

Safety Statistics for IMCA Members

Report for the period 1 January-31 December 2005

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1 Introduction

IMCA has produced an annual report of safety statistics (covering fatalities and injuries) supplied by members for the past eight years. This information note reports the annual statistics for 2005. Safety statistics are a useful insight into the performance of a company in the areas of health, safety and environment. The purpose of the statistics is to record the safety performance of IMCA contractor members each year and to enable IMCA members to benchmark their performance. A record 51 IMCA contractor members have taken part in the exercise this year. It is good to see greater reporting from member companies.

This is the third year for which IMCA has collected leading indicators of health, safety and environmental performance. The amount of leading indicator data collected has increased year on year as the use of leading indicators has grown. A review of the formulae used to calculate the leading indicators is ongoing, but this does not affect the raw data collected.

In addition this year, IMCA has calculated a total recordable incident rate (TRIR) from data supplied by members. This has been requested by members to enable further benchmarking and to move away from the high reliance on lost time injuries (LTIs) as a primary arbiter of safety. Whilst this is the first year that that the underlying incident data allowing the calculation of TRIR has been asked for, sufficient information was also available in the 2004 dataset to provide a benchmark against which to compare this year's figures.

Appendices 1 and 2 define the acronyms and rates used in the document.

2 Summary of Safety Statistics for 2005

Overall number of lost time injuries	189
Overall lost time injury frequency rate (overall LTIFR)	1.18
Range of overall LTIFR (second highest-second lowest)	13.2-0.31
Offshore lost time injury frequency rate (offshore LTIFR)	1.69
Onshore lost time injury frequency rate (onshore LTIFR)	0.29
Overall total recordable injury rate (overall TRIR)	5.42
Offshore total recordable injury rate (offshore TRIR)	7.30
Onshore total recordable injury rate (onshore TRIR)	2.10

Table 1 - Summary of IMCA safety statistics for 2005

The 2005 dataset is drawn from 51 IMCA contractor members, based upon 159.5 million man-hours of work overall (102 million man-hours offshore). This is an increase on 2004's figures, particularly the number of contributors, which has increased 30% since 2004. The increase in overall man-hours between 2004 to 2005 was 11%. However, offshore working hours increased by 39% on 2004's figures. 42/51 companies (82%) provided onshore data – slightly less than for 2004 (31/36 (86%)).

As usual, the data has been separated into separate offshore and onshore activity to improve consistency in the data collected. The offshore statistics cover offshore work only, whereas the inclusion of onshore work covers such areas as fabrication yards and office work.

The statistics over the past eight years have been as follows:

	1997	1998	1999	2000	2001	2002	2003	2004	2005
Million hours worked per year	47.6	52.9	52.8	65.6	54.5	197.31	200.40	145.35	159.5
Million hours offshore						62.14	66.39	72.83	101.8
Million hours worked onshore						135.16	134.01	72.18	57.7
Number of LTIs overall	236	257	196	227	162	244	198	164	189
Overall LTIFR	4.96	4.86	3.72	3.46	2.97	1.24	0.99	1.13	1.18
Number of LTIs offshore							133	120	172
Offshore LTIFR				4.25	3.77	2.96	2	1.65	1.69
Onshore LTIFR				1.05	0.86	0.44	0.49	0.61	0.29
Number of fatalities overall	3	2	4	5	4	3	5	3	6
Fatal accident rate overall	6.30	3.80	7.60	7.60	7.30	1.52	2.49	2.06	3.76
Number of fatalities offshore							4	2	5
Offshore fatal accident rate				10.12	10.14	4.83	6.03	2.75	4.91
Onshore fatal accident rate						0	0.75	1.39	1.73
Total no. of recordable incidents								645	864
Overall TRIR									5.42
Offshore TRIR								8.87	7.30
Onshore TRIR									2.10
No. of participating companies	23	32	28	31	32	32	31	36	51

Table 2 - Summary of IMCA safety statistics 1997-2005

3 Individual Company LTIFR and TRIR Statistics

The following table shows the important statistical rates for each of the 51 companies with an identifying number and a letter indicating the band into which they fall.

