

2017 Q3 LTI Incident Analysis Study – June 2017

Petroleum Development Oman LLC

MSE3

2017 Q3 LTI Incident Analysis Study

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1 Summary

PDO's LTIF target for this year is 0.22. The 2017 Q3 was (0.22) which was better compared with (0.24) in the Q3 in 2016. PDO suffered 17 LTIs in this third quarter, one less than in 2016 but with more man-hours worked in 2017. The following analysis of the incidents is designed to identify trends and points of statistical interests to target future resource.

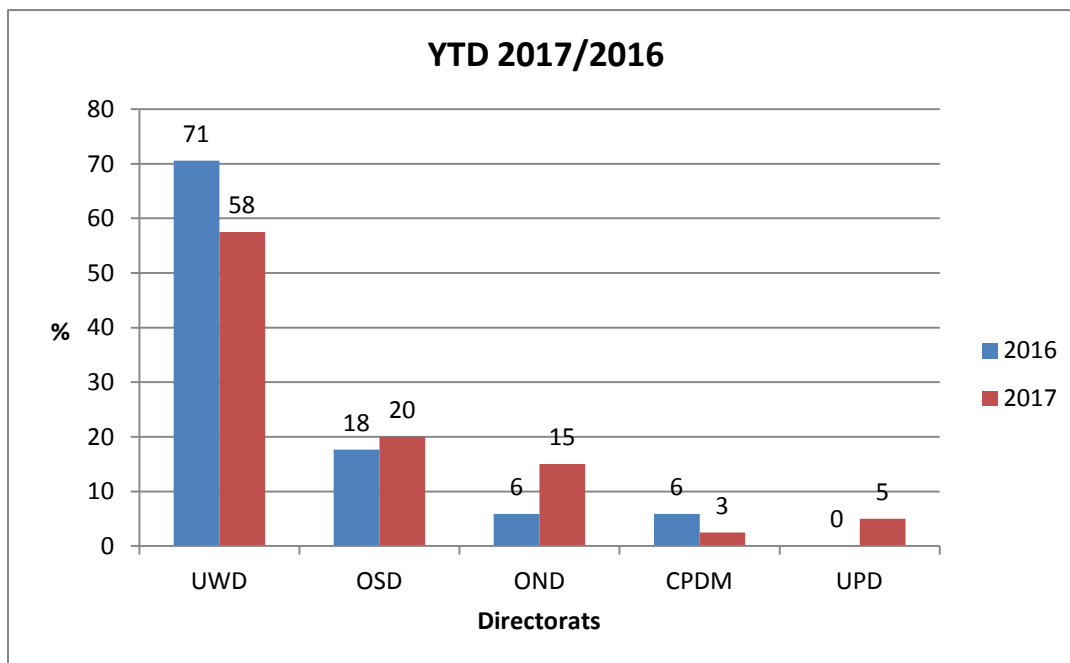
2 Analysis

2.1 Directorate Analysis

2.1.1 Directorate Breakdown

Directorate	Q3			YTD		
	2017	2016	% of change	2017	2016	% of change
UWD	10	13	-23	23	24	-4
OSD	3	3	0	8	6	+33
OND	3	2	+50	6	2	+200
CPDM	1	0	+100	1	2	-100
UPD	0	0	0	2	0	+200
Total	17	18	-28	40	34	+18

2.1.2 PDO % LTI Profile by Directorate - YTD 2017/YTD 2016



2.2 LTIs per Operational Teams YTD:

UWD	12- UWO, 3-UWN, 3-UWB, 5-UWC
OSD	1-OSO, 3- OSE, 4- OSC
OND	5-ONE, 1- ONO
UPD	2-UPR
CPDM	1-CKM

2.3 PDO v Contractor YTD:

33	PDO contractors
7	PDO employee

2.4 Contractor information YTD:

There are 17 contractors who suffered LTI incident YTD in addition to PDO.
The breakdown is as follows:-

7 incidents	PDO
4 incidents	Galfar
3 incidents	ATE, Dalma Energy, Medco, Shaleem, Petrogas
2 incidents	VAPS , Midwesco, STST
1 incidents	Abraj, Halliburton, NDSC, Sea & Land, Benon, Cactus, Gulf Drilling, Weatherford

2.5 LTI Incidents Descriptions YTD:

Trapped between the BOP table and BOP screws resulting in fractured finger.
Tripped and fall from the back of the truck resulting in fractured wrist.
Struck by a pipe which was pulling out of sand dune resulting in fractured leg.
Struck by a falling piece of metal weighing 24 kg resulting in fractured foot.
Moving Vehicle Incident (MVI) resulting in back injury.
Struck by a pipe which was driven over by a tanker resulting in fractured foot.
Struck by the trailer's side panel while opining resulting in fractured femur.
Struck by the steering wheel of the trailer resulting in fractured finger.
Struck by a 6" pipe while fixing it resulting in fractured leg.
Struck by a testing bottle in the lab resulting in fractured wrist.
Tripped while crossing a pipe resulting in fractured foot.
Crushed by traveling block resulting in fractured hand.
Trapped between the joint and the elevator resulting in fractured finger.
Struck by a water hose while laying it resulting in fractured arm.
Struck by a 6" line against cutting box resulting in amputated finger tip.
Slipped from a crane ladder resulting in fractured wrist and neck.

