manufacturers can supply link tilt systems that allow infinite positioning of the elevators to avoid the need for manual intervention. 2. Raise awareness of personnel of the risk of the elevators extending suddenly in the event that the link tilt stop dogs disengage unexpectedly.
Contact Details:	No contact details available

7: Damaged Transit Rack

Summary:	An Electrical Person recently suffered superficial flash burns to his face, neck, ears and hands while operating a Merlin Gerin DA type circuit breaker.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	A Senior Authorised Electrical Person recently suffered superficial flash burns to his face, neck, ears and hands while operating a Merlin Gerin DA type circuit breaker which was one of three incoming feeders to the platform main 440V switchboard.The breaker was in the service position and attempts were being made to close the breaker and energise the switchboard.We believe difficulties had been experienced in closing the circuit breaker due to a defective component in the closing control circuit. This had led to the use of an unapproved procedure and non proprietary tool, which had not been risk assessed. In summary, a shortcut rather than equipment refurbishment had become custom and practice for operation of this equipment. The injured party had been standing at the circuit breaker with the panel door open and was using a tool to simultaneously overcome the defect while operating the close push button on the front of the circuit breaker. While carrying out this action the tool came in contact with live power circuit conductors which initiated an arcing fault and exposed the injured party to the dissipation of a high energy source. The injured party was wearing glasses

	which prevented injuries to his eyes.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Equipment should only be operated in accordance with approved procedures. 2. Any operation that requires deviation from normal operating practice requires to be risk assessed and controlled by permit, especially when intrusive action is necessary. 3. Design safety features such as panel doors and barriers should always be used. 4. Appropriate personal protective equipment should always be used.
Task Description:	*No details available.*
Recommendations:	1. Users should review procedures to ensure that any undocumented operations that have become custom and practice are subjected to a risk assessment. 2. Users should ensure that all equipment malfunctions (not just electrical) that require override procedures to obtain functionality are subject to risk assessment and overhaul at the earliest opportunity. 3. All design safety features of equipment should be utilised. 4. Use of appropriate personal protective equipment should be reinforced.
Contact Details:	*No details available.*

8: Subsea well damage

Summary:	The East of Shetland has suffered 3 significant events where trawlers have damaged subsea equipment.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Support vessel eg Supply, Standby
Activity Type:	Marine activity, shuttle offloading
Description:	The East of Shetland has suffered 3 significant events where trawlers have damaged subsea equipment : 1. On 4 February hydraulic pressure to Thistle's Don satellite well dropped and the well was shut in. A DSV identified extensive trawling damage to the wellhead. Note that a Fisheries Protection Vessel was called up via the Coastguard to "assist" with fishing vessels in the vicinity of Don on 18 May. 2. On 8 May hydraulic communication to South Magnus Well F10 was lost resulting in the loss of injection to F10. A decision was made to shut in it sister producer, F9. ROV inspection revealed trawler damage to the wellhead. Repairs were completed and the wells were back on line on 14 May. 3. On the afternoon of 15 May hydraulic and electrical communication to Wells F9 and F10 were lost. A DSV arrived that evening and found extensive damage around the F9 wellhead. South Magnus is expected to be off-line for 2 to 3 months. Bernie Bennett, Fisheries Liaison Officer comments that it is very difficult to predict fishing patterns in order to focus strategy. Fleets may fish extensively until quotas are exhausted or there may be occasional fishing by individual vessels. When there are good fish stocks in a location it may be assumed that the area will be

	extensively fished. Subsea infrastructure is often a magnet for some fish species and fishermen are often tempted to fish these areas even though they are aware of the dangers. Some foreign fishermen may assume, incorrectly, that all subsea infrastructure is protected by trawl cages, as it is in other North Sea countries.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. There is a need to constantly update the Standby Vessel with information about satellite locations and the most recent activities of the fishermen. 2. We must ensure at all times that the Standby Vessels fully understand their responsibilities in patrolling/ warning off fishing vessels. 3. Ensure that the Standby Vessels are using their radars effectively in detecting the presence of fishing fleets. 4. Do not expect the fishing vessels to have up-to-date charts showing the satellite wellhead positions.
Task Description:	*No details available.*
Recommendations:	1. Assets are advised to review with their Standby Vessels all procedures for protecting satellite installations, including procedures for - approaching fishing vessels which are moving towards satellite facilities - ensuring Standby Vessels are using the most up-to-date area charts - ensuring Standby Vessels are making the best use of their radars and modern software which provides alarms points to indicate vessel intrusions. 2. Do not assume that fishing vessels will not enter into a 500m exclusion zone, especially one that is unguarded and remote from the host platform.
Contact Details:	*No details available.*

9: Pinch Points - Amputations

Summary:	Within the last 10 months, at least two people have been seriously injured whilst operating winch equipment.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Lifting, crane, rigging, deck operations
Description:	Within the last 10 months, two people involved in our activities on vessels have been seriously injured whilst operating winch equipment. In the first event, a member of the vessel crew stood on a tugger winch support bracket with his foot protruding slightly from the support flange. As the drum rotated during operation, the securing bolts caught the crew member's boot, crushing the steel toe cap. The result was the loss of half an inch of the left big toe. In the second incident, on a vessel operated by a different company, two members of the marine crew were carrying out routine maintenance on a cherry picker. This involved spooling off, greasing and respooling on, a section of crane wire rope. The injured person was positioned on top of the crane jib, crouched in front of the winch drum. His hand became trapped between the crane winch drum counter bar and rope guard during the respooling operation with the resultant loss of his left hand index finger. These events had several common themes which are listed below.
Specific Equipment:	*No details available.*

Lessons Learnt: 1. It appears a full risk assessment had not been undertaken. 2. PUWER is not applicable on vessels as it is on installations. 3. Position of controls operator and his view of activities. 4. Position of the winch operator-standing on the winch frame. 5. Design and supply of equipment was not inherently safe. 6. Winches were not fully guarded (some had guards which were not inclusive). 7. No procedures for management of change. 8. Procedure for new rope diameter manual spooling was inadequate (second incident).

Task Description: *No details available.*

Recommendations: Things to note: 1. The introduction of International Safety Management code for offshore supply vessels. 2. Identification of hazard through on-site inspection. 3. All design safety features of equipment should be utilised. 4. All equipment should comply with PUWER or equivalent good practices. 5. Use of appropriate personal protective equipment should be reinforced. Areas for focus: 1. Design and procurement of services and equipment with regard to guarding and controls. 2. Inadequate risk assessment and operating procedures on vessels. 3. Marine culture does not always promote proactive safety management. 4. Management of change is not always facilitated/risk assessed in marine environments.

Contact Details: No contact retails available

10: Wire Clamp Parted Under Load

Summary:	A tugger wire parted when a wire-lock clamp failed
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Drilling, workover
Description:	Whilst moving pipe in the derrick a tugger wire parted when a wire-lock clamp failed, the dead-end of the wire was pulled through the clamp whilst under load. The tugger wire at the monkey board level was terminated using a EUREKA wire-lock. Guidance is available in the International Rigging and Lifting Handbook.
Specific Equipment:	*No details available.*
Lessons Learnt:	Results from a Health and Safety Executive study (Wire Rope Grip Terminations, Research Paper 39 and published in 1996) were not widely circulated to potential users of these clamps. The report identified that the efficiency of EUREKA clamps was around 45% rather than the previously published figure of 100%.
Task Description:	*No details available.*
Recommendations:	1. Inspect your lifting equipment, identifying where wire-locks are used in load bearing applications. 2. Consider using the recommended wedge sockets for load bearing applications. 3. Check your copies of the International Rigging and Lifting Handbook, the latest versions were issued in 1997. The first edition (1991) has the efficiency

of the EUREKA clamps rated at 100%, not 45%.

Contact Details: No contact details available

11: Unsatisfactory Integrity of Deluge System

Summary:	A test of a deluge system revealed a significant number of deluge nozzles that were blocked and a number of leaks in the deluge pipework.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Inspection/testing
Description:	On 25th –26th August 2000 the deluge systems on the intermediate and main decks on PCP platform on Valhall were tested. The tests were initiated by the OIM following concern from the safety delegates on the condition of the deluge system pipework. The tests revealed a significant number of deluge nozzles that were blocked and a number of leaks in the deluge pipework. Following an evaluation of the situation, production on Valhall was stopped and remedial action to repair and reinstate the systems was started. Due to the serious nature of the incident an investigation team was set up to investigate the incident and the circumstances that led to the incident.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. The maintenance program for the deluge systems on Valhall PCP has not been fully carried out. The last confirmed “wet” test on main deck was July 1997. The last confirmed “wet” test on intermediate deck was October 1998. 2. Reported incidents in Synergi (system for incident reporting) has been “closed out” when a work

order has been raised, not when the work has been done. 3. The individual workorders associated with the components in the deluge system has mainly been given lowest priority. A large number of low priority workorders on same system has not increased the priority. 4. The management of change in relation to maintenance systems (e.g. change in responsibility, systems or in procedures) needs to be followed up in a systematic way.

Task Description: *No details available.*

Recommendations: .1. Assets are advised to ensure that verification of PM routines are actually carried out and that the results of the tests are available for analysis. 2. Review all the outstanding workorders on safety systems. Verify criticality of the work orders both individually and collectively. 3. The system for deviation from planned PM program should be reviewed to ensure that all personnel involved understand the consequences of a deviation.

Contact Details: No contact details available

12: INTERTEC Electric Heating Systems for Instrument and Analyser cabinet heating

Summary:	A Production Technician received an electric shock when reseting a heater within a Gas Dewpoint Analyser Cabinet.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	A heater within a Gas Dewpoint Analyser Cabinet tripped and was being reset at the heater by a Production Technician when he received a 254v shock. The heater is a 500 watt cabinet heater made by INTERTEC in Germany and is their VARITHERM heater type 3.1 WP-500-80-R and is certified EEx d IIC T4 by PTB. The heater has an internal non adjustable, self resetting, temperature regulator to prevent the heater surface temperature reaching T4 and a non adjustable temperature limiter to isolate the heater should the surface temperature achieve T4. The temperature limiter requires an intervention to reset once the surface cools. Adjacent to the limiter reset is a warning label written in German which translates “Reset the temperature limiter after correcting the cause of the failure and, after allowing the heater to cool, push the red button by using the blunt tool 4 mm provided”The limiter reset had been used so often by the Production Technicians that a hole had been punctured in the membrane, it being the normal practice to use a Biro to reset the limiter by pushing the sharp point through this hole. On this occasion the Technician

	used a metal key to push though the membrane & received a shock. Initial examination of the heater showed that the limiter reset button is connected to the live terminals. The heater was dissected for further examination & it was found and later confirmed by INTERTEC that the body of the limiter reset is wired directly to the live termination. They confirm that the membrane over the button is to prevent contact with the button and that damage to the membrane will allow water to enter into the area of the live push-button and also expose the operator to a live termination. Only their plastic tool, which is to prevent damage to the membrane, should be used to reset the heater.
Specific Equipment:	*No details available.*
Lessons Learnt:	If ever the membrane over the reset button becomes damaged the heater should be removed from service.
Task Description:	*No details available.*
Recommendations:	1. Any INTERTEC heating product should be examined to ensure the membrane is intact, if not, it should be immediately isolated and replaced as not only is it a danger to personnel using the reset but the Ex certificate will not be valid. 2. Only the INTERTEC blunt plastic tool should be used to reset the limiter. 3. A warning notice should be fixed to the heater with a clear *warning not to reset the limiter until the cause of failure is clarified, and after the heater has cooled. Only the supplied reset tool should be used and if the membrane ever becomes damaged the heater should be taken out of service*. 4. If the heater is used in conjunction with an INTERTEC Ex thermostat type KR, the thermostat must be mounted mechanically and thermally on the heater. Incorrect siting of the thermostat will result in excessive operation of the heaters internal temperature limiter. 5. If the limiter operates then there is something wrong with the installation. This should be investigated before resetting.

Repeated reset should never be a routine function. 6. If a VARITHERM 3.1 WP-500-80-R has to be replaced for the above reasons, it should be replaced with a VARITHERM in the new series, VARITHERM 500/60 T3, certified by PTB to EEx.e.d. IIC.T3. If a 'T3' rating is allowed then this will mean that the over-temperature is less easily reached and the resetting is less likely. A 'T4' unit is available for extreme condition installations.

Contact Details: *No details available.*

13: Needle Gunning on Corroded Pipework

Summary:	A leak developed in corroded pipework.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Maintenance
Description:	An incident occurred recently when a leak developed in corroded pipework during needle gunning operations. In this case the content of the pipework was non-hazardous. There were no injuries and no environmental impact.
Specific Equipment:	*No details available.*
Lessons Learnt:	*No details available.*
Task Description:	*No details available.*
Recommendations:	As a result of this incident, the following practice is to be adopted when the condition of process equipment/pipework to be prepared for coating is poor and the integrity (ie wall thickness) is not proven: 1. Liaise with, and seek assurance/clearance from, person responsible for inspection that it is safe to proceed with needle gunning. 2. If the integrity of the equipment/pipework cannot be assured, then agree with responsible person that it is safe to proceed with alternate methods, ie wire brush or hand abrade. You should proceed with extreme caution.
Contact Details:	*No details available.*

14: Container Doors Opened During Backloading

Summary:	The doors of a container sprang open as it was landed on the deck of the supply vessel.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Lifting, crane, rigging, deck operations
Description:	During a backloading operation, from an offshore platform, the doors of a container sprang open as it was landed on the deck of the supply vessel. Fortunately, the container was empty.
Specific Equipment:	*No details available.*
Lessons Learnt:	Immediate action was taken to secure the doors. Discussions have been held with the container supplier to ensure the serviceability of the door fasteners. Checking on the door fasteners is being reinforced at the onshore Warehouse.
Task Description:	*No details available.*
Recommendations:	In the meantime, Deck Crews are requested to be vigilant when securing container doors to ensure the swivel latches are serviceable and doors are properly secured before backloading.
Contact Details:	*No details available.*

15: Scaffolding Fittings - Unsafe Act

Summary:	A scaffolder was observed to be throwing fittings to a deck.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Temporary access
Description:	Whilst dismantling a scaffold, a scaffolder was observed to be throwing fittings to the deck.
Specific Equipment:	*No details available.*
Lessons Learnt:	*No details available.*
Task Description:	*No details available.*
Recommendations:	All Scaffolders are reminded that this practice is prohibited and is a disciplinary offence. Scaffold fittings should be placed in a suitable receptacle and lowered in a controlled manner.
Contact Details:	*No details available.*

16: Transportation of Dangerous Goods

Summary:	The potential arose for dangerous goods to have been included as part of the general materials consignment, bypassing all the normal control measures.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	*Any Location Type
Activity Type:	*Any Activity Type
Description:	Due to a lack of diligence during backloading of material, a potential arose for dangerous goods to have been included as part of the general materials consignment, bypassing all the normal control measures.
Specific Equipment:	*No details available.*
Lessons Learnt:	*No details available.*
Task Description:	*No details available.*
Recommendations:	Supervisors should ensure that all personnel, under their charge, are aware of the requirements for backloading of dangerous goods. There are strict requirements under the carriage, packaging and labelling of Dangerous Goods Regulations. You are required to notify the material controller on the installation of any intention to backload dangerous goods to ensure the proper procedures are followed and correct documentation is completed.
Contact Details:	*No details available.*

17: Paint Store - Painting Activity

Summary:	A number of observations regarding paint store practice were identified following offshore audits.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Maintenance
Description:	The following observations were made during recent offshore audits. They highlight learning for all four elements of Health, Safety, Environment and Quality. **Health** Unsealed solvent containers in Store creating fumes. Ventilation fan not reconnected after a shutdown. **Safety** Non industrial electrical fitting in the Paint Store combined with fumes. **Environmental** Unsealed and damaged containers with spill potential. **Quality** Outdated shelf life items in Store. Non compliance with Company procedures with regard to inspection/calibration equipment, and record keeping.
Specific Equipment:	*No details available.*
Lessons Learnt:	The clear message - not just for those involved in painting activities, but for all work activities - is how easy it is to let standards slip. Every activity we are involved in contains hazards which, if not controlled, can lead to serious injury, occupational illness, damage to the environment or equipment and poor quality standards of work.
Task Description:	*No details available.*

Recommendations: Supervisors are requested to refresh their work teams on the contents of the risk assessments for their specific activity and reinforce the Company's expectation for each employee to meet the highest standards for HSE & Q at all times.