In order for members to identify how their company compares to others of like size, four bands are used for contributing contracting companies, categorised by their annual amount of overall working hours. This year there has been an adjustment of the positioning of the bands, as there is a noticeable increase in data coming from very large (more than five million man-hours overall) companies. Section 4 deals with this in more detail.

Each contributing member is being advised of its own identifying number via a separate communication.

Company	Banding	Offshore LTIFR	Onshore LTIFR	Overall LTIFR	Offshore TRIR	Onshore TRIR	Overall TRIR
1	B	0	0	0	34.59	0	27.77
2	C	2.63	2.32	2.51	5.26	4.63	5.03
3	A	2.81	0	2.07	16.84	0	12.39
4	A	0		0	0		0
5	C	0.95		0.95	8.56		8.56
6	A	7.13	0	6.60	9.51	0	8.80
7	B	1.91	0	1.73	11.48	0	10.36
8	D	1.25	0.95	1.20	3.33	0.95	2.90
9	A	0	0	0	0	0	0
10	A	6.72	0	6.24	60.44	0	56.17
11	B	3.97	0	3.75	5.96	0	5.63
12	C	0.55		0.55	1.11		1.11
13	B	1.87	0	1.48	7.47	0	5.90
14	A	0	0	0	9.52	0	6.22
15	B	7.22	0	5.04	14.44	5.54	11.75
16	B	1.10	0	1.01	2.20	0	2.03
17	D	2.24	0	1.98	7.66	1.83	7.00
18	C	0.56		0.56	6.66		6.66
19	C	3.27		3.27	9.81		9.81
20	C	4.49	0	3.21	12.46	3.74	9.98
21	C	1.80	0	0.84	5.40	1.05	3.08
22	C	0	4.08	0.58	2.05	4.08	2.34
23	B	10.70	40.41	14.18	30.32	67.35	34.65
24	C	0.66	0	0.59	0.66	0	0.59
25	C	2.48	0	2.41	6.21	0	6.03
26	A	0	0	0	0	0	0
27	B	0	0	0	2.61	0	1.82
28	A	2.46	0	2.11	17.23	0	14.80
29	C	2.98	0	2.33	8.39	1.95	6.99
30	D	1.23	0	0.16	2.46	2.75	2.71
31	C	1.09	0	0.99	3.83	0	3.47
32	A	0	0	0	6.97	0	5.68
33	D	1.43	0	1.26	5.97	0	5.27
34	D	1.16		0.56	10.32		5.03
35	C	1.05	0	0.99	4.18	0	3.96
36	C	1.23		1.23	8.60		8.60
37	D	0.52	0.23	0.32	5.21	2.73	3.48
38	B	1.50	0	1.36	7.48	0	6.82
39	A	0	0	0	17.74	18.02	17.80
40	C	2.24		2.24	10.44		10.44
41	A	0	0	0	37.47	0	29.59
42	A	0	0	0	0	24.82	2.76
43	A	0	0	0	0	0	0
44	A	0	9.22	2.32	15.46	9.22	13.89
45	D	1.88		1.88	6.49		6.49
46	D	1.43	0.32	0.66	5.71	2.61	3.57
47	A	0	0	0	0	0	0
48	D	0.89	0.22	0.59	9.29	1.55	5.83
49	A	5.65	5.51	5.58	5.65	22.04	13.95
50	A	13.21		13.21	15.41		15.41
51	C	0	0	0	2.06		1.67
IMCA		1.18	0.29	1.69	7.30	2.10	5.42

Table 3 - Individual Company LTIFR and TRIR Statistics 2005

4 Hours Worked Banding

Due to the increase in the number of larger (band D) companies contributing to the exercise and because fewer companies have fallen into bands B and C, the definition of the bands has been adjusted.

Raising the threshold of band C such that it includes companies working more than five million man-hours mean that eleven companies move from band D to band C, leaving band D for the larger organisations.