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Crushed between the Kelly and the Motor resulting in fractured hand.
Moving Vehicle Incident (MVI) resulting in fractured collar bone.
Trapped in the chapatti machine resulting in amputated thumb and finger.
Trapped in between the polish rod and the stud resulting in fractured finger.
Fall while attempting to descend the monkey board resulting in fractured ankle.
Struck by a cylinder while carrying in upstairs resulting in fractured finger.
Trapped between the hand rail and the ground resulting in fractured right leg.
Struck by twisted water hose resulting in multi fractures on right arm, hand and finger.
Fall from the trailer landing on the right hand resulting in fractured wrist.
Moving Vehicle Incident (MVI) resulting in fractured pelvis.
Moving Vehicle Incident (MVI) resulting in ultimate back pain.
Struck by a steel beam on his left foot resulting in fractured 1 st and 2 nd toes.
Struck by the link arms of the Top Drive System against structure resulting in fatality.
Trapped the finger between the pipe and the elevator resulting in fractured finger.
Trapped between Hiab and bus resulting in multiple abrasions to chest and abdomen.
Trapped between the rotary table and slips resulting in fractured left big toe.
Fall from cabin of 4.3m height to the ground resulting in fractured wrist.
Trapped between the elevator handle and the pipe resulting in fractured left thumb.
Slipped and fall into the cellar resulting in fractured rib.
Struck by the sucker rod while align it resulting in fractured finger.
Fall from the trailer while putting dunnage resulting in fractured forearm.
Slipped from the ladder and fall to ground resulting in fractured wrist.
Flash fire-resulting in burns for both hands.
Collapsed trench resulting in fractured pelvis.

2.6 Incident classification YTD:

Type of Incident causing LTI	No of LTIs YTD 2017	No of LTIs YTD 2016	% change from 2016
Crush/Trapped	16	12	+33
Slip, Trip, Fall	9	5	+80
Fall from height	2	3	-33
Struck by object	8	11	-27
MVI	4	3	+33
Flash fire	1	0	+100
Total	40	34	+18

2.7 Actual Severity YTD:

		YTD 2017	YTD 2016
1	Severity 3 (major injury)	39	31
2	Severity 4 (fatality)	1	3

2.8 Potential Severity YTD:

		YTD 2017	YTD 2016
B3	Major injury, heard of in the industry	0	1
C3	Major injury, has happened in the company	34	30
C4	Fatal injury, has happened in the company	1	3
D3	Major injury, has happened more than once a year in the company	4	0
D4	PTD or up to 3 fatality, has happened more than once in the industry	1	0

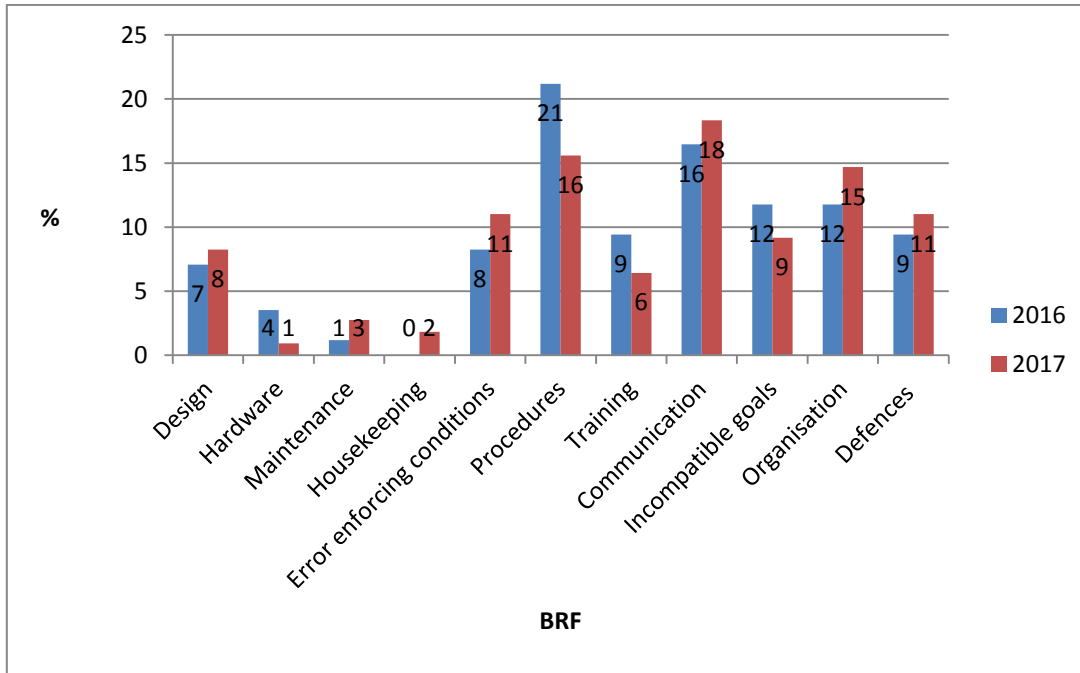
2.9 Basic Risk Factors (BRF's) YTD:

2.9.1 Comparison table of the BRF YTD 2017 / YTD 2016:

BRF	YTD 2017	YTD 2016
Design	9	6
Hardware	1	3
Maintenance	3	1
Housekeeping	2	0
Error enforcing conditions	12	7
Procedures	17	18
Training	7	8
Communication	20	14
Incompatible goals	10	10
Organisation	16	10
Defences	12	8

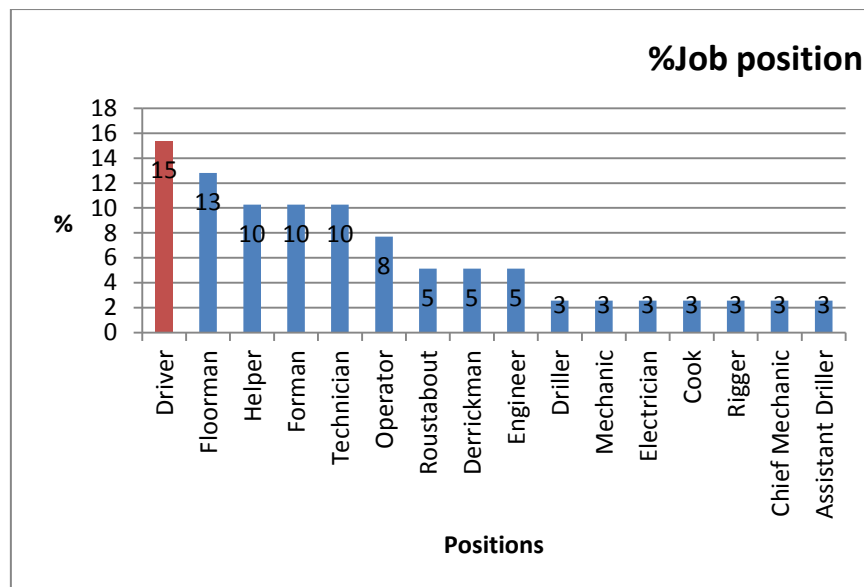
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2.9.2 Comparison graph of the BRF:



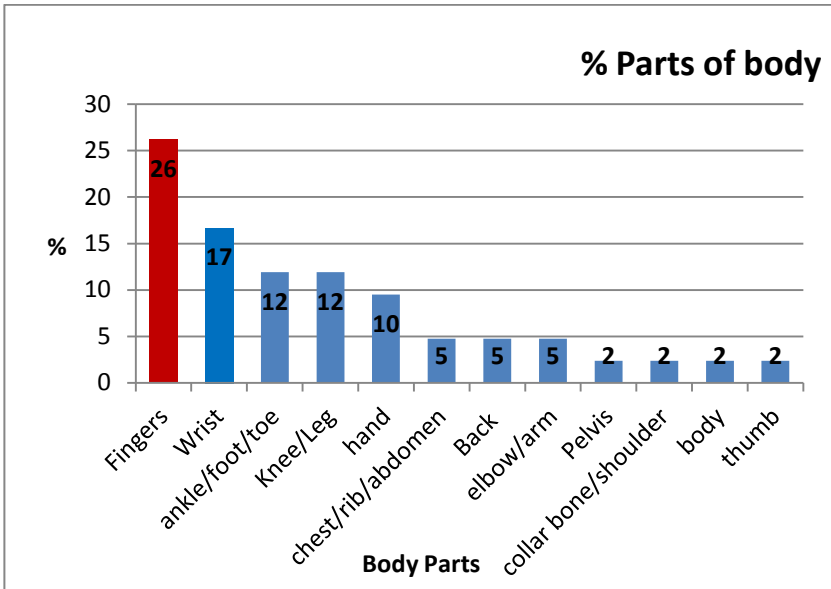
2.10 Job Positions YTD:

Driver	6
Floorman	5
Helper	4
Forman	4
Technician	4
Operator	3
Roustabout	2
Derrickman	2
Engineer	2
Driller	1
Mechanic	1
Electrician	1
Cook	1
Rigger	1
Chief Mechanic	1
Assistant Driller	1



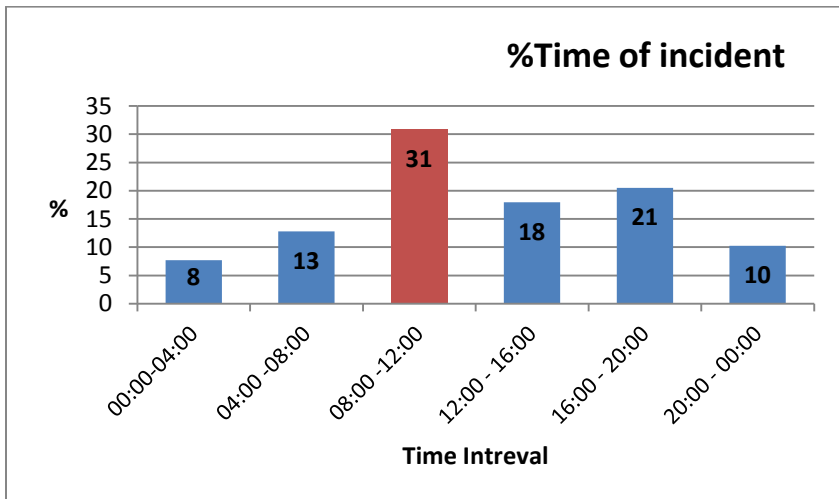
2.11 Parts of body injured YTD:

Fingers	11
Wrist	7
ankle/foot/toe	5
Knee/Leg	5
hand	4
chest/rib/abdomen	2
Back	2
elbow/arm	2
Pelvis	1
collar bone/shoulder	1
body	1
thumb	1



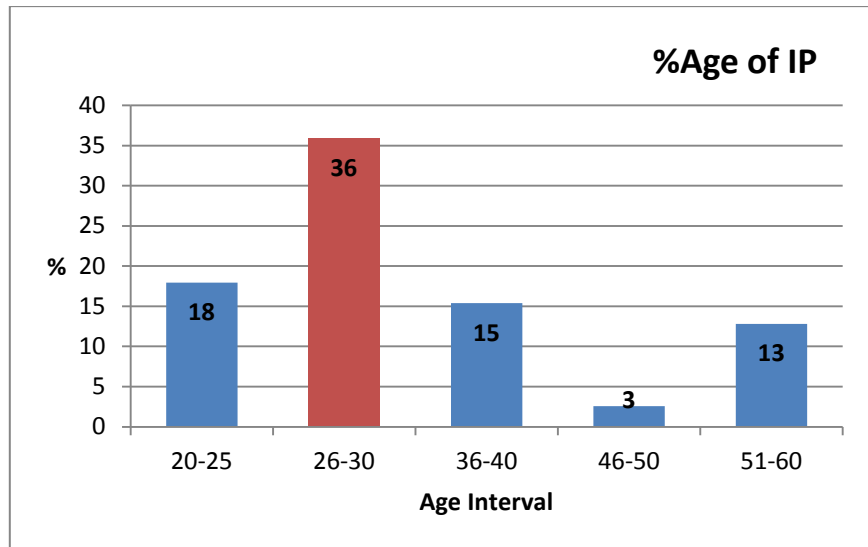
2.12 Time of incidents YTD:

00:00-04:00	3
04:00 -08:00	5
08:00 -12:00	12
12:00 - 16:00	7
16:00 - 20:00	8
20:00 - 00:00	4



2.13 Age of IP YTD:

20-25	7
26-30	15
31-35	5
36-40	6
41-45	1
46-50	1
51-60	5



3 General Observations:

1. The LTI YTD performance is showing an increase in the number of LTIs by 18% compared with the previous year.
2. UWD shows a reduction in their incidents rate by 23% comparing to Q3 last year.
3. OND and OSD saw an increase in their incidents where UID and GD have reported no LTIs.
4. Overall, PDO incident rate increased by 250%. Suffering 7 incidents YTD comparing to 2 last year in the same period.
5. There is an increase in PDO insourcing projects incidents by 300% comparing to same period last year.
6. Crushing and trapping is the most common cause of LTIs.
7. The most common Basic Risk Factors identified as incident causation are "Communication" and "Procedures".

End of Analysis