Contact Details: *No details available.*

18: Dropping of Scaffold Tube Through Grating

Summary:	A scaffold tube fell through a gap in grating on a mezzanine deck.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	*Any Location Type
Activity Type:	Temporary access
Description:	While transporting scaffolding material to the mezzanine deck on level three, a scaffolder lowered four five-foot tubes from his shoulder to the grating. He was about to pass up the tubes to another scaffolder when one of the tubes went through the grating and fell into the sea. The grating was checked and it was found that the space between each bar of tread was 1-3/8 inches, until the last bar of tread and the outer edge of the section of grating was reached, where the space was found to be 2 inches. This is the gap where the scaffold tube passed through. The scaffold diameter is 1-29/32 inches. After checking all the grating on this level, it was found that there were eight other sections of this type of grating.
Specific Equipment:	*No details available.*
Lessons Learnt:	*No details available.*
Task Description:	*No details available.*
Recommendations:	Check all mezzanine levels for this type of grating and, if possible, change out for the standard size. Discuss at Toolbox Talks if work is to be carried out on mezzanine decks to check gratings for possible objects falling

through. When working on grating, cover with sheeting to prevent objects falling through.

Contact Details: *No details available.*

19: Scaffold Fittings

Summary:	There is potential for the 'Mitie Generation' scaffold fittings to become loose.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	*Any Location Type
Activity Type:	Temporary access
Description:	It has been brought to our attention from one of our offshore sites that there is a potential safety concern relating to recently distributed scaffold fittings. The new fittings are drop forged ‘Mitie Generation’ double fittings (as shown in the picture below). In some circumstances when the fitting is tightened, the T-bolts are twisting within the shoulder, giving the impression that the fitting is tight. However, if the fitting is again knocked, in some cases it will move within the gate, subsequently loosening the fitting.
Specific Equipment:	*No details available.*
Lessons Learnt:	Following tests within the onshore warehouse, it has been determined that the probability of this occurring is minimal. This Safety Newsflash is issued to make all scaffolders aware of the issue and to ask for extra vigilance when using these fittings.
Task Description:	*No details available.*
Recommendations:	If this issue becomes a frequent occurrence, it should be brought to the attention of your supervisor.

Contact Details: *No details available.*

20: Sharp Objects

Summary:	There is a potential safety concern relating to sharp objects. Two near miss incidents have occurred involving dangerous objects in personal baggage.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	*Any Location Type
Activity Type:	*Any Activity Type
Description:	It has been brought to our attention recently that there is a potential safety concern relating to sharp objects. Two near miss incidents have occurred involving dangerous objects in personal baggage: 1. A screwdriver blade protruding through the side of a bag 2. A sharp file protruding approx 4 inches through the side of a tool bag We have also been informed of an incident where an employee was injured when the glass of a picture frame he was carrying in his personal baggage broke during transit and he cut his hand when he unpacked his bag. These incidents could also have involved injury to the baggage handler.
Specific Equipment:	*No details available.*
Lessons Learnt:	*No details available.*
Task Description:	*No details available.*
Recommendations:	This is a warning to everybody - a reminder to think of the potential risks involved - to yourself and others - when carrying sharp objects in bags.

Contact Details: *No details available*

21: Injury to Foot by Ultra High Pressure Water Jet

Summary:	An operative was using an ultra high pressure water jetting system which cut through the protective footwear and punctured his skin.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	*Any Location Type
Activity Type:	Production operations
Description:	A recent incident occurred when an operative was cleaning heat exchanger plates using an ultra high pressure water jetting system (30,000 psi). The jetting nozzle passed over the operator's foot and cut through the protective footwear and punctured his skin.
Specific Equipment:	*No details available.*
Lessons Learnt:	The water jetting safety boots in use were not adequate for ***Ultra*** High Pressure Jetting purposes. A robust procedure for Ultra High Pressure Water Jetting must be in place and communicated.
Task Description:	*No details available.*
Recommendations:	When risk assessing UHP water jetting activities, particular attention should be paid to the following: - Position of jetting surface in relation to feet. - Secure footing and good housekeeping within the work area. - Adequate observation and communication provisions. - Whether additional protection between operator and product being cleaned is necessary. - Adequacy of PPE (boots) for pressures involved. A system is in place to

ensure that medical staff and operators are informed of the possible nature of UHP water jetting injuries. All personnel should be prepared to question the risks and challenge work practices as a team member. For all Salamis HP/UHP water jetting operations, metatarsal boots shall be worn (see picture below).

22: Failure of hydraulically-operated ship/shore coupler

Summary:	A component within a ship/shore coupler failed during operation, causing a coil spring to be violently ejected. The coil spring narrowly missed the jetty operator and landed on the ship's deck.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Onshore terminal
Activity Type:	Production operations
Description:	A component within a ship/shore coupler at Hound Point 1 jetty failed during operation, causing a coil spring to be violently ejected. The coil spring, which weighed some 21kg, narrowly missed the jetty operator and landed on the ship's deck. The failed component was a knuckle joint which formed part of the hydraulic flange locking mechanism on the vapour return arm of the Marine Vapour Recovery Plant. Subsequent examination has indicated that the mechanism had been subjected to excessive loading, although other factors may have contributed to the incident. In this regard, further investigation is being carried out with the cooperation of the manufacturers. The coupler was a quick connect/disconnect (QCDC) device manufactured by MIB and installed by Woodfield.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. It is possible to accidentally alter the pre-load on the QCDC coupler springs, should the grub screws which fix them to the spring struts become loose. This can increase

the operating load on the knuckle joints to an unacceptable degree. 2. OCIMF rules for the flange dimensions on a ship's vapour return line specify a maximum thickness of 39.8mm. In practice, some ships may carry thicker flanges which could exceed the operating tolerance of the vapour arm coupler. 3. QCDC couplers are generally designed to seal metal to metal, with a fixed O-ring insert in the joint. Gaskets should not be used.

Task Description: *No details available.*

Recommendations: 1. The coupler manufacturer should be present during initial installation and should formally witness the correct adjustment of all critical parts. 2. Check all critical settings on the coupler regularly to ensure that correct tolerances are maintained. 3. Provide jetty operators with a simple template to check the thickness and diameter of flanges on the ship's manifold before attempting to operate QCDC couplers. 4. Avoid the use of gaskets in couplers unless they are specifically required by the design. Four other users of this equipment within BP Amoco have been identified by the manufacturers of the coupler and details of the incident have already been brought to their attention. Further information will be provided as soon as it is available. The manufacturers of the coupler have also undertaken to issue a safety alert to users outside the BP Amoco group.

Contact Details: *No details available.*

23: Cracks in small bore pipework induced by vibration

Summary:	During the rebuild of the an export gas discharge cooler following maintenance, a crack was observed at a small bore off take from a 10" x 6" stainless steel reducer downstream of a bursting disc.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Maintenance
Description:	During the rebuild of the "A" export gas discharge cooler following maintenance, a crack was observed at a small bore off take from a 10" x 6" stainless steel reducer downstream of a bursting disc. The crack was a through thickness crack from the 2 o'clock to the 8 o'clock position, propagating into the reducer parent material. Subsequent inspection of similar pipework on other heat exchangers identified a similar crack on the off - line "C" unit, and crack indications - subsequently identified as weld cold lap - on other units. The gas system was shut down on a precautionary basis, production being resumed using the "B" unit only after undertaking a risk assessment and implementing controls which included the fitting of a temporary "handcuff" type clamp to the equivalent off take, and undertaking a dye penetrant examination of it on a daily basis. The "A", "B" and "C" units have all now been modified to incorporate a KA type brace at the take off location. Figures attached show the arrangement which failed, the interim arrangement and the modified version. The cracks occurred due to the inadequate support of the small bore pipework and

	associated valve. A programme of systematic examination of small bore pipework has been initiated to identify pipework prone to vibration and hence vulnerable to stress cracking.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Cracks will develop in small bore off takes from process lines subject to vibration unless they are adequately supported. 2. Awareness of the potential for vibration to cause pipework cracking should be raised and staff encouraged to look for signs during operational watchkeeping or maintenance work. 3. Vibrating pipework should be identified and suitable supports installed to prevent failure. Such supports must be properly designed by competent personnel - ad hoc solutions can cause more problems than they solve. 4. Elimination of small bore connections solves the problem permanently.
Task Description:	*No details available.*
Recommendations:	!1. Conduct site surveys of small pipework systems, in a prioritised sequence, paying particular attention to bracing supports and retention fittings. 2. Raise awareness of the federal hydrocarbons leaks campaign and the various initiatives surrounding vibration/ fatigue of small bore attachments. 3. Ensure that where the need for a support is suspected, the support is designed and installed by suitably competent personnel. See the No Leaks web site at http://aberdeen.bpweb.bp.com/noleaks/ for advice on this and associated problems.
Contact Details:	No contact details available

24: Broken wrist during offsite Teambuilding Event

Summary:	A series of offsite teambuilding events were held for staff involving practical team tasks out of doors. While cycling along a public road, for one of the tasks, the injured party's fell off the bike with outstretched arms to limit damage from the fall and sustained a broken wrist.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Onshore office, support base, heliport
Activity Type:	Land transport
Description:	A series of offsite teambuilding events were held for BU staff involving practical team tasks out of doors. An external training company was contracted to facilitate the events. The incident took place during the final exercise which involved searching for clues that had previously been distributed in the vicinity. Bicycles and radios were provided for the event and people travelled in pairs when looking for clues. While cycling along a public road the injured party's (IP's) foot came off the pedal when the chain slipped on a gear. The IP looked down to correct foot positioning on the pedal but by the time the IP had looked up the IP's colleague had stopped and the IP was unable to avoid clipping the rear wheel of the stationary bike. The IP fell off the bike with outstretched arms to limit damage from the fall and sustained a broken wrist. At the location of the incident the radio did not work and it was necessary for the injured party's colleague to cycle back to the control room to ring for an ambulance.
Specific	*No details available.*

Equipment:

Lessons Learnt: 1. The tools and processes used routinely to manage operations safely should also be applied rigorously to teambuilding events involving physical practical activities.

Task Description: *No details available.*

Recommendations: Develop and implement a safety plan for any offsite teambuilding events involving physical practical activities. The plan should consider the following (depending on the event): 1. Establish safety ground rules with all participants e.g. remove time constraints or ensure that they do not apply pressure to rush activities. 2. Organisers should review all physical practical activities using a HAZID type process prior to the event and participants should carry out a risk assessment immediately prior to activities. 3. If using outside contractors ensure HSE expectations are aligned. 4. Personally check that any equipment used is in good order prior to use - don’t assume anything even though equipment has been checked by others. 5. Ensure adequate training is provided in the use of any equipment supplied. 6. Agree an emergency plan prior to commencing activities, including checking that emergency equipment works under all anticipated circumstances.

Contact Details: No contact details available

25: Failure of a High Pressure, Quick-Disconnect Coupling

Summary:	Whilst depressuring a high pressure hose fitted with a sleeve-type quick-disconnect coupling blew off on opening the annulus valve.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Well services / intervention
Description:	Recently, whilst depressuring well A51's 9 5/8 annulus to flare (from a pressure of 95 bar) a high pressure hose fitted with a sleeve-type quick-disconnect coupling blew off on opening the annulus valve. The hose and coupling had been used earlier in the shift with no problems and had been supplied new only 4 months previously. The failed coupling was found to contain a large amount of corrosion product and solids contamination around the working parts. No maintenance or checks had been performed on the connector since purchase. A whip-check attached to the two halves of the coupling was sheared in two. No personnel were injured. The failed whip check was rated to 116 kg SWL against the estimated shock loading of 470 kg. No certification was requested when ordering the batch of whipchecks and there was no system in place to ensure that they were fit for the service conditions.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Cleanliness and fitting integrity are critical to the safe function of such quick-disconnect hose fittings. Regular

maintenance should ensure suitability for use. 2. Whip checks of the correct rating for the duty must be used.

Task Description: *No details available.*

Recommendations: 1. Review and upgrade procedures for maintenance and use of quick-disconnect couplings; make people aware of the importance of keeping them clean and free of foreign material. 2. Where appropriate (eg. for high pressure use) consider alternative coupling types that confirm a positive connection. 3. Ensure that the size and load-rating of the whipchecks are fit for the service for which they are being used 4. Consider whether you require certification for whipchecks used in your operation

Contact Details: *No details available.*

26: Dropped object from a drilling derrick

Summary:	While completing a six monthly visual inspection of lifting equipment in the derrick, a shackle pin (weighing 0.6 kg) was dropped 30m from the monkey board to the rig floor.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Inspection/testing
Description:	While completing a six monthly visual inspection of lifting equipment in the derrick, a shackle pin (weighing 0.6 kg) was dropped 30m from the monkey board to the rig floor. Fortunately no one was hurt, however the rig floor was not cleared at the time. The supervisory team were not aware that the 'visual' inspection being carried out involved shackles being temporarily removed from pad eyes (they were left with the impression that no physical alteration to equipment was taking place). The work was perceived to be 'routine', and the true work scope and risks of the task were not fully understood and therefore managed.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. A 'visual' inspection of lifting gear will mean that shackles are taken apart and lifting gear temporarily removed from pad eyes. This process has an obvious risk of dropped objects that need to be properly managed (permit to work with full TRA). 2. It appears to be common practice for the inspection company to complete visual inspections of lifting equipment in derricks without

clearing the rig floor. This is being discussed with the inspection company involved. 3. While investigating this incident it has become apparent that it is accepted practice for the Derrickman to move lifting equipment around the monkeyboard without clearing the rig floor below. This practice has been stopped immediately. Before the Derrickman moves ANY equipment in the derrick he will now inform the Driller and clear the rig floor.

Task Description: *No details available.*

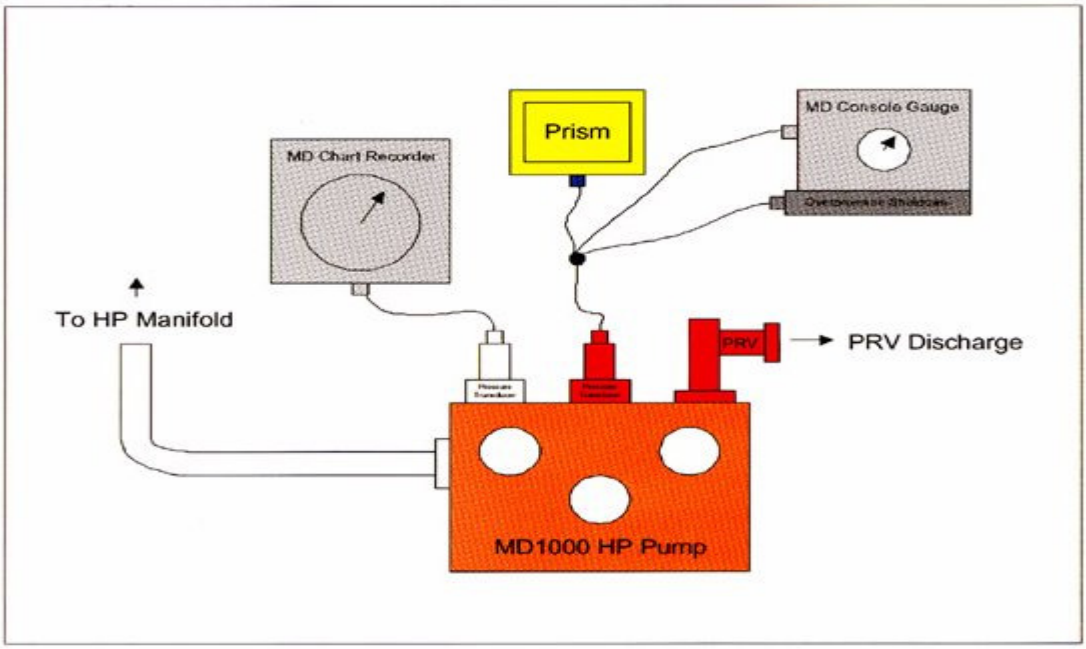
Recommendations: Please consider these questions on your rig/platform: 1. Do you and your teams fully understand the complete work scope of a six monthly visual inspection (or other 'routine' work)? 2. How do you manage the risk of a dropped object during a visual inspection of lifting equipment in the derrick or elsewhere? 3. Is it accepted practice for the Derrickman on your rig to move shackles/snatchblocks or other equipment in the derrick without clearing the rig floor? Is this acceptable?