Band	OLD Banding Hours Worked	Companies in OLD band			NEW Banding Hours Worked	Companies in NEW band		
		2003	2004	2005		2003	2004	2005
A	<500,000 hrs	11	15	17	<500,000 hours	11	15	17
B	500,000-1,000,000 hrs	4	3	9	500,000-1,000,000 hrs	4	3	9
C	1,000,000-2,000,000 hrs	2	4	5	1,000,000-5,000,000 hrs	9	11	16
D	>2,000,000 hrs	14	14	20	>5,000,000 hrs	7	7	9

Table 4 - Hours worked bandings

4.1 Indicators and Statistics by Company Bands

	FAR	LTI	TRI	TRIR	Med trt	RWP	First Aid	Near-Miss
Offshore								
Band A	23.28	13	51	11.87	32	5	56	94
Band B	0	15	60	12.09	34	11	132	243
Band C	0	66	247	6.58	139	42	520	2081
Band D	7.27	78	385	7.00	231	72	995	1076
Onshore								
Band A	102.69	2	7	7.19	3	1	6	16
Band B	0	3	6	6.63	3	0	5	37
Band C	0	2	10	1.94	6	2	31	45
Band D	0	10	98	1.93	73	15	67	124
Overall								
Band A	37.95	15	58	11.01	35	6	62	110
Band B	0	18	66	11.25	37	11	137	280
Band C	0	68	257	6.02	145	44	551	2126
Band D	3.78	88	483	4.57	304	87	1062	1200

Table 5 - Safety statistics by company band 2005

Key:

FAR	Fatal accident rate	TRI	Total recordable injuries
Med trt	Medical treatment cases	TRIR	Total recordable injury rate
RWP	Restricted workday cases		

Appendix I provides further definition of these rates and acronyms.

4.2 LTIFR in Company Bands

Figure 1 shows the overall LTIFR of companies within the defined bands of number of hours worked. Only the smallest companies have managed a continuous improvement in LTIFR over recent years.

	2001	2002	2003	2004	2005
Band A	8.91	5.14	3.88	3.87	2.85
Band B	3.13	5.15	0.96	2.71	3.07
Band C	4.37	1.75	0.92	1.65	1.59
Band D	2.15	1.10	0.87	1.53	0.83

Table 6 - Overall LTIFR by company band

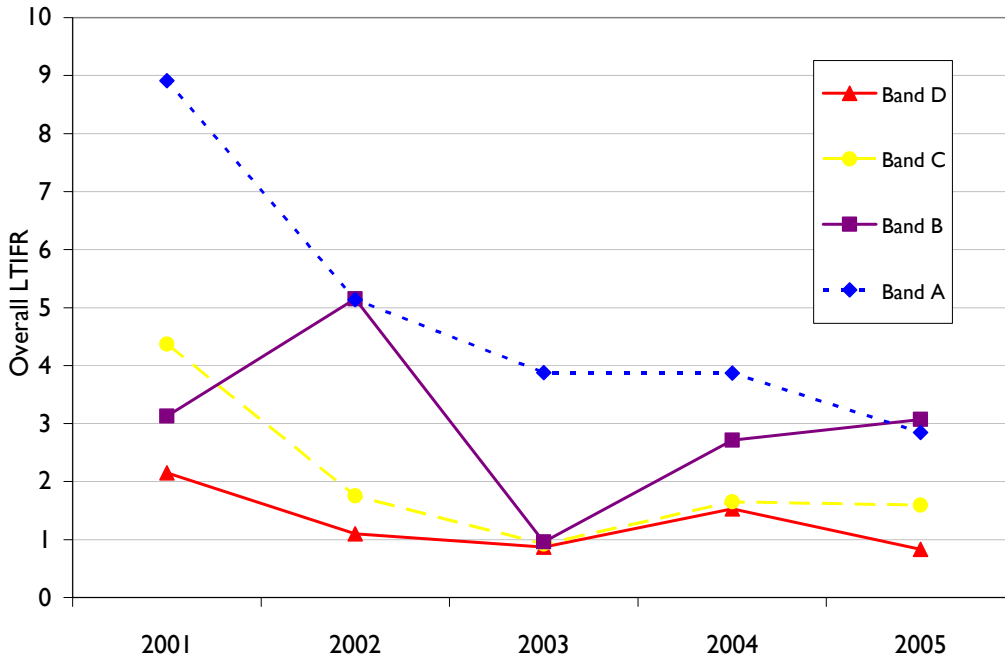


Figure 1 - Overall LTIFR for company bands

Figure 2 shows that the size of company contributing data to the exercise ranges from over 25 million man-hours to less than 40,000 man-hours.

Figure 3 shows a distribution of the size of contributing company, in bands of 100000 man-hours up to a million man-hours, and in bands of a million man-hours up to 30 million. There are two major peaks in size of contributing company – twelve companies were around 500000 man-hours per year in size; the other peak consists of another dozen or so companies of between two and five million man-hours per year in size.

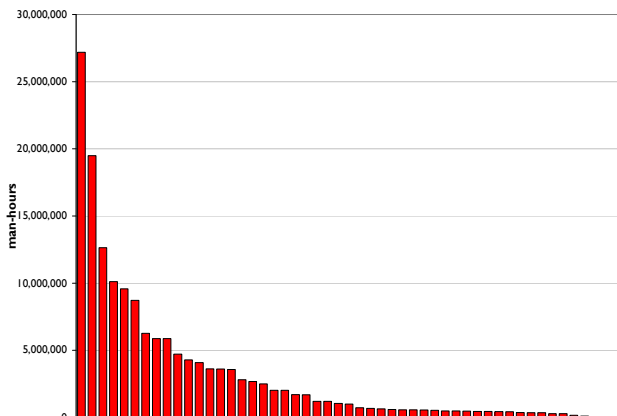


Figure 2 - Company size (overall man-hours)

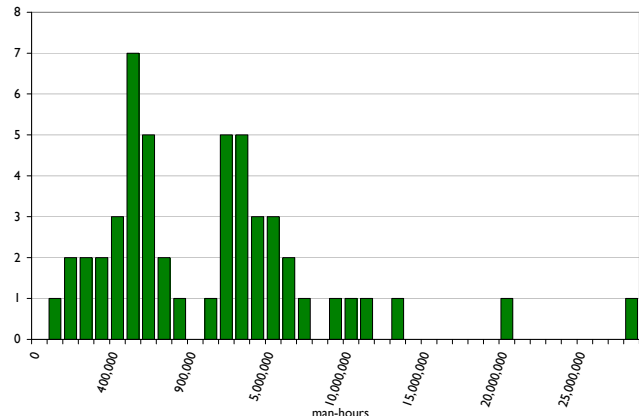


Figure 3 - No. of companies against size (overall man-hours)