Contact Details: *No details available.*

27: Overpressure of choke manifold using cement unit

Summary:	Whilst pressure testing a choke manifold it was found that the pressure transducer on the cement unit had failed.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Maintenance
Description:	Whilst pressure testing a choke manifold to 10,000 psi, the cementer could only reach 9000 psi, which then bled off to 3000 psi. The test was suspended whilst the cementer carried out an investigation on the unit. The cementer on the unit found the PRV was leaking. He discussed this test with the cementing supervisor, who told him to remove the PRV and to rely on the pressure gauges and engine cut out system to prevent overpressure. This was discussed with no other party. The unit was then retested by the cementer and passed. The cementer informed the driller and the test continued. The subsea engineer noticed that the gauge in the dog house was reading 17,500 psi, whilst the cementer's console gauge was reading 9000 psi. The pump was shutdown and the pressure bled off at the choke manifold. On investigation it was found that the pressure transducer on the cement unit had failed. The pressure transducer fed the engine shut off, and console gauge and the electronic recorder. All of which the cementer was relying on whilst pressuring up. The Martin Decker chart recorder, which was further away and was recording the correct pressure was not being used by the cementer to gauge pressures whilst pressuring up. The cement unit

	was owned by the company providing the cementer on the unit at the time of the incident. The cementing service was being provided by the company providing the cementing supervisor. The two companies had different policies for pressure relief devices.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Due to differences in company policies, the contracted company policy allowed use of a cement unit without a PRV. 2. The key pressure readout devices on the cement unit were all connected to one common transducer. 3. No involvement of rig supervisory staff to inform of the change of status of the cement unit.
Task Description:	*No details available.*
Recommendations:	1. Ensure that primary pressure readout devices have separate transducers to allow for failure. 2. Do not remove PRV’s from cement units and continue to use. 3. Ensure risk assessment is carried out when a material change occurs. 4. If more than one contractor is using a unit, ensure it is quite clear whose operating policy is being used.
Contact Details:	*No details available.*


Prism
MD Console Gauge
MD Chart Recorder
To HP Manifold
PRV
PRV Discharge
MD1000 HP Pump

28: Manual handling of Techlok blind hubs

Summary:	During installation of a Techlok blind hub the hub was being manually supported when it slipped and fell 1 metre onto the scaffold platform.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Maintenance
Description:	A Techlok blind hub (weight ~ 85 kg) was being installed into a 10" line using the following sequence:- 1. Hub offered up to the pipework supported by a sling. 2. Seal fitted and hub weight taken by hand 3. Sling removed in order to make room to fit the clamp. While the hub was being manually supported it slipped and fell 1 metre onto the scaffold platform. The person holding the hub avoided injury.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. The heavy blind hub was not supplied with suitable lifting/handling arrangements. 2. The job proceeded even though the lifting and fitting arrangements were unsatisfactory.
Task Description:	*No details available.*
Recommendations:	1. All blind hubs over 25 kg. should be supplied with a suitable lifting and handling device. 2. Vector International, manufacturer of the Techlok product, have been made aware of this matter and are currently reviewing handling design and installation procedures

with their customer base. 3. Review this incident with work crews to heighten awareness and devise more suitable interim arrangements for supporting hubs during installation. 4. Encourage everybody to challenge unsatisfactory working arrangements, rather than accept them without question.

Contact Details: *No details available.*

29: TCP Gun Dropped

Summary:	A TCP Gun was dropped during a lifting operation with a handling cap connected via a sling type hook to the winch wire.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Lifting, crane, rigging, deck operations
Description:	Spent Tubing Conveyed Perforating (TCP) guns were being individually lowered from the rig floor to the catwalk using a rig floor winch. The guns were being lifted with a handling cap connected via a sling type hook to the winch wire. The pin end of a blank gun caught on the top edge of the V door ramp allowing the weight to come off the winch hook. The hook twisted around the handling cap in such a manner as to allow the eye of the handling cap to open the safety catch on the hook. The hook detached from the cap and the blank gun toppled from the V door onto the ground approximately 13m below.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. The GKN 13-8 sling hook was unsuitable for use with the TCP gun handling cap. The size and diameter of the eye of the handling cap allowed the hook to twist around in such a manner as to open the safety cap on the hook (photographs attached). 2. The handling of the TCP guns and operation of the winch was a one man operation. The roustabout mis-timed the operation and caught the gun on a ledge at the top of the V door. 3. There was no clear

procedure for handling the guns and the risk assessment did not address dropped objects as a specific risk. 4. The basic cause of a near miss with a similar sling hook two days previously was not established.

Task Description: *No details available.*

Recommendations: 1. Ensure risk assessments are carried out with respect to the type of lifting device used on rig floor winches for each specific application referencing best industry practice. 2. Ensure risk assessments are in place to assess the one or two man operation of laying out/handling tubulars. 3. Ensure service companies have suitable procedures in place for lifting & handling TCP guns and that they review the use and certification of their handling caps against the requirements of The Lifting Operations & Lifting Equipment Regulations 1998. 4. Provide assurance that personnel conducting incident investigations have the correct tools to categorise incidents to ensure the correct level of investigation is conducted.

30: Extract Fan Controllers

Summary:	Person noticed smoke issuing from extract fan controller unit. Controller identified as faulty, fan satisfactory.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Sea transport
Description:	Person noticed smoke issuing from extract fan controller unit. He isolated it and reported to control room who sent fire team and electrician to investigate. Controller identified as faulty, fan satisfactory. Potential for small fire in stores office. Controller had malfunctioned and overheated. The fan had originally been installed in 1984 when this was a smoking office. Investigation has shown this type of controller is no longer required and have been removed from platform. Type of controller is VENT - AXIA RANGE MASTER 6/7.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Ensure all equipment is appropriate to requirement.
Task Description:	*No details available.*
Recommendations:	1. Review equipment inventories for completeness and maintenance routines.
Contact Details:	No contact details available

31: Failure of ½” BSP cap under pressure

Summary:	An incident occurred where a 1/2" BSP cap appears to have blown off a pressure testing manifold under approx 1200 psi of water pressure.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	An incident occurred on a Forties Platform where a 1/2" BSP cap appears to have blown off a pressure testing manifold under approx 1200 psi of water pressure. The cap and BSP/NPT connector were rated to 4500 psi. The cap was not found, and the conclusions are based on the following assumptions: 1. The cap was not fully engaged. 2. It was over-tightened. A BSP cap, if not fully engaged, will pass fluid through the body of the cap allowing fluid to leak at it's head. The fluid path may follow the contours of the threads, and the resulting 'helical' flow could cause the cap to slowly back - off. Anecdotal evidence suggests damage or cracks can be induced on the caps by over-tightening. The suppliers of the fittings however, have no knowledge of this.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Be very aware of the ratings, tightening procedures, and limitations of all pressure fittings used in a temporary pressure system. If in doubt - ask, or exclude the fitting from the system. 2. Pressure fittings should be in good condition prior to use - in particular threads should be free

of paint and debris. If in doubt , use new fittings.

Task Description: *No details available.*

Recommendations: There is no written defined application for the BSP fittings. However, subsequent to discussions with the suppliers, examination of the product data sheet, and consultation with BS 21, the following recommendations can be made: 1. Ensure the fitting used is of the appropriate rating for the duty applied. Mild steel BSP fittings may not have any physical identification on the body.The fittings should only be used if the task requires them to be used (e.g. the requirement for a vent hose during the operation, which has the appropriate BSP fittings). 2. Ensure all threads on the male and female ends of the fittings are free from any debris/rust/paint which may interfere with the make up of a BSP cap to male thread. The cap should easily be engaged by hand (35 ft/lbs is the recommended torque). 3. BS 21, Appendix C "Special parallel external threads for gas appliances where pressure tight seals are made on machined faces" suggests, "there shall be at least 5 threads engagement". 4. Do not over-tighten BSP fittings - 35 ft/lbs is the recommended torque for 1/2" BSP Hydraulic Hose Connections (ref. Burnett and Hillman - manufacturer). 5. Place an upstream isolation valve to the BSP fitting within the manifold/ test rig, in order that the BSP connection is not continually seeing test/system pressure. References: 1. BS 21 (1985). 2. Hydrasun Sales COC and Pressure Rating tables for BSP adaptors. 3. Burnett & Hillman - Nut Tightening Torques for BSP hydraulic hose connections.

Contact Details: No contact details available

32: Grating Incidents

Summary:	A section of grating approx. 1m2 slipped off its support beams when an operator stepped onto it. The grating flipped vertically causing the operator to fall through the floor.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	A section of grating approx. 1m2 slipped off its support beams when an operator stepped onto it. The grating flipped vertically causing the operator to fall through the floor. The operator grasped the hydraulic hose of a nearby crane and held onto the surrounding floor to prevent a further 11m fall. In the picture below a survival suit is used to show the position the operator fell into.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Grating section undersized and able to move horizontally enough to slip off beam. 2. Cargo handling operations on grating had loosened clamps fixing grating to beam.
Task Description:	*No details available.*
Recommendations:	1. Replace all undersized gratings. 2. All gratings to be bolted to support beams. 3. The grating maintenance routine will now include how clamps should be tested, e.g. lever to check if loose etc. 4. Consider highlighting of clamps with a coloured spray paint to help locate them. 5.

Clamp type and design to be reviewed where clamp performance is questionable.

Contact Details: *No details available.*

33: BOP Hydraulic System Failure

Summary:	A flexible hydraulic hose connected to the LMRP accumulator failed, which resulted in hydraulic ‘runaway’.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	A flexible hydraulic hose connected to the LMRP accumulator failed, which resulted in hydraulic ‘runaway’. The system included a pilot operated check valve (POCV) to provide isolation, should such an event occur. The POCV had been maintained in the open position, by application of the pilot signal for some time. When the pilot (open) signal was removed, the POCV remained stuck in the open position. As a result of this failure, it was not possible to close-in the stack, or to open the fail-safe valves in order to allow circulation of the riser. BOP function control could have been regained by retracting the LMRP stinger to block hydraulic fluid loss. However, this was not appreciated at the time and the LMRP was recovered to surface after securing the wellbore. When the POCV was stripped down, the stem was found to be sticking in the cage guide. Investigation determined that the last time it had been closed (and demonstrated to be closed) was three months previously. The flexible hose had parted at the crimp fitting, which had been incorrectly crimped.
Specific Equipment:	*No details available.*

Lessons Learnt: 1. Where components such as the pilot operated check valve remain in a single position for extended periods of time, there is the possibility of a ‘hidden’ failure, which can only be identified by periodic testing. Safety critical systems must be reviewed to ensure, such items are included within the management systems. 2. Crimp fittings must be made up strictly to procedure and subject to visual and dimension checks afterwards. 3. Personnel may appear to be comfortable with operating a safety critical system, while it is performing normally. This may mask the need for more detailed training, which must be provided to ensure that personnel are fully conversant with the operation of the system and have an understanding on how to deal with such incidents.

Task Description: *No details available.*

Recommendations: .1. Training and competency measures must assure that the correct personnel are involved in making-up flexible hydraulic hoses. 2. Ensure testing of POCVs are carried out on a regular basis (i.e. during regular 14 day stack testing).

Contact Details: No contact details available

34: Shattered Glass Jug

Summary:	A glass jug shattered while it was being rinsed with hot water from a spray hose in the Galley. The individual involved received a minor cut to the left ear from a piece of glass.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Catering / hotel services
Description:	A glass jug shattered while it was being rinsed with hot water from a spray hose in the Galley, prior to it being put through a dishwasher. Use of the spray hose and hot water in this way is standard practice. The individual involved received a minor cut to the left ear from a piece of glass resulting in a First Aid Injury. Nobody else was injured. The incident could have been far more serious if other people had been near by, or the glass had hit the individual involved in the eye.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Glass items should not be washed using hot water under pressure.
Task Description:	*No details available.*
Recommendations:	1. Replace all glass jugs and sweet bowls with polycarbonate versions. 2. Wash all glass in the sink before putting through dishwasher until polycarbonate items arrive.

Contact Details: No contact details available

35: Low Voltage Electric Shock

Summary:	An experienced electrician was investigating an electrical fault on a site siren motor, he went to check the motor control fuses on the 240 V ac control panel , he started to remove one of the fuses and received an electric shock.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Maintenance
Description:	An experienced electrician was investigating an electrical fault on a site siren motor, he went to check the motor control fuses on the 240 V ac control panel , he started to remove one of the fuses and received an electric shock, as the part of the insulation on one of the fuse holders was broken [Fuseholder was a Klippon screw-in type] . The electrician did not isolate the main isolating switch prior to removing the motor control fuses . The main isolating switch is attached to the control panel . The electrician thought that the control fuses were in good condition but failed to prove the system was safely isolated before removing the fuse .
Specific Equipment:	*No details available.*
Lessons Learnt:	1. A high level of risk awareness and attention is needed when it is necessary to work on or near any live electrical equipment regardless of the voltage . 2. When working on Electrical equipment , it must be proved dead before commencing work . 3. Damaged electrical equipment

must not be returned to service.

Task Description: *No details available.*

Recommendations: 1. Safety circle /Tool Box Talk to be held to highlight the necessity to prove electrical equipment dead prior to starting work . Damaged electrical equipment must not be returned to service 2. All similar screw-in Klippon Fuses to be checked to ensure they are in good condition

Contact Details: *No details available.*

36: Burned feet and legs from galley steam oven

Summary:	An experienced electrician was investigating an electrical fault on a site siren motor, he went to check the motor control fuses on the 240 V ac control panel , he started to remove one of the fuses and received an electric shock.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Maintenance
Description:	An experienced electrician was investigating an electrical fault on a site siren motor, he went to check the motor control fuses on the 240 V ac control panel , he started to remove one of the fuses and received an electric shock, as the part of the insulation on one of the fuse holders was broken [Fuseholder was a Klippon screw-in type] . The electrician did not isolate the main isolating switch prior to removing the motor control fuses . The main isolating switch is attached to the control panel . The electrician thought that the control fuses were in good condition but failed to prove the system was safely isolated before removing the fuse .
Specific Equipment:	*No details available.*
Lessons Learnt:	1. A high level of risk awareness and attention is needed when it is necessary to work on or near any live electrical equipment regardless of the voltage . 2. When working on Electrical equipment , it must be proved dead before commencing work . 3. Damaged electrical equipment

must not be returned to service.

Task Description: *No details available.*

Recommendations: 1. Safety circle /Tool Box Talk to be held to highlight the necessity to prove electrical equipment dead prior to starting work . Damaged electrical equipment must not be returned to service 2. All similar screw-in Klippon Fuses to be checked to ensure they are in good condition

Contact Details: *No details available.*

37: Wireline Rental Mast Near-Miss

Summary:	Whilst using an ASEP mast, the operators paused to move/adjust hoses, laying the remote control unit (RCU) for the mast down on the deck - control buttons uppermost. After a short time, the winch cable was observed to be rising up the mast. The RCU had turned over, possibly due to cable tension, and an operating button had been activated by contact with the deck - pressed by the weight of the RCU.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Lifting, crane, rigging, deck operations
Description:	During the process of picking up the wireline lubricator, using an ASEP mast, the operators paused to move/adjust hoses, laying the remote control unit (RCU) for the mast down on the deck - control buttons uppermost. After a short time, the winch cable was observed to be rising up the mast and the RCU was picked up and the winch stopped, before any damage was done. The RCU had turned over, possibly due to cable tension, and an operating button had been activated by contact with the deck - pressed by the weight of the RCU. The buttons were not protected or shrouded against accidental operation.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. On remote control units for any type of hoist, be very wary of any protruding buttons. 2. The suppliers of the

Mast were advised of the situation and are reviewing the design of their similar units

Task Description: *No details available.*

Recommendations: 1. With similar wireline masts; assess the risk of inadvertent operation, and provide shielding or interlocks where possible. 2. Examine RCUs for all types of lifting device and check whether the operating buttons are suitably protected; taking remedial action where practical. 3. Where operating buttons can’t be protected, raise the awareness of this incident amongst those who will be using the equipment.

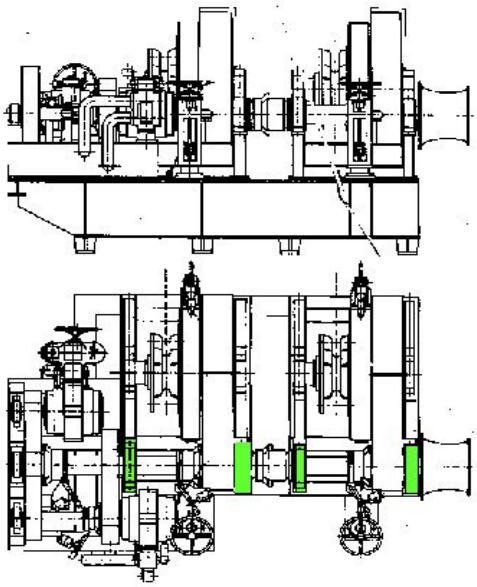
Contact Details: *No details available.*

38: Anchor Winch failure

Summary:	During a period of heavy a semi-submersible rig disconnected from the well, and the rig was winched off location. During this operation, one of the winches failed - five of the bearing cap restraining stud bolts failed.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Floating production/storage unit
Activity Type:	Marine activity, shuttle offloading
Description:	During a period of heavy weather in the Northern North Sea, and as per established practice, a semi-submersible rig in the North Sea disconnected from the well, and the rig was winched off location. During this operation, one of the winches failed - five of the bearing cap restraining 36x360 mm (c. 3 Kg each) stud bolts failed, resulting in one of them being ejected through the air, and landing on the roof of a workshop about 100 ft away (luckily without injury to anyone, including the two winch operators standing behind the winch). The enclosed diagram illustrates, in green, the positioning of the four main shaft bearings, each of which is retained using four stud bolts - 16 in total. During the investigation by an independent inspector (Noble Denton) - in addition to inspecting the actual failed component, the Planned Maintenance System in force on the rig was considered. It was noted that during the (too infrequent) planned maintenance inspections, the stud-bolts had not been torque-tested. This would have highlighted the inadequacy of the bolting arrangement. The investigators also noted that the treads at the top of several of the stud-bolts had been

	hammered over in a mistaken belief that this would prevent the bolts unscrewing. It was also noted that the frequency of such inspections did not take into account the fact that the slacking-off of such restraining arrangements on such winches was not an infrequent occurrence.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Frequency of inspection of winches must be reviewed to address the severity of anchor work. 2. Planned Maintenance Systems must include a torque test of all winch restraining bolts. 3. Hammer testing of bolts is an inadequate test of the stud bolt arrangements.
Task Description:	*No details available.*
Recommendations:	1. Offshore units with similar anchor winches (Norwinch Type 2A-76-2) must ensure the restraining stud-bolts are fully screwed into the base/deck, and that this is followed by a torque-test of each stud-bolt on a regular basis (monthly, followed by quarterly testing.)
Contact Details:	*No details available.*

NOTE: Disconnect all pipes and oil slings, before lifting the winch.



39: Top Drive Shaft

Summary:	During drilling operations a serious failure occurred on the Maritime Hydraulics top drive.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Drilling unit
Activity Type:	Drilling, workover
Description:	During drilling operations being conducted on a rig in the Norwegian CS a serious failure occurred on the Maritime Hydraulics top drive. Although this safety critical item had a major service carried out only approx. 4 weeks before, the main shaft still failed in service. The top drive has since been stripped down and a failure investigation [metallurgical - NDT inspection] is now being conducted on the failed main shaft. A visible crack in the shaft was identified during operations and appears to have been at the root of the failure. It appears at this stage that the crack occurred during service and after the major service. No specific further details are available at present. What is disturbing is the extent of the crack and more importantly that this item was inspected only 4 weeks previously and no indications of a crack or any discontinuities were evident at the time. Some photographs of the shaft are available, but it is difficult to see the crack on them, and are therefore not included in this Safety Circular. Please contact the originator if you wish to be sent email copies. An update to this alert will be issued upon further information arising from the failure investigation: In the meantime the suggested recommendations are provided below.

Specific Equipment:	*No details available.*
Lessons Learnt:	The results of a routine service inspection of a critical item of equipment may not indicate the existence of a significant defect.
Task Description:	*No details available.*
Recommendations:	1. Check when the equipment was last inspected. 2. Ensure that your inspection procedures are adequate and complete. 3. Main load bearing components should be inspected at regular intervals and inspection performed by competent inspectors. 4. For Main shafts full body inspection either using Wet Magnetic particle inspection or UT (Ultrasound Testing) should be employed [Note MPI may not find any cracks or discontinuities that are not on the surface - UT will do this if there is doubt]. 5. Ensure that the supplier or contractor responsible for the equipment has full traceability and service and repair history.
Contact Details:	*No details available.*

40: Fatality from failure of quick release closure system

Summary:	As a vessel was repressured to the 150 psig operating pressure, an apparent failure of the quick release fastening system allowed the door to be forcefully ejected.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	A recent safety alert from ESSO contained the following information : A cartridge filter changeout was being performed on a horizontal fuel gas filter of 18 inch diameter. This was performed on an offshore platform. The filter vessel door was held in place by a quick release (yoke type) fastening system. As the vessel was repressured to the 150 psig operating pressure, an apparent failure of the quick release fastening system allowed the door to be forcefully ejected, fatally striking an employee. Supplemental Information: Vessels requiring routine access (such as pig traps, cartridge filters etc.) are often designed with quick opening closure systems. There are several different designs for the quick opening closure. This circular pertains to a design which uses two opposing clamps or yokes to secure the head of the vessel. These yokes have a channel shaped cross section and two drawbolts to lock and seal the door. This closure uses an o-ring for leak tight sealing. The yokes provide the clamping force as they ride over the vessel door and shell flange. Determination as to whether the closure is installed correctly is based on the gap or

distance between the two yokes and torque applied in tightening the drawbolts. Manufacturer specifications together with the vessel identification plaque provide the recommended gap distance (typically 0.25 inches) and torque values to ensure proper tightness. Excessive gap between the yokes may result in catastrophic equipment failures including the door being blown off the vessel.

Specific Equipment: *No details available.*

Lessons Learnt: Not known at this time

Task Description: *No details available.*

Recommendations: 1. Refer to equipment specific/manufacturers procedures when performing maintenance or operating quick release fastening systems. 2. The vessel identification plaque should be legible in order to facilitate confirmation of maintenance procedures. 3. All components of the quick release fastening system should be cleaned and prepared per manufacturers procedures and/or guidelines. 4. It is essential that gap/closure adjustments should be made only when the equipment is depressurised. 5. Stay clear of the vessels closure end particularly when repressuring.

Contact Details: *No details available.*

41: Clamping arrangements for rotary hoses

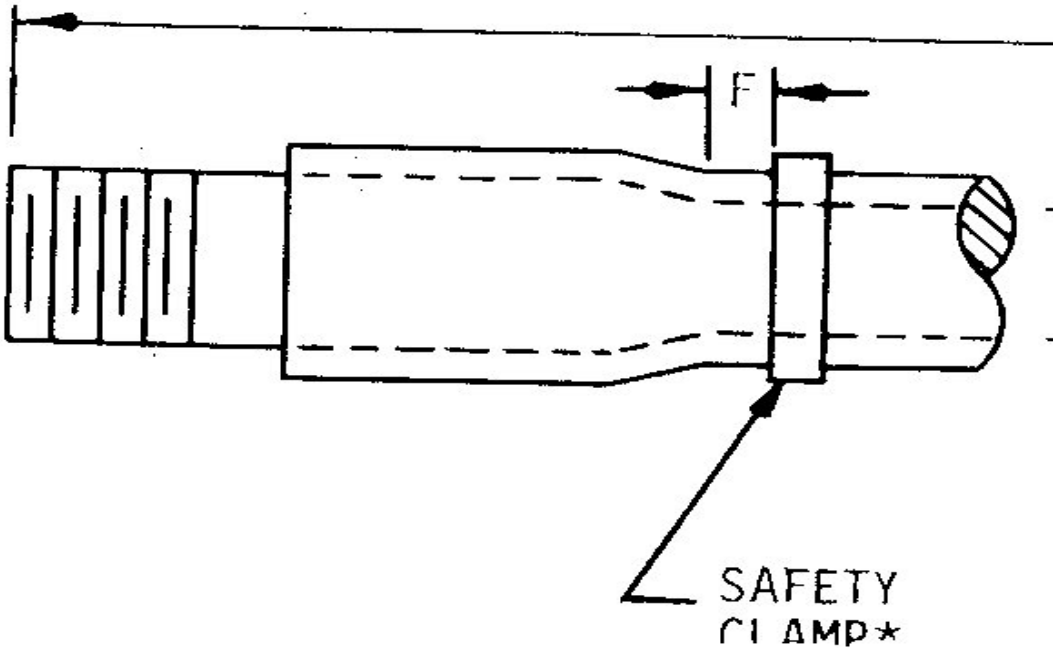
Summary:	During normal drilling operations, a rotary hose (mud) failed approximately 3 feet from the connection on the top drive.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Drilling unit
Activity Type:	Drilling, workover
Description:	During normal drilling operations, a rotary hose (mud) failed approximately 3 feet from the connection on the top drive. The restraining hobble/clamp failed to hold the hose end and it came free falling down 45 feet to the rig floor where a roustabout was knocked over. It is not known whether the hose or the mud release from the hose knocked him over. At the time of the failure the mud system was pressurised to 3000 psi. The hose was rated at 5000 psi - therefore it was being operated within its design limitations. On inspection of the hose it was noted that the hose end had stripped out of the ferrule with the result that the ferrule and connection was left on the top drive. It is not known at present why the hose failed in this mode, however, when it failed it should have done so in a safe manner - i.e. the restraining hobble/clamp should have prevented it from falling.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. The hose clamp was not attached as per the requirements of the “American Petroleum Institute (API) Specification 7K (Second edition - February 1996) -

Specification for Drilling Equipment” - section 9.10.5, and figure 10, or indeed in accordance with the manufacturers recommendations. The requirements of API 7K are to attach a clamp of sufficient capacity and correct size (for the outside diameter [OD]) to the hose about 6 to 18 inches from the inboard end of the coupling. i.e. the clamps should be attached on the smaller OD, not the larger OD which is actually part of the connection. Section 10.9.10 also requires that this area is to be marked with a coloured band with lettering stating “Attach Safety Clamp Here”. In this incident, the incorrect positioning of the clamp allowed the hose to break free and free fall. 2. There were no formalised inspection or testing procedures for the hoses in use on the rig.

Task Description: *No details available.*

Recommendations: 1. Inspect and check all rotary and vibrator hoses to ensure that they have hobbles/clamps in the correct position in accordance with the requirements of API 7K. 2. Ensure that a formalised procedure for inspecting and testing rotary and vibrator hoses is in place.

Contact Details: *No details available.*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SAFETY
CLAMP*

42: Use of breathing apparatus during vessel entry for sand removal

Summary:	There is an inconsistency in understanding and application of good practice when carrying out vessel entry for cleaning.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Maintenance
Description:	Safety Flash - Use of Breathing Apparatus during Vessel Entry A recent incident on Miller has shown that there is an inconsistency in understanding and application of good practice when carrying out vessel entry for cleaning. Persons were working in a separator vessel containing a large amount of sand. Their task was to remove the sand from the vessel. Shortly after work in the vessel commenced, it was observed that the persons in the vessel were wearing organic vapour respirators instead of breathing apparatus. The job was stopped, and the need for breathing apparatus was clarified with the work squad. A significant contributory factor to this incident was that the work squad - who between them had many years of experience in this kind of work - had been allowed to wear organic vapour respirators in similar vessel entries. This Safety Circular is issued to re-emphasise the requirement to wear breathing apparatus until there are no materials left in the confined space which may, if disturbed, give off vapours or fumes sufficient to render the atmosphere unfit for breathing. In the majority of cases with vessels that have contained hydrocarbons,

	there cannot be a sufficient degree of certainty about what lies beneath sand, sludge or other deposits in a confined space to allow persons access without breathing apparatus.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. There is an apparent lack of understanding in the application of our HSE practice 13 during vessel entries involving the removal of sand, sludge etc.
Task Description:	*No details available.*
Recommendations:	1. Ensure that BA is worn until all such loose deposits are removed from the vessel.
Contact Details:	*No details available.*

43: Hydraulic Injury to Hand

Summary:	A small release of HP oil was injected into a contractors hand during a maintenance operation.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Maintenance
Description:	Task was servicing No. 2 engine. All involved were familiar with this tasks and had completed successfully many times before. All risk assessments and pre-job planning was per contractor SMS and mechanical and electrical isolations were correct and in place. Immediately prior to the accident the first cylinder head had been successfully removed using the equipment and procedures that would normally be used for this task. The hydraulic power tool for tensioning the main retaining bolts (regulated at 500 bar) was applied and pressured up to 490 bar. The IP's left hand was placed on the body of the jack. The IP was slackening the main nut on the tensioned bolt when a small release of HP oil was injected into his left hand. The source of the oil was not at first apparent. The cause of the release was the failure of an HP seal on the Hydraulic Jack that allowed a high velocity discharge of a small quantity of hydraulic oil to be released through a small aperture. The failure was attributed to a missing back up "O Ring" seal. Even though the IP was wearing PPE the jet of oil penetrated the IP's hand. It has not been possible to clarify when the o-ring had last been replaced.