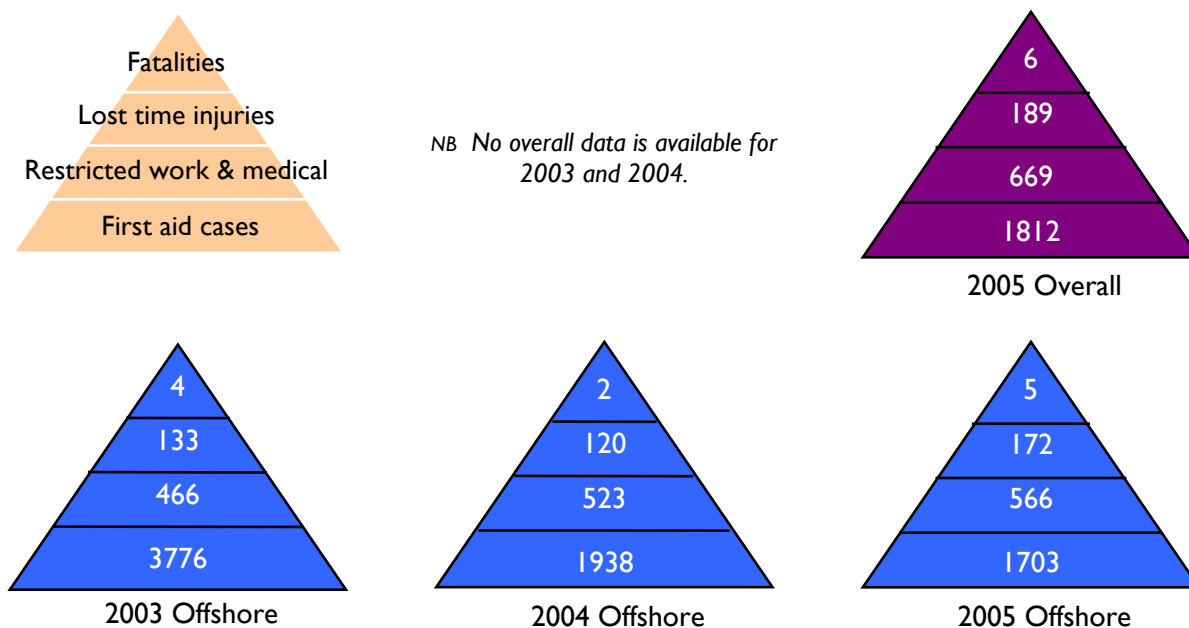
5 Comment and Analysis

5.1 Accident Triangles

Accident triangles can be used to demonstrate the relationship between fatalities and minor accidents.

Year	First aid	Rst work/ med trt	Lost time injuries	Fatalities	First aid	Rst work/ med trt	Lost time injuries	Fatalities
	<u>Overall</u>				<u>Offshore</u>			
2005	1812	669	189	6	1703	566	172	5
2004					1938	523	120	2
2003					3776	466	133	4

Table 7 - Accident triangle data 2005



5.2 Lost Time Injury Frequency Rates (LTIFR)

It is a widely discussed phenomenon that lost time injury frequency rates within the offshore oil industry appear to have levelled out. This is borne out in IMCA's offshore and overall statistics for 2005. It is likely that further significant reduction in injury rates will require innovative and proactive thinking.

The **offshore LTIFR** has risen slightly from 1.65 in 2004 to 1.69. The **overall LTIFR** has risen to 1.18 (from 1.13 in 2004, in turn a rise from 2003) and is to be seen against the steep rise in the number of contributors and the subsequent increase in offshore and overall hours worked. There has been a drop in the **onshore LTIFR** from 0.61 in 2004 to 0.29 this year, due in part to a significant fall in on-shore man-hours recorded.

It appears that the onshore LTIFR has not yet approached the flat-line tendency of the offshore figure, indicating that there is still room for improvement.