Specific Equipment:	*No details available.*
Lessons Learnt:	1. The failure had been caused by the omission of a backing ring at the top sealing point. This would have caused accelerated deterioration of the “O-ring”. 2. The reason that the backup “O-ring” was missing could not be established, it was either omitted by the manufacturer, or on the MODU a few years earlier during maintenance. Individuals must always be reminded, and bear in mind, that their actions today can have repercussions for others in the future. 3. All RA’s were in place for the job at hand, but the risk assessment had not identified the high pressure that would be contained within the jack (490 bar). 4. All hydraulic/pnuematic tools should be covered under the rig PM system.
Task Description:	*No details available.*
Recommendations:	1. In order to complete the task, all jacks will be overhauled and the newior to use. 2. Additional PPE will be worn while performing this task (Full-face visor) in future. 3. The maintenance Supervisor will create a Rig Specific procedure regarding the changing of seal/O-ring assemblies. 4. The task risk assessment shall be revised to flag the hazards involving high pressure within the unit and communicate the requirement for full-face visor. 5. The Risk Assessment should include the risk of placing any body parts directly onto the jack. 6. Investigation of the availability of gloves that provide additional protection against equipment that may involve high pressure hazards. 7. Although the hydraulic jacks are integral to the engine for maintenance, they should also be included on the planned maintenance system. 8. The procedure for control of all hydraulic/pneumatic tools to be the same as for electrical tools and potential hazards identified.
Contact Details:	*No details available.*


Failed Seal

44: Sphere Container

Summary:	A special container carrying spheres for pigging gas pipelines was being lifted from the back of a supply vessel when the end door came open and a sphere rolled out.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Lifting, crane, rigging, deck operations
Description:	A special container carrying spheres for pigging gas pipelines was being lifted from the back of a supply vessel when the end door came open and a sphere rolled out. The sphere was 24” in diameter and weighed approximately 110Kg. It fell a few metres to the deck of the vessel. Fortunately the deck crew, in accordance with good practice, had retired to a safe position after rigging the lift. The design of the door was such that the hinge line was along its lower edge. It was held shut by 2 toggle/wing nut arrangements, each of which could be swivelled into an open slot on the container and then tightened. Investigation revealed that these were corroded and could not easily be properly tightened. Examination of other carriers revealed similar problems.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Design not fail safe and inappropriate for cargo which can move easily. 2. Poor maintenance
Task Description:	*No details available.*

Recommendations: 1. A new latching mechanism has been designed which encases the top edge of the door and must be physically hinged away after removing a locking pin to allow the door to open. Sparrows have engineered this modification. Businesses with similar containers are advised to consider similar modifications.

Contact Details: *No details available.*

45: A piece of aerial fell of the Bacton Telecomms Tower

Summary:	A piece of aerial from the radio tower was found on the main walkway between the workshops and process area
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Onshore terminal
Activity Type:	*Any Activity Type
Description:	A piece of aerial from the radio tower was found on the main walkway between the workshops and process area. The piece was identified as an aluminum type aerial located at 360 ft. It was 350 mm long X 19 mm diameter tube weighting 80 grams. Remedial Actions: 1. A hard hat policy within the possible drop area around the tower has been introduced. 2. New aerials of superior quality have been ordered to replace certain aerials over 10 years old. 3. Redundant equipment has been removed from the tower 4. Research into maintenance frequencies and procedures is being carried out with aerial manufacturers and other users.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. It is believed that the aerial was installed in 1968. 2. It is not known what caused the aerial to break but the most likely cause is aging/corrosion. 3. Visual inspection of all equipment on the tower is carried out on annual basis. The last inspection was carried out in October 1999 and no anomalies were found. 4. There was no other maintenance carried out on these aerials

Task Description: *No details available.*

Recommendations: 1. Review maintenance strategy for all existing telecomms equipment on radio towers and apply appropriate frequencies and procedures. All equipment that does not have the original vendor documentation and the installation date is unknown must be replaced.

Contact Details: *No details available.*

46: Damage to Main Hoist Rope on LIEBHERR 1080/1 Crane

Summary:	During a lifting operation the Crane Operator noticed that damage had occurred to the main hoist rope on the crane, resulting in the failure of a number of hoist rope (wire) strands.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Onshore terminal
Activity Type:	Lifting, crane, rigging, deck operations
Description:	During the lifting of a 15 tonne Separator Vessel from an enclosed habitat on the Bacton Terminal the Crane Operator noticed that damage had occurred to the main hoist rope on the crane, resulting in the failure of a number of hoist rope (wire) strands. The vessel was immediately lowered to the ground and an investigation initiated.On examination of the crane hoist block it became evident that the main hoist rope had been incorrectly ‘reeved’, just prior to the lifting operation, causing the hoist rope to be on the outside on one of the (horizontal) guide pins on the hoist block. As the main hoist rope took on the weight of the vessel the main hoist rope rubbed against the guide pin causing a partial failure to the main hoist rope and minor damage to the guide pin.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Changing the crane hoist block was a routine task - failure was complacency and familiarity. 2. The Crane Operator was very experienced and trained in reeving crane blocks. 3. The crane and all associated lifting

equipment was less than 5 months old. 4. There is no ‘formal’ checklist to confirm adequacy of ‘reeving’ of main hoist rope/block

Task Description: *No details available.*

Recommendations: 1. Safety Flash to be issued across all industry sectors to raise awareness of nearmiss. 2. Simple ‘checklist’ to be developed to ensure ‘reeving’ and other ‘routine’ alterations to cranes are checked for adequacy, prior to reuse. 3. Position of People during lifting operations is too be considered more carefully in light of this incident - ensure adequate escape routes and distance from load being lifted

Contact Details: *No details available.*

47: PCB's in Light Fittings

Summary:	Following an electrical power transient from an emergency generator a number of capacitors in light fittings were found to be damaged. This resulted in spillage of a quantity of PCB material.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	Following an electrical power transient from an emergency generator a number of capacitors in light fittings were found to be damaged. This resulted in spillage of a quantity of PCB material. The amount of PCB lost was small and the persons involved were adequately protected so there will be no long term health implications.The type of fittings are CEAG ,specifically the 70,83 and 81 series. (81 series prior to 1982 manufacture). For information on working with PCB's see below: http://www.open.gov.uk/hse/pubns/msa9.htm
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Understand the hazards associated with PCB,s especially with older equipment. 2. Personnel should be aware of hazardous materials which they could potentially come into contact with and appropriate COSSH assessments made.
Task Description:	*No details available.*

Recommendations: 1. Identify any fittings where PCB,s may be present. 2. Ensure all electrical personnel are aware of the hazards and precautions to take. 3. Ensure adequate disposal procedures are available

Contact Details: *No details available.*

48: Valve handwheel with attached chainwheel fell on deck

Summary:	A handwheel with an attached chainwheel fell on to a deck.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	During production operations on the NW Bell riser on Bessemer platform it was necessary to operate a manual block valve located approximately nine feet above deck level. The valve has a chain wheel mechanism attached to it to enable operation at deck level. When the valve was approximately 50% open it was noticed that the handwheel was coming off the valve shaft. The valve operator stepped back to investigate the problem and when the chains were moved to get a clearer view of the assembly , the handwheel with the attached chainwheel fell on the deck.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. The valve handwheel with attached chainwheel was secured to valve shaft only by a single grub screw, arrangement not recommended for horizontal valve shafts. The use of lock-nuts, pins and wires is considered acceptable. 2. A similar incident took place on Magnus platform in June 1999. A full investigation was carried out by contractors involved. It was recommended that for horizontal valve shafts handwheels should be secured in such ways that they cannot be slackened during normal

operation. Investigation recommendations were not supplied to this Business Unit.

Task Description: *No details available.*

Recommendations: 1. Handwheels attached to horizontal valve/gear box shafts, particularly those operated using chainwheel arrangement, need to be inspected immediately and checked that handwheels are secured adequately: all those installed in horizontal position must be secured permanently with locking nuts or bolts, pins, wires, etc. Arrangements with one grub screw in place are not recommended.

Contact Details: *No details available.*

49: Crane Accidents

Summary:	Two accidents occurred during a lifting operation.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Lifting, crane, rigging, deck operations
Description:	The first accident happened during the lifting of a 13 tonnes tank. When topping the boom to reach the right location to put the load on the deck, the boom suddenly started falling and the load fell down approximately 3 meters until the load hit the top of two other stored tanks. The spacing between these tanks was about 2 meters and the falling tank got jammed in between these. Two persons were located in the area between the tanks and the falling load stopped only 0.5 meter above the head of one person. The crane boom descent stopped when the crane operator put the boom operating joy-stick in neutral position which automatically activated the boom brake. The second accident occurred half an hour later when it was attempted to lay the boom into it’s rest. To do this operation the crane driver had to slew the crane about 45 degrees. During this operation, the boom once again fell uncontrolled. The boom hit its rest so hard that it bent the boom rest, the connection bolts between boom section 2 and 3 were sheared and the forward part of the boom tipped down from the boom rest in a 90 degrees angle. Only the whip wire rope prevented the forward two sections falling into the sea. Immediate cause of the accidents: Collapse of the input gear (sun gear) between main shaft from the hydraulic motor to the gearbox on the

	boom winch. All teeth was broken off. The most likely cause for this is incorrect assembly of the sun gear. A washer has probably come out of position during installation and this has lead to rapid wear of the sun wheel gear. Crane data: 1. Platform Pedestal Crane 2. Type: Kingpost, Seaking 1701 3. Manufacturer: Turmeric Ltd. 4. Lifting capacity: 5.5 tons on whip line, 17.7 tons on main block
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Ensure adequate inspection and PM programs for critical systems / components by persons adequately trained. 2. Importance of correct and clear procedures and job descriptions and that these are understood and followed during disassembly and assembly of the gearbox. 3. Importance of use of Safe Job Analyses (SJA) before critical jobs and operations.
Task Description:	*No details available.*
Recommendations:	1. Verify that the gears on similar winches are correctly fitted by personnel with specific training on the gears in question, preferably vendor representative. 2. Implement programmes that monitor for abnormal wear, i.e. monitor oil for particles indicating wear.
Contact Details:	*No details available.*

50: Valve handwheel dropped off

Summary:	A handwheel of a 2” 1500#Choke Valve fell from the valve whilst being transported by the platform crane.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Lifting, crane, rigging, deck operations
Description:	We recently had an incident whereby the handwheel of a 2” 1500#Choke Valve fell from the valve whilst being transported by the platform crane. Fortunately no-one was hurt as a result but there was potential for serious injury/fatality. The deck crew had carried the valve by its handwheel out of a container to place it on the deck for slinging. They then slung the valve by its body and proceeded with the lift. The handle fell off at approx 10’. In this case the handwheel was held in place by a 6mm grub screw which, when checked, was found not fully screwed home. However, investigation with the suppliers has shown that these grub screws are not designed to take the weight of the handwheel and some valves do not have grub screws or locking bolts at all. Therefore, whenever lifting valves with their handwheels attached, there is the potential that they can come off. Carrying valves by their handwheels is also a potentially hazardous activity as the valve body could drop off and injure the persons carrying them.
Specific Equipment:	*No details available.*

Lessons Learnt: 1. Assume that any valve handwheel, unless permanently secured, may be loose and could fall off. 2. Check valves for other potentially loose parts - actuators, gearboxes etc. 3. Do not carry valves by their handwheels.

Task Description: *No details available.*

Recommendations: 1. When transporting valves by crane, other than valves with permanently secured handwheels, consider either removing the handwheel or securely strapping it to the valve body. Note : A study is in progress to analyse similar incidents and provide comprehensive guidance on transporting valves. Radical design changes are also being reviewed.

Contact Details: *No details available.*

51: Torque / Pressure Gauge Failure

Summary:	A torque gauge, located inside the Pipe Handling Unit cabin, failed causing a spray of hydraulic oil and glass passing the operators head.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	A torque gauge, located inside the Pipe Handling Unit cabin, failed causing a spray of hydraulic oil and glass passing the operators head. This resulted in the operator getting hydraulic oil into his eyes (no glass). An examination of the gauge showed that the Bourdon tube inside the gauge was cracked enabling the hydraulic oil pressure to build up inside the gauge housing and finally release through the gauge front when the glass failed. It was also noticed that the gauge housing was without any pressure relief hole/plug.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. This type of gauge must have relief hole/plug. 2. The Bourdon tube can crack and cause pressure build-up inside the gauge.
Task Description:	*No details available.*
Recommendations:	It must be ensured that all torque/pressure gauges of this type have either a pressure relief hole in the back of the gauge housing or a pressure relief plug.

Contact Details: *No details available.*

RELEASED

M/D TOTCO™
INSTRUMENTATION

SAFETY BULLETIN

Service Bulletin No. 234
October 14, 1994

TO: M/D TOTCO Customers

FROM: M/D TOTCO Technical Services

PRODUCT: M/D TOTCO Pressure Gauges

PART NUMBERS:
P/N 212915-105 (15,000 PSI, Bracket Mount)
P/N 212917-105 (15,000 PSI, Panel Mount)
P/N 212926-104 (15,000 PSI, Dual Vernier, Bracket Mount)
P/N 212927-104 (15,000 PSI, Dual Vernier, Panel Mount)
P/N 212919-105 (1,055 kg/cm², Bracket Mount)
P/N 212921-105 (1,055 kg/cm², Panel Mount)
P/N 212928-103 (1,200 kg/cm², Dual Vernier, Bracket Mount)
P/N 212929-103 (1,200 kg/cm², Dual Vernier, Panel Mount)
P/N 212923-105 (100,000 kPa, Bracket Mount)
P/N 212925-105 (100,000 kPa, Panel Mount)

PROBLEM: If a high pressure leak occurs in gauges with the above part numbers, the plexiglass face may rupture.

OBJECTIVE: To alert our customers about this potential gauge fault and to provide a solution for this problem.

WARNING

Personal injury could result from a ruptured pressure gauge. Make sure to read and follow the instructions provided in this Safety Bulletin.

SOLUTION: M/D TOTCO recommends that a Pressure Relief Valve (P/N 300304) be immediately installed in all gauges having the above part numbers. The Pressure Relief Valve prevents the build-up of pressure in the gauge case.

The Pressure Relief Valve (P/N 300304) is available from the M/D TOTCO manufacturing facility. The part numbers and serial numbers of the affected pressure gauges must be supplied to receive the pressure relief valves free of charge. Upon request, M/D TOTCO will install the Pressure Relief Valve (P/N 300304) free of charge at any M/D TOTCO service facility.

Contact John Shelton (Marketing Services) at 512-219-4335 or 512-331-0411 to order the pressure relief valve, or for information on the nearest M/D TOTCO service facility.

M/D TOTCO™
INSTRUMENTATION

SAFETY BULLETIN

Service Bulletin No. 234
October 14, 1994

INSTALLATION PROCEDURE: To install the Pressure Relief Valve (P/N 300304), complete the following steps:

1. While facing the gauge dial, remove the oilfill screw that is located to the right of the damper (see Figure 1).
2. Install the Pressure Relief Valve (P/N 300304) into the oilfill screw hole.

If any questions arise during installation, call any M/D TOTCO service facility for further assistance.

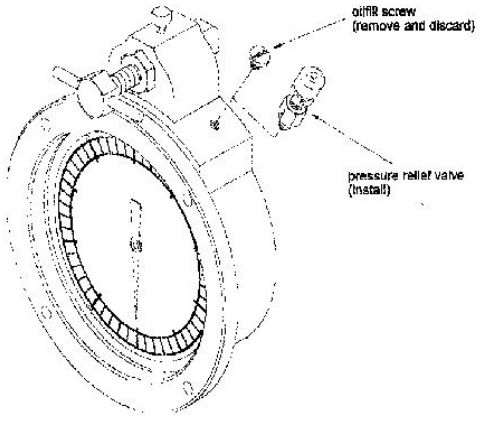


Figure 1. Typical Hydraulic Gauge

52: Hidden Dangers in the Derrick

Summary:	A steel dolly roller dust cap, 8" diameter , 1" thick, and weighing 2.4 kg, fell down the travelling assembly beam onto the drill floor.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Drilling unit
Activity Type:	Drilling, workover
Description:	A steel dolly roller dust cap, 8" diameter , 1" thick, and weighing 2.4 kg, fell down the travelling assembly beam onto the drill floor. No-one was injured, but there was potential for significant personnel injury. The Derrick and it’s equipment had previously been subjected to detailed inspections as part of the industry wide dropped object campaign. The site was made safe, and a subsequent investigation found that the dust cap was concealed by the H beam to the extent that it was impossible to inspect without cutting a dedicated inspection hole in the H beam. This was subsequently done and all dust caps inspected. The retaining bolts on two other dust caps were also found the be loose. All bolts were checked and tightened, and the errant cap replaced. A more rigorous inspection programme will be utilised in the future in order to overcome the potential of another dropped object. The manufacturer has been asked to review the design to ensure that where potential exists for a component part to work loose and fall, then this part is accessible for inspection from within the derrick. The nature of the design is such that once operational, inspection of the dust caps can only be undertaken by lowering the

complete assembly from the dolly rails.

Specific Equipment: *No details available.*

Lessons Learnt: 1. System design has within it the potential for dropped objects. Mitigation for dropped objects is provided by retention systems and inspection programmes. However, some objects cannot be easily inspected. 2. Beware of “hidden dangers” associated with equipment. Consider using manufacturer technicians on safety critical equipment for critical inspections. Also consider involving manufacturer in assessment of dropped object potential from their equipment while that equipment is in operational mode.

Task Description: *No details available.*

Recommendations: 1. Review equipment within derrick with respect to “hidden dangers” ie. those objects that cannot be easily inspected. Consider involving manufacturers in assessment of dropped object potential from their equipment. 2. Encourage equipment manufacturers and drilling contractors to design and use “Dropped Object Friendly” equipment. Consider minimising number and weight of components which could drop, security of fixing of these items, and ease of routine inspection to confirm security of fixings.

Contact Details: *No details available.*

53: Collision of Travelling Block Assembly (TBA) with Crown in Drilling Derrick

Summary:	Whilst tripping into the hole with a 12.25" drilling assembly, the Travelling Block Assembly (TBA) was over hoisted into the Crown and a series of events resulted in the TBA colliding with the Crown.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Drilling, workover
Description:	Whilst tripping into the hole with a 12.25" drilling assembly, the Travelling Block Assembly (TBA) was over hoisted into the Crown. The driller had been temporarily relieved two stands previously and the operation was about to change from tripping in to washing down. The string had been set in the slips and the blocks were being hoisted to pick up the next stand. As the TBA passed the pre-set over hoist alarm position, the Kinetic Energy Monitoring System (KEMS) alarmed and engaged the ELMAGO brake. Immediately afterwards the Crown - O - Matic (COM) toggle tripped to commence clutch disengagement and draw-works disc brake operation. On hearing the alarm the person operating the draw-works immediately stopped hoisting, disengaged the clutch and applied the brakes. However, the combination of shut down system operating speed, momentum of the blocks, and alarm-to-impact distance resulted in the TBA colliding with the Crown, despite the shut down system being successfully function tested at low speed a few hours earlier. A limited amount of debris - two nuts and a piece

of wood - fell to the drill floor. Fortunately nobody was hurt during the incident. The alarm was switched off and the COM reset. The hydraulic pumps were switched off to stem a leak observed from the TBA. The rig floor was cleared of personnel and the TBA was lowered to allow a damage assessment to be made. As the TBA was being lowered further debris fell to the rig floor (a shim plate and more wood) and the descent was stopped at the monkey board. Operations remain shut down pending detailed inspection of the Derrick and hoisting equipment and completion of damage repairs.

Specific Equipment: *No details available.*

Lessons Learnt: 1. Know your braking distance! The safety systems which are in place to protect against collision of the TBA and the Crown may be set up such that they do not achieve this. The relationship between the point of activation, the speed of the blocks, the distance between the activation point and the Crown and the shut down system operation speed is critical to the correct set up. This relationship needs to be clearly established, laid down unequivocally in relevant written instructions, and fully understood by personnel responsible for the operation of the systems. Successful testing at low speed is no guarantee that the system will operate as intended under all circumstances. 2. Changeover of key personnel at critical stages of an operation may result in an increased potential for human error due to distraction or confusion causing a loss of concentration on the task directly in hand. The timing of such changeovers, and the quality of handover / overlap between the parties changing over, should be carefully considered.

Task Description: *No details available.*

Recommendations: 1. The setting of the trigger points for the activation of crown block protection systems should be checked and verified to assure effectiveness under worst case

operating conditions, ie maximum anticipated block speed. The relationship between the height of activation, the speed of the blocks, the distance between the activation point and the Crown, and the shut down system operating speed, is critical to the correct set up. Ensure that this relationship is clearly established, laid down unequivocally in relevant written instructions, and fully understood by personnel responsible for the operation of the systems. 2. Brief all crews on the need to concentrate on the safe completion of the task at hand - use this incident as an example of the consequences of inattention. 3. Review practices in place for the on shift handover of operations between individuals. Ensure that the sensitivity of the operations ongoing at the time are actively considered before deciding that changeover is appropriate at that stage, and that the quality and content of handover and overlap of personnel are appropriate to those operations.

Contact Details: *No details available.*

54: Failure of relief line during well testing operations

Summary:	During well testing operations on a mobile drilling unit (MODU) the overboard relief line from the well testing separator pressure safety valves (PSV's) failed at a hammer union type connection.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Drilling unit
Activity Type:	Well services / intervention
Description:	During well testing operations on a mobile drilling unit (MODU) in the Bruce field on the evening of 31st May 1999, the overboard relief line from the well testing separator pressure safety valves (PSV's) failed at a hammer union type connection. The relief line consisted of several lengths and elbows of temporary pipework connected by hammer unions and linked together by a wire rope "hobble". The failure resulted in the overboard tailpipe becoming detached from the remainder of the relief line. It was prevented from falling overboard by the hobble and other wire ropes. The main section of the relief line was displaced sideways by approximately 1 metre at the point of maximum displacement. One or other of the PSV's on the separator had operated twice in close succession, in response to rapidly rising pressure in the test separator. Emergency shutdown (ESD) of the welltest was initiated. There were no injuries. The damaged line was discovered when the site was inspected. The welltesting spread in use is typical of that used widely throughout the industry. This event represents an important opportunity to learn from the

	actual performance of those components which are rarely called upon to operate. Detailed inspection of the equipment involved will be required before firm conclusions may be reached, but some interim lessons are presented below.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Relief lines should be treated with the same respect as those which will be known to be running at pressure during the test. Process and mechanical implications should be considered when designing and assembling them. Practical difficulties in testing the line to duplicate service conditions make a high level of quality assurance essential. 2. Relief lines should run well within the hazardous zone barriered off around the welltest spread. 3. The automatic ESD equipment did not prevent the PSV from operating. 4. It is good practice to ensure that hydrate inhibition treatment and the use of the welltest heater are continued until conditions are clearly outside the hydrate zone. NB: This is a reinforcement of current good practice and must not be construed as being indicative of the cause of the incident, as no such conclusions have been reached.
Task Description:	*No details available.*
Recommendations:	1. Temporary relief lines from welltesting skids should be treated with the same respect as those which will be continuously running under pressure. In particular, the necessary process and mechanical engineering considerations, including piping stress analysis, should be undertaken in finalising the design. All lines - including relief lines - should be firmly restrained in order to prevent movement in any direction, taking account of thrust forces likely to be generated during venting in the case of relief lines. 2. Maximise the safe zone between the barriers around the spread, and all of the equipment in use - including relief lines. 3. Remind personnel that the ESD

system may not prevent the welltest separator PSV’s from operating in the event of rapidly rising pressure. 4. Reinforce the existing good practice of ensuring the continuation of hydrate inhibition and the use of the welltest heater until conditions are clearly outside the hydrate envelop

Contact Details: *No details available.*

55: Flash Ignition

Summary:	Whilst changing a Turbine Meter, operation technicians found it necessary to clean the Test Separator Outlet Basket which was found to be blocked with a gel material and some residual water. To dislodge the gel the valve was fully opened, which resulted in a jet being applied. When the jet contacted the gel a blue flash was seen and a crack was heard, both from inside the Filter Basket.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Production operations
Description:	Whilst changing a Turbine Meter, operation technicians found it necessary to clean the Test Separator Outlet Basket which was found to be blocked with a gel material and some residual water. This “gel material” originated from well A1 where it was being used as water shut off (zonal isolation) gel. A green water hose was run out from a nearby hose station, the valve cracked open, and water from the hose directed into the basket to wash out the gel. When this failed to dislodge the gel the valve was fully opened, which resulted in a jet being applied. When the jet contacted the gel a blue flash was seen and a crack was heard, both from inside the Filter Basket. The water was immediately directed away from the Filter Basket, and was switched off. The Filter Basket was inspected to confirm that nothing was still burning.It is suspected that this was caused by static electricity from the water hose. However, investigations are still ongoing.

Specific Equipment:	*No details available.*
Lessons Learnt:	1. Green hoses (non anti static) should not be used for this type of work. 2. Filter Baskets should be earthed when worked on as a standard procedure.
Task Description:	*No details available.*
Recommendations:	1. Remove all non anti static green hoses from Platform modules. 2. Create an Operating Procedure for change out of Filter Baskets. 3. Gas testing to be carried out at all hydrocarbon break ins. 4. Risk assessments (including COSHH) are to identify actions to be taken when working with, or on discovering the gel material.
Contact Details:	*No details available.*

56: Dangers of Heating Water in Microwave Ovens

Summary:	A cup of water heated in the microwave blew up in a young mans face as he removed the cup from the microwave.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	*Any Location Type
Activity Type:	*Any Activity Type
Description:	Recently a young man decided to have a cup of instant coffee and placed a cup of water in the microwave to heat it up (something he had done many times before). The timer setting is unknown but he said that he intended to boil the water. When the oven shut off he removed the cup and as he looked into the cup he noted that the water was not boiling, but almost immediately all of the water blew up into his face as a result of the stored energy. The consequence of this is that the young man suffered extensive blistering on his face. He has first degree burns that may leave scarring and he may also lose part of his sight in one eye.
Specific Equipment:	*No details available.*
Lessons Learnt:	The use of a microwave to boil water should be avoided, both at home and in the workplace.
Task Description:	*No details available.*

Recommendations: Use a kettle to boil water.

Contact Details: *No details available.*

57: Movement of Tubular

Incident Date:	*Date of incident not available.*
Summary:	A man received fatal injuries as a result of being struck by a joint of casing.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Drilling unit
Activity Type:	Lifting, crane, rigging, deck operations
Description:	In a recent indicent a man received fatal injuries as a result of being struck by a joint of 13 3/8" casing. A single 40 foot joint of casing was being lifted by crane from the pipedeck of a mobile drilling rig to the raised catwalk as part of a normal casing job. During the lift, one of the slings slipped up the pipe, causing the end to fall to the pipedeck where it bounced and struck the man.
Specific Equipment:	*No details available.*
Lessons Learnt:	See recommendations.
Task Description:	*No details available.*
Recommendations:	The following immediate points can be made: 1. When tubulars are being lifted or moved, it is necessary to follow the proper procedures. 2. Slings must be double wrapped around the tubular. 3. All personnel must stand well away from the drop zone while the lift is ongoing.

4. Pre-tour talks undertaken at short shift change-overs should be as comprehensive as normal shift change-overs. The shift pattern must not compromise the quality of the pre-tour talk.

Contact Details: *No details available.*

58: Gas Release Due to Perforation of a Hollow Threaded Plug

Summary:	The action of a needle gun caused a corrosion product to become dislodged from a section of pipework containing propane, which was being prepared for repainting, causing a gas release.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Onshore terminal
Activity Type:	Production operations
Description:	During preparation for repainting of pipework a painter was using a needle gun to remove corrosion products from a section of piping containing propane at 8.5 barg. The painter had started to use the needle gun to clean up a threaded plug which was screwed into a fitting welded onto the pipe when there was a sudden gas release. The threaded plug was hollow with an original wall thickness of about 4mm but had been assumed to be a solid plug of 20mm diameter (see diagram below). The corrosion product had been dislodged by the action of the needle gun and this resulted in a perforation. Fortunately the gas release did not ignite and the leak was successfully isolated. All threaded connections on site had been surveyed but hollow plugs had not been identified. Resurvey of threaded plugs identified a further 12 on the site which were a long pattern and suspect as hollow. This was confirmed by radiography.
Specific Equipment:	*No details available.*

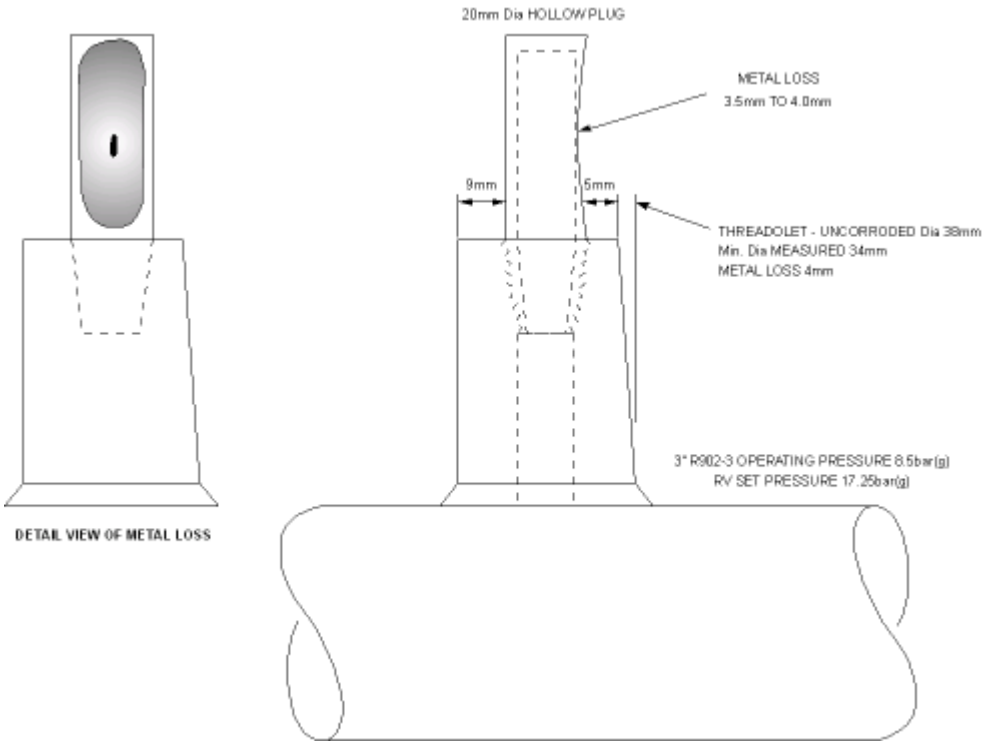
Lessons Learnt:

1. Although wall thickness checks should be carried out on pipework before any mechanical dressing in service this would not normally include a check on threaded blanking plugs.
2. Screwed fittings are not permitted in new construction pipework for hydrocarbon service, but may still be present in some older installations.