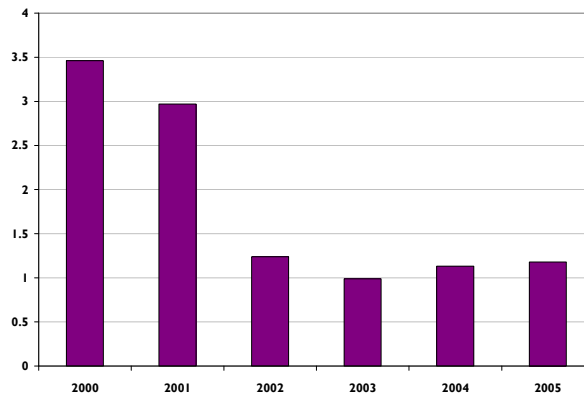


Figure 4 - Overall LTIFR

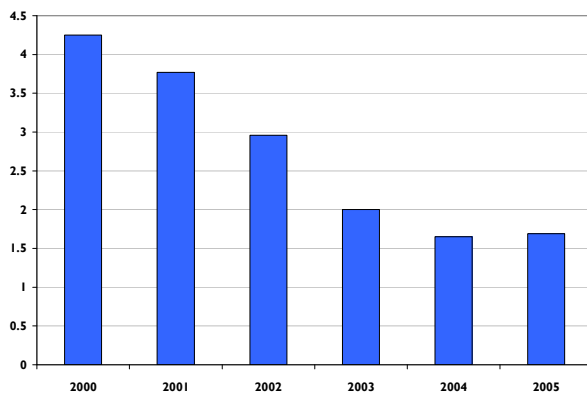


Figure 5 - Offshore LTIFR

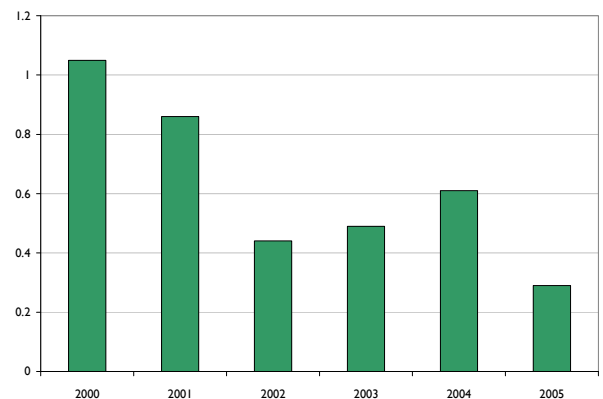


Figure 6 - Onshore LTIFR

5.3 Total Recordable Injury Rates (TRIR)

Members have suggested tracking total recordable injuries as a more reliable pointer to a truer picture of safety in the industry. This process started formally with this year's statistics, but sufficient data was also collected for 2004 (for leading performance indicators) that a reasonable estimate of TRIR can be made for that year.

Year	Overall TRIR	Offshore TRIR	Onshore TRIR
2004		8.87	
2005	5.42	7.30	2.10

Table 8 - Total recordable injury rates (TRIR)

In 2005, the **offshore TRIR** was 7.30 – an 18% reduction on 2004's figure of 8.87. The **onshore TRIR** was 2.10 and the **overall TRIR** was 5.42.

- ◆ There were 436 offshore medical treatment cases in 2005, a 15% increase on 378 cases in 2004. There were 85 onshore medical treatment cases.
- ◆ There were 130 offshore restricted work injury reports in 2005 – a 10% decrease on 145 reports in 2004. There were 18 onshore restricted work injury reports.
- ◆ There were 1703 first aid cases and 3494 near-miss reports offshore and 1812 first aid cases and 3716 near-miss reports overall during 2005. In 2004 and 2003, these figures were reported combined. There were 3876 first aid and near-miss cases for 2004.

We would like to see reporting levels of these small injuries continue to increase – low levels of reporting do not always mean that small first aid incidents and near misses are not occurring. There could be reluctance amongst offshore workers to report 'small' first-aid injuries and near-misses. However, it is clearly understood that to reduce the numbers of such accidents is to create a safer, better and more profitable workplace. To reduce the number of such accidents, we must have a clear idea of how frequent they are. For this to happen, they must first be reported, however small they may be. The total recordable injury rate is an important lagging performance indicator, while reporting activity level is a key leading performance indicator.

5.4 Fatal Accident Rate (FAR)

Six fatalities, five of which were offshore, were recorded during 2005. This is three more than in 2004, and one more than in 2003. The offshore fatal accident rate (FAR) has increased by 78% to 4.91 on the 2004 figure of 2.75. This is against a 39% increase in working hours. The overall FAR, likewise, has risen to 3.76 against the 2004 figure of 2.06. This is against an 8% increase in working hours. Two fatalities at smaller companies, one onshore and one offshore, one of which was a fatal heart attack, are responsible alone for nearly doubling the overall FAR.

The onshore and overall fatal accident rates have increased year-on-year, but this is to be seen against a corresponding significant fall in reported onshore man-hours, at least some of which is the result of reporting techniques for onshore figures. Moreover, the scarcity of data on cause and circumstances of death and the comparatively few fatalities mean that only limited conclusions can be drawn from this data.