Task Description: *No details available.*

Recommendations: Mechanical dressing should not be carried out on threaded plugs in service unless they are proven to be solid and with adequate wall thickness. Plugs can be confirmed to be solid or hollow by radiography (preferable) or by ultrasonic testing

Contact Details: *No details available.*



59: Possible Loosening of Turnbuckle Support Pins on Constant Load Support Unit (CLSU)

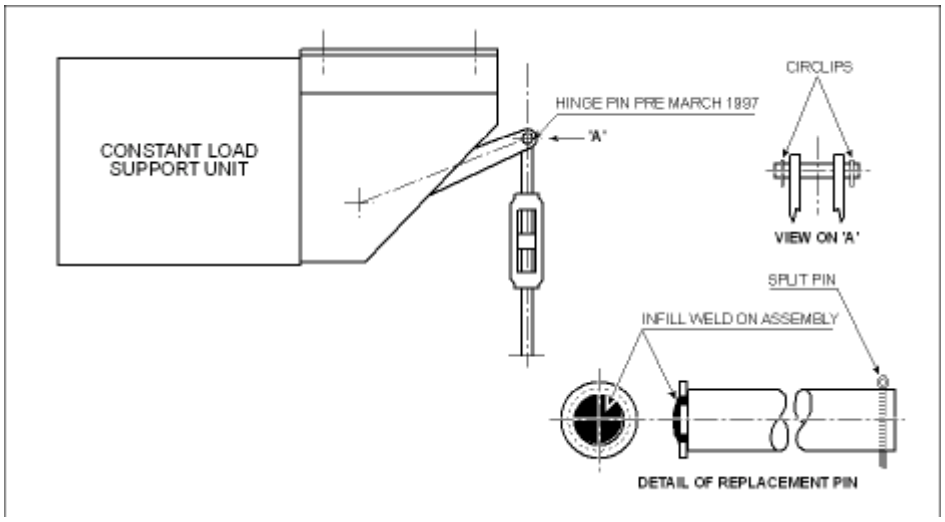
Summary:	On a Type C50 Constant Load Support Unit (CLSU), circlip fixings holding support pins in place had corroded. Potentially, the support pins could have worked loose through flowline vibration.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Lifting, crane, rigging, deck operations
Description:	A problem was encountered recently on an offshore installation involving a Type C50 CLSU. This had support pins held in place by circlip fixings (see diagram below). The circlips had corroded and the pins could potentially have worked loose through flowline vibration. A follow-up survey on the platform showed that six other CLSUs were affected. The manufacturer was contacted and it was found that the design of the pin has been changed and new units are now supplied with welded pins. To overcome the problem on older units a replacement pin is available which has a washer welded in place at one end and a retaining split pin on the other.
Specific Equipment:	*No details available.*
Lessons Learnt:	This alert highlights the importance of making constant maintenance checks and keeping in touch with

manufacturers regarding design upgrades etc.

Task Description: *No details available.*

Recommendations: Check all CLSUs and carry out on-site modification as necessary. The manufacturers can supply replacement pins direct.

Contact Details: *No details available.*



60: Portacabin fell whilst being lifted by crane

Summary:

Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	*Any Location Type
Activity Type:	*Any Activity Type
Description:	A wooden framed portacabin was lifted just off the ground and moved 2 feet to the side in order to reposition it relative to the pavement. In order to lift the portacabin, four chains were attached to the top of the four outer steel legs. The chains were then attached to a crane. The steel legs were connected to the wooden frame by coach bolts (large screws) - see photograph below. The contents of the cabin were not removed as it was decided not to be necessary at the time. As the cabin was lifted, owing to the weight distribution inside the cabin, one end stayed on the ground. The two legs at the low end then broke away from the wooden frame and the cabin fell to the ground. No-one was injured.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Lifting and moving of portacabins had become routine. Complacency may have developed. 2. Portacabin lifting legs are not routinely inspected or included in the register of lifting equipment. 3. There is no inbuild design criteria concerning lifting requirements for portacabins other than general building standards. e.g. structural use of timber. 4. The method used for lifting, i.e. from the top of the legs, caused the legs to be pulled toward the top centre of the

cabin. 5. The cabin was not emptied prior to the lift taking place. 6. The wood into which the coach bolts were fitted was rotten.

Task Description: *No details available.*

Recommendations: 1. Before lifting a portacabin, the method to be employed should be planned to suit the structural integrity of that particular cabin by a competent person, who must also ensure that every part of the load is of adequate strength. The actual lift should be appropriately supervised. Cabin suppliers can provide advice on how specific cabins are designed to be lifted. 2. The following items should be inspected prior to lifting : the lifting legs the lifting leg fastenings to portacabin the fabric of the portacabin Consideration should be given to adding them to the register of lifting equipment. 3. All moveable contents and extra fittings should be removed from the portacabin before it is lifted.

Contact Details: *No details available.*

61: Loose bolts on turbine engine exhaust stack

Summary:

Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	*Any Location Type
Activity Type:	*Any Activity Type
Description:	During a period of high winds, a 70 ft exhaust stack from one of the turbine engines was seen to be moving abnormally - it appeared that the point of movement was at a joint halfway up the stack. As can be seen in photograph 1 - most of the stack is lagged and inaccessible. Concerned that the 4 tonne top section might fall, the platform was shut down and de-pressurised. When scaffolding was erected and the lagging removed, all 64 bolts were found to be loose (see photograph 2) and many of the nuts had come off - assumed to be due to vibration. There was no movement when the wind speed reduced. The stack had been installed in 1988 and the joint had not been inspected since. Other parts of the stack were included on the maintenance schedule. The bolts used were not the ones specified in the design and these have been replaced with new bolts and with a locking nut to prevent them loosening during service.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. The joint was not included on the planned maintenance routine. 2. The bolts used were not as specified in the

original design.

Task Description: *No details available.*

Recommendations: 1. Review planned maintenance routines to assure yourself that ; inaccessible joints are included and the inspection frequency is suitable. 2. Ensure that adequate quality assurance checks are in place when ordering bolts - ask the question, “is what I received, what I ordered ?”. 3. Joints of this design should be bolted up using an appropriate procedure to ensure the correct pre-load is applied and then measures taken to ensure that it does not loosen - e.g. locking nuts/split pins/tab washers/thread lock or tack welding.

Contact Details: *No details available.*

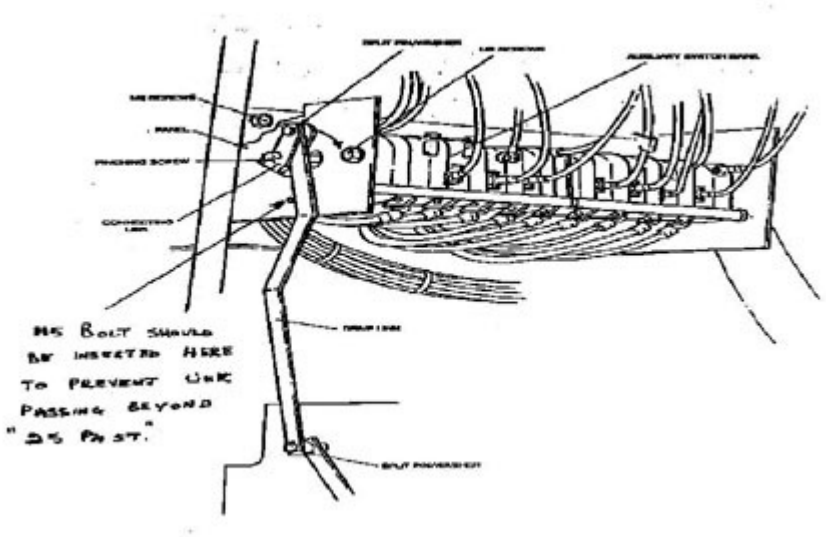
62: High Voltage Switchgear

Summary:

Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	*Any Location Type
Activity Type:	*Any Activity Type
Description:	A high voltage circuit breaker manufactured by Whipp & Bourne Type DV40 powering a high speed water injection pump could not be tripped from any control point and was finally tripped using the mechanical trip lever on the breaker itself. The cause of the failure showed that (a) trip supply was not available because the breaker follower auxiliary switch had failed and (b) the trip circuit supervision alarm had been masked by another breaker which was racked out. The cause of failure was found to be that free play in the connecting link and drive link (see attached figure) had allowed the switch to drop to the six o'clock position and on the next occasion that the breaker closed the drive link tried to push the connecting link straight up. A modification is available to prevent this situation but the failed switchgear had not been modified.
Specific Equipment:	*No details available.*
Lessons Learnt:	Common alarms may hide new important alarms. Tripping live circuit breakers by mechanical means carries risks that must be understood and assessed.
Task Description:	*No details available.*

Recommendations: 1. Whipp & Bourne DV40 switchgear should be investigated to ensure that the modification has been carried out in accordance with manufacturers instructions.
2. Trip circuit supervision systems should be checked to ensure that a failed circuit in one breaker is not masked by a common alarm initiated from another circuit breaker.
3. Ensure Electrical technicians are aware that mechanical tripping of live circuit breakers should only be carried out after fully assessing the risks.

Contact Details: *No details available.*

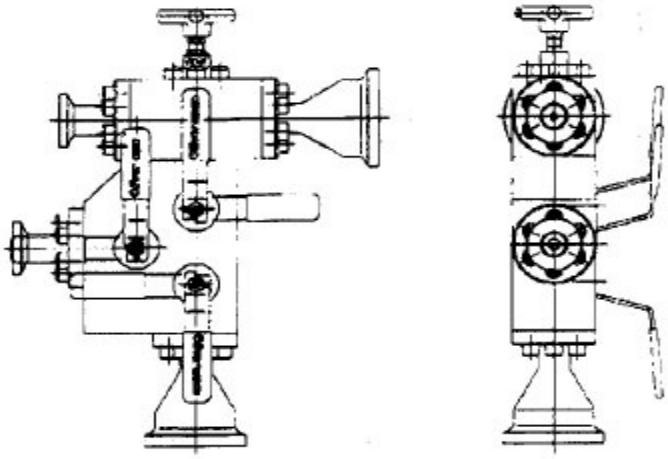


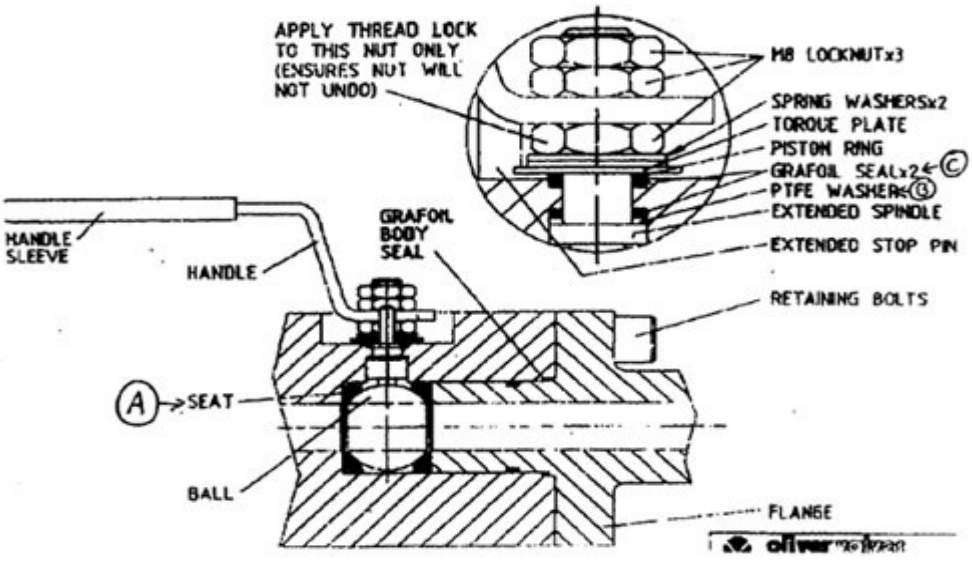
63: Oliver 14mm Bore DBB Valve Stem Seal Leakage

Summary:

Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	*Any Location Type
Activity Type:	*Any Activity Type
Description:	During routine N2 leak testing of a Miller water alternating gas (WAG) flowline, a large stem seal leak occurred on an Oliver 14mm bore double block and bleed valve assembly of the type shown on the attached drawing. The N2 pressure had reached approximately 360 Barg when the pressure started to decay. Normal leak test pressure for this line is 450 Barg. The valve is one of 145 valve assemblies on the installation, (approximately 435 spindles, 3 per valve). This safety alert is related to the same type of valves on the previous safety alert, 97/30. The valve was removed and an investigation revealed that the Grafoil gland seals, item C and PTFE thrust washer, item B, had extruded, refer to attached sketch. A contributary factor may have been the increased side forces on the handles due to significant valve stiffness. Oliver, working closely with BP, have reproduced the symptoms and have undertaken trials on a series of design improvements for a high pressure gland system which are showing very promising results. All valves had been pressure tested before installation. It is thought that exposure to high pressure gas over a period of time and repeated operation had a significant effect on the Grafoil extrusion. Drying out of the original Polyetheretherketon (PEEK) seats, item A, is thought to have increased valve

	stiffness and was probably caused by a combination of methanol and exposure to high pressure / temperature gas over a period of time. Further details on the proposed high pressure / high temperature gland seal modifications will be published at a later date.
Specific Equipment:	*No details available.*
Lessons Learnt:	ANY INCREASE IN OPERATING STIFFNESS OF THIS TYPE OF VALVE SHOULD BE REPORTED AND INVESTIGATED.
Task Description:	*No details available.*
Recommendations:	1. All BP Amoco installations using Oliver 14mm bore double block and bleed valves on high pressure systems are advised to check stem seals and contact Oliver Valves if required.
Contact Details:	*No details available.*



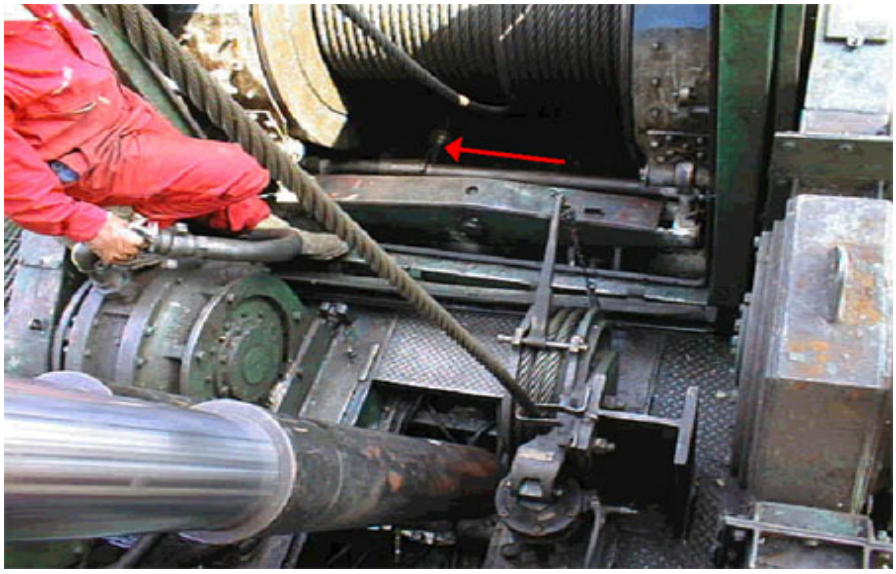

APPLY THREAD LOCK
TO THIS NUT ONLY
(ENSURES NUT WILL
NOT UNDO)
M8 LOCKNUT x3
SPRING WASHERS x2
TORQUE PLATE
PISTON RING
GRAFOIL SEAL x2 ©
PTFE WASHER ⑤
EXTENDED SPINDLE
EXTENDED STOP PIN
HANDLE SLEEVE
HANDLE
GRAFOIL BODY SEAL
RETAINING BOLTS
(A) SEAT
BALL
FLANGE

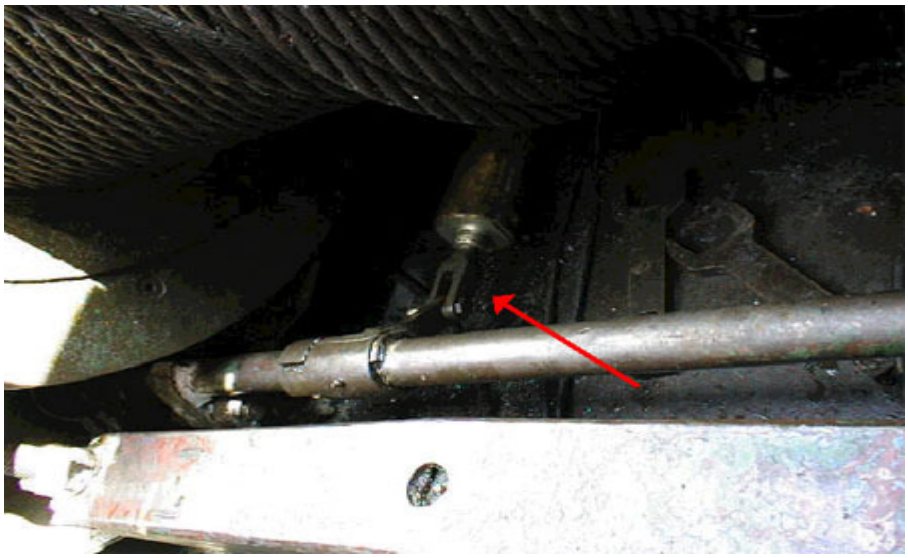
64: Wytch Farm Dropped Blocks Incident

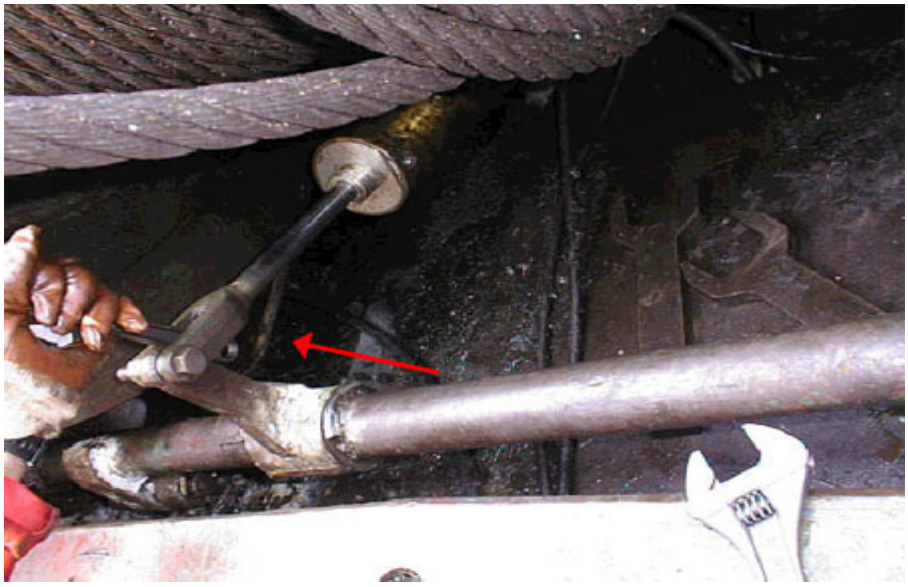
Summary:

Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	*Any Location Type
Activity Type:	*Any Activity Type
Description:	An incident occurred recently on a UK land rig under contract to BP Amoco. While checking the operation of the ‘Crown-O-Matic’ crown block saver system following installation of the brake linkage assembly, the actuation of the trip toggle caused the Driller’s brake to dis-engage rather than engage. The travelling block (4 tons) which was approximately twenty-five feet above the rotary table fell to the rig floor. The drilling line completely un-spooled from the draw-works drum, pulling out of the retaining socket at the side of the drum. No injuries were incurred however the potential for serious injury existed due to the location of personnel at the draw-works drum area and on the rig floor. On investigation it was discovered that the ‘Crown-O-Matic’ brake linkage assemble had been re-assembled in an incorrect position causing the actuation of the piston to dis-engage rather than engage the Driller’s brake. This left the Driller with no means of controlling the descent of the travelling blocks. The rig was non-operational at the time and was undergoing routine planned maintenance. This involved function testing of the re-assembled ‘Crown-O-Matic’ following removal to install new brake bands. The vendor has been asked to provide further assistance to ensure this type of incident cannot re-occur.

Specific Equipment:	*No details available.*
Lessons Learnt:	1. A ‘standard’ piece of rig safety equipment can be assembled to operate in the opposite manner to which it is intended.
Task Description:	*No details available.*
Recommendations:	1. Check that there is no potential for installing the brake linkage assembly in the wrong position. 2. Check that there is a detailed procedure in place for assembly of the brake linkage, backed up by drawings. 3. Ensure that personnel maintaining the brake linkage equipment are properly trained, are aware of the correct procedures and can refer to drawings of the assembly if required. 4. Function test equipment initially under no-load conditions after re-assembly.
Contact Details:	*No details available.*







65: Fires Caused by Contaminated Lagging in Contact with Hot Surfaces

Summary:	Recent incidents have highlighted the risk of fire due to contaminated lagging being exposed to hot exhausts.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Onshore terminal
Activity Type:	Production operations
Description:	A number of recent incidents have highlighted the risk of fire due to contaminated lagging being exposed to hot exhausts. Personnel operating or working on equipment must be made aware of the risk of fire caused by contaminants building up in lagging near to hot exhaust surfaces. Lagging includes all types of insulation, cladding and lagging material such as mineral or ceramic fibres or glass fibre cloth.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Exhaust temperatures on some Gas Turbines are in excess of 750℃. Temperatures on the exhausts of other fired equipment are often above 200℃ and therefore hot enough to initiate combustion. 2. Although lagging and fabric wraps are rated to the required temperatures, if any contamination is entrained in the lagging or wrap material there is a risk that the contamination will ignite at the high exhaust temperatures.

3. Contamination comes from a number of sources:
    a. Materials and fluids used in the maintenance or operation such as oils, lubricants, paints.
    b. Airborne particles becoming entrained in the lagging due to ventilation, leaks etc.
    c. Oil leaks on the equipment, resulting in oil being sprayed onto lagging.

Task Description: *No details available.*

Recommendations:
1. Where material is contaminated, new material should be fitted. Personnel should be aware of the following:
    a. When lagging, fabric wraps etc, are removed for maintenance, ensure that they are stored in a clean area where there is no risk of contamination.
    b. Ensure that after any maintenance, lagging is inpected for contamination or dirt entrained in the material.
    c. When lagging or fabric wraps are fitted to equipment, ensure that there is no airflow through the lagging or fabric wrapping. This will reduce the risk of contaminants building up in the material.
    d. Ensure that material in contact with the exhaust is to the correct temperature rating.
2. All personnel operating or maintaining equipment with hot exhaust temperatures to be made aware of the risk of fire from contaminated lagging.

Contact Details: *No details available.*

66: Hand Injury Sustained During Garnet Blasting Operations

Summary:	A supply hose coupling detached from a garnet feed hopper outlet connection, allowing the high velocity flow of garnet to jet onto an operator's hand.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Onshore terminal
Activity Type:	Painting/sandblasting
Description:	A work party at an onshore terminal was employed in garnet blasting and painting operations. The pressurised equipment was functioning erratically and the operators thought this may be due to damp garnet. The standard remedy for this is to operate the 'boost' function on the garnet feed hopper to clear any blockages (this operation allows air pressure to be diverted to the hopper and forces more garnet through the outlet). See diagram below. During execution of the boost the supply hose coupling detached from the hopper outlet connection, allowing the high velocity flow of garnet to jet onto the operator's hand (protective gloves had been taken off earlier in order to open garnet bags and not fully pulled back on). First Aid was administered in situ and the injured party was then transferred to the local medical facility for further treatment.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. Poor durability of the blast nozzle internal liner

caused the original blockage.

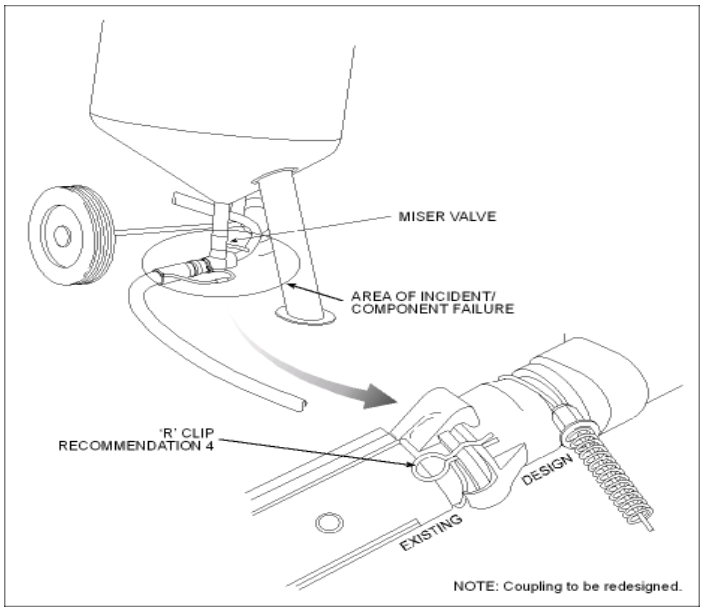
2. The supply hose coupling was not secure under pressure.
3. Protective gloves must be worn at all times during garnet blasting operations.

Task Description: *No details available.*

Recommendations:

1. Operators must remove the blast nozzle and check for internal liner damage before starting garnet blasting/paintwork operations.
2. Arrange the position of the 'miser' valve handle in such a way that the operator is encouraged to perform 'boost' from a position behind the hopper and away from the garnet supply hose coupling.
3. Operators should be provided with a cutter to allow them to open garnet bags without the need to remove work gloves.
4. An 'R' clip should be inserted in the coupling lock hole to increase the security of the integral coupling security pin. This is a short term measure to be implemented immediately. In the long term the design of the coupling should be reviewed.

Contact Details: *No details available.*


MISER VALVE
AREA OF INCIDENT/
COMPONENT FAILURE
'R' CLIP
RECOMMENDATION 4
DESIGN
EXISTING
NOTE: Coupling to be redesigned.

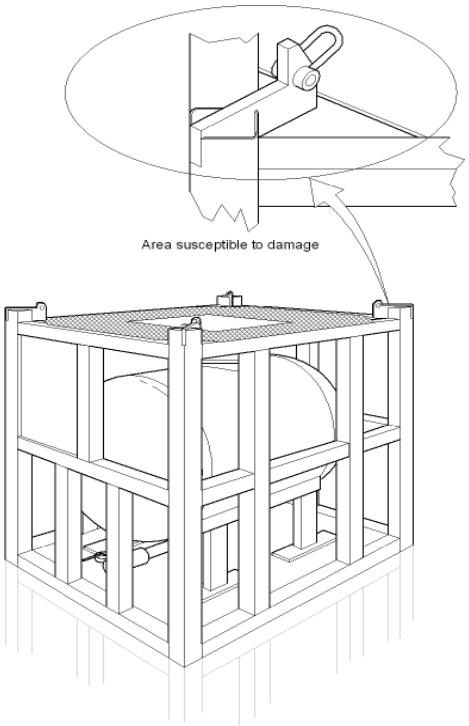
67: Stacking Guide Dislodged by Impact Damage

Summary:	A chemical tank started to spin while being loaded from a supply vessel in marginal weather conditions. The crane operator bumped it into an adjacent chemical tank in order to counteract the spinning, resulting in one of the stacking guides becoming dislodged.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Support vessel eg Supply, Standby
Activity Type:	Lifting, crane, rigging, deck operations
Description:	A chemical tank started to spin while being loaded from a supply vessel in marginal weather conditions. The crane operator bumped it into an adjacent chemical tank in order to counteract the spinning, resulting in one of the stacking guides becoming dislodged.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. The force of impact caused by collision between one IBC and another during lifting operations is sufficient to break off the stacking guides. 2. An empty IBC could possibly ride up on its securing lugs and become dislodged if hit by a full IBC.
Task Description:	*No details available.*
Recommendations:	1. In order to minimise the risk of possible damage during loading or unloading, the practice of stopping a spinning tank by bumping it into another unit should

be avoided or, if it cannot be avoided, a unit at ground level should be used and not one that is double stacked.

2. Weld on additional supports to improve the robustness of IBC stacking arrangements.

Contact Details: *No details available.*



68: Balancer Unit Failure

Summary:	When a support wire on a balancer unit was released, the shock of recoil caused the reel casing to break apart and the main block fell to deck.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Fixed Installation
Activity Type:	Lifting, crane, rigging, deck operations
Description:	A balancer unit which had been used to support tools for loosening the stud bolts on a crude oil cooler, was being removed from service. When the support wire was released, the shock of recoil caused the reel casing to break apart and the main block fell to deck. The supporting bracket, securing clip and casing boss were left attached to the cooler. (Note. A balancer unit operates in a similar way to an inertial reel fall arrestor but is used to support tools to assist in manual handling) Onshore investigation revealed extensive internal corrosion such that 25-30% of internal moving parts had become seized due to lack of lubrication and environmental conditions. Constraints on the swivel mechanism of the suspension hook may have also played a part in preventing the unit from turning in order to accept the side load as designed.
Specific Equipment:	*No details available.*

Lessons Learnt:

1. This type of balancer unit may not be best suited to the prolonged exposure in the environmental conditions which it encountered.
2. Regular inspection of this type of equipment is essential in order to confirm continuing operability, particularly in circumstances in which it is left in situ at the worksite and not returned to the rigging store after use.

Task Description: *No details available.*

Recommendations:

1. All Balancer Units should be externally inspected for proper functioning. Any unit found to be defective should be withdrawn from use and quarantined.
2. Where practical to do so, return balance units to the rigging store when not in use.
3. Introduce a regular inspection and operability routine to avoid the potential of this type of failure recurring.

Contact Details: *No details available.*

69: Unprotected Access Opening

Summary:	A painter stepped into an open access hole. Its small size had prevented him from falling through but his abdomen/chest had struck the flat edge of the plating.
Incident consequences (potential or actual):	*No details available.*
Cause of accident or incident:	*No details available.*
Activity Location:	Drilling unit
Activity Type:	Painting/sandblasting
Description:	A Painter working within a jacking tower of a drilling rig had completed washing down the upper level and had moved from the main deck level to a lower level. He then stepped into a small (50cm x 40cm) oval opening which was used to access the area via a vertical ladder. His supervisor (Paint Foreman) was preparing to lower down a washdown gun and hose at the time. He heard a shout and saw the Painter pushing himself up from the opening. It became apparent that the Painter had stepped into the open access hole. Its small size had prevented him from falling through but his abdomen/chest had struck the flat edge of the plating.
Specific Equipment:	*No details available.*
Lessons Learnt:	1. The access opening was unguarded and had been for many years. The area was not frequently visited and was not part of a housekeeping audit. 2. Whilst the person's full attention was focused on collecting a washdown hose he did not take account of the unprotected access opening.

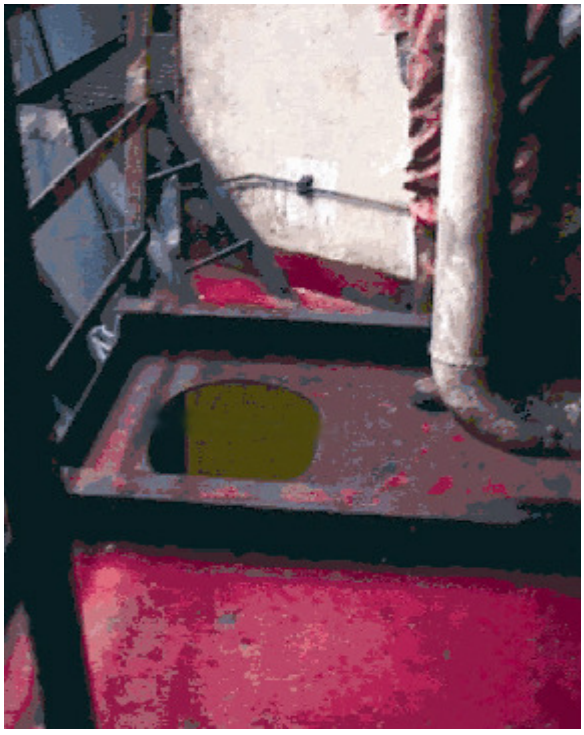
3. A risk assessment was done but did not take into account an element of site safety or inspection for the area in which the task was to be conducted.
4. There was no written work instruction. This stems from the work being considered routine and therefore the risk assessment became task orientated, focusing on equipment to be used and not on the work area.</OL< p>

Task Description: *No details available.*

Recommendations: >All locations should:

1. Inspect infrequently visited areas to make sure there are no unprotected openings.
2. Ensure that infrequently visited areas are included in housekeeping audits.
3. Where appropriate, ensure pre-job discussions include a worksite safety inspection.</OL< p>

Contact Details: *No details available.*



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