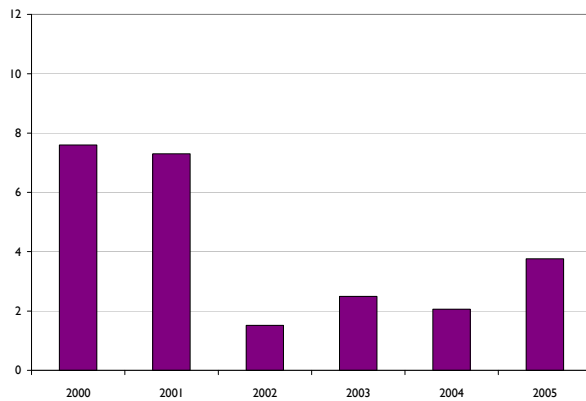


Figure 7 - Overall FAR

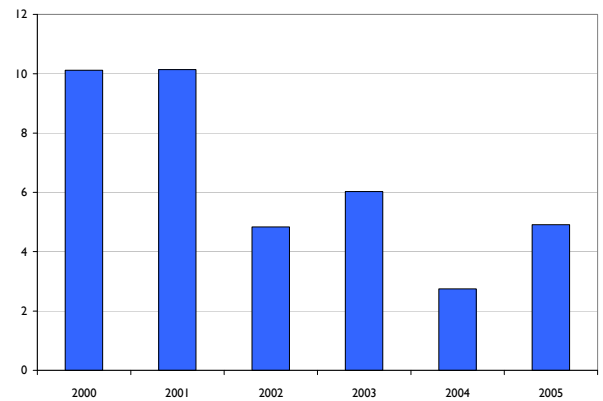


Figure 8 - Offshore FAR

6 Comparison with Published Figures

6.1 International Association of Drilling Contractors (IADC)

IADC represents offshore and onshore drilling contractors. IADC has published preliminary data for 2005 (www.iadc.org/asp/documents/4th%20Quarter%20Summary%20Report%202005%20PRELIMINARY.pdf) which shows 358 million man-hours worked – a 7% increase on 2004. IADC's overall recorded LTIFR is 3.03. A similar plateau in LTIFR reduction appears to have been reached by the drilling contractors.

In 2005 IADC members recorded 23 fatalities (28 in 2004), giving a fatal accident rate of 6.4. Six of the fatalities were offshore, over 156 million man-hours, giving an offshore FAR of 3.82 (5.55 in 2004).

6.2 International Association of Oil & Gas Producers (OGP) – 2004

The OGP data for 2004 is based upon 2290 million hours worked – an increase of 1.9% on 2003, covering 37 reporting companies operating in 78 countries. Data for 2005 is not available at the time of publication of these IMCA statistics.

OGP reported a 6% decrease in LTIFR, from 1.16 in 2003 to 1.09 in 2004. IMCA's overall LTIFR for 2004 was 1.13.

The offshore LTIFR was 1.26 (1% better than in 2003) and the onshore rate 1.04 (8% worse than in 2003). These should be compared with the IMCA offshore LTIFR in 2004 of 1.64 (and 2.00 in 2003) and 0.61 onshore.

OGP reported 18 company and 102 contractor fatalities for 2004 – nine more in total than in 2003. There were also seven third party deaths. This is against a 1.9% increase in the number of work hours reported. The offshore FAR was 6.02, which is 45% worse than the FAR in 2003 of 4.16. The onshore FAR for 2004 was 5.00 – an improvement of 3% on the 2003 figure of 5.18. These figures can be compared with the IMCA offshore FAR in 2004 of 2.75 and onshore FAR for 2004 of 1.39.

6.3 International Association of Geophysical Contractors (IAGC) – 2004

IAGC figures for 2004 show an increase in man-hours of 16% between 2003 and 2004, from 25 million to 29 million man-hours. The IAGC LTIFR for 2003 was 0.8 and improved in 2004 to 0.44. There have been no reported fatalities amongst IAGC members since 2001. Six companies provided information. Data for 2005 is not available at the time of publication of these IMCA statistics.

6.4 Overall Comparison

The following table and Figure 9 show a comparison of lost time injury rates (LTIFR) between the trade associations discussed above.

	2002	2003	2004	2005
IMCA	1.24	0.99	1.13	1.18
OGP	1.09	1.16	1.09	
IAGC	1.00	0.8	0.44	
IADC	3.27	3.16	3.07	3.03

Table 9 - Comparison of trade association LTIFRs

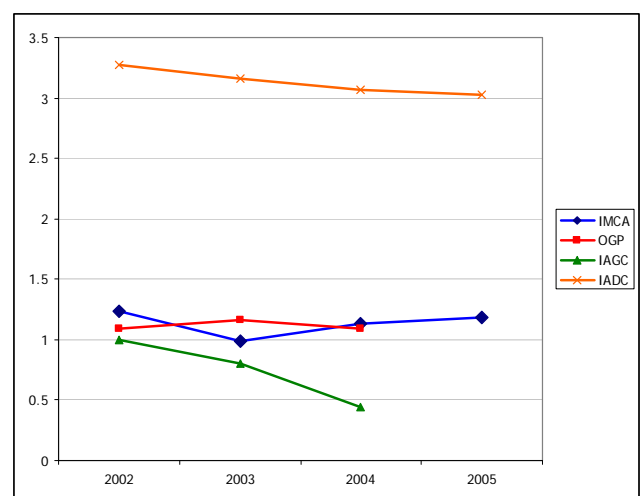


Figure 9 - Trade association LTIFR comparison

7 Leading Performance Indicators (LPIs)

7.1 Overall

This is the third year for which IMCA has collected leading performance indicator data. For 2005 there has been a good response to this initiative, with 86% (44 of the 51) participants providing full or partial leading indicator data. Of those 44 companies providing some data, 39 provided a full dataset.

For 2004, 32 of 36 (88%) companies provided leading indicator data, of which 18 provided a full dataset. In 2003, 25 of 33 (75%) of companies provided leading performance indicator data.

The table below shows a pleasing year-on-year increase in uptake of the leading performance indicators over the last three years.

	Participating companies	Companies providing partial leading performance indicator data	Companies providing full leading performance indicator data
2003	31	25 (80%)	11 (35%)
2004	36	32 (88%)	18 (50%)
2005	51	44 (86%)	39 (76%)

Table 10 - Companies providing leading indicator data

For 2005, members were asked to indicate the origin of their leading performance indicator data – either offshore activity or overall (combined) offshore and onshore activity. This information has been used in the calculation of the leading performance indicators. This means that the IMCA leading performance indicators are calculated using 148 million man-hours – slightly less than the total number of man-hours in the dataset. In 2004 and 2003, the IMCA leading performance indicators were calculated with respect to offshore working hours.

At the 2005 IMCA safety seminar, there was some discussion of the formulae used to calculate the leading performance indicators. It was demonstrated how it was possible for two different companies or worksites with widely differing safety cultures to have a similar reporting activity level (RAL). Since it is clear that one of the purposes of safety performance indicators, whether leading or lagging, is to differentiate between different safety cultures, and identify the difference between safe and unsafe working practices, some form of review of the formulae underlying the leading performance indicators was deemed necessary. During 2005 this work has progressed. An initial conclusion is that lagging indicators, such as LTIFR, should not be used in the formulae for calculating the leading performance indicators.

Therefore, reporting activity level (RAL), management visits ratio (MVR) and lessons learnt ratio (LLR) have been calculated using a simpler formula. For comparative purposes with 2003 and 2004, the indicators have been calculated using both the old and new formulae for all three years.

The table below shows the leading performance indicators produced over the last three years. The data supports no conclusions as yet, but provides a foundation for further analysis of trends in years to come.

	SOFR	RAL		LLR		MVR	
		Old	New	Old	New	Old	New
2003	160.95	397.95	117.49	2.72	0.55	0.0254	3.40
2004	160.44	344.96	199.10	3.96	0.66	0.0352	4.26
2005	190.19	280.11	350.70	9.14	1.14	0.0195	3.66

Table 11 - Leading performance indicators 2003-2005

7.2 Safety Observation Frequency Rate (SOFR)

78% (40 of 51) companies provided data on safety observations. In 2004 86% (31 of 36) companies contributed. Safety observations are defined as reports identifying at-risk behaviour, unsafe conditions or similar, e.g. 'stop' cards. Note that this is not the same as actual injury reporting. The wide variation in reporting levels and in the safety observation frequency rate calculated suggests that there may be different interpretations of the definition of a safety observation. It is a rate that should rise – whilst working to create an accident-free and injury-free workplace, there will always be room for improvement and subsequent reporting of that improvement. It is this positive and proactive reporting that needs to be encouraged.

Company	Origin of LPI data	Safety observations	SOFR
1	combined	14	4.86
2	combined	658	110.31
3	combined		
4	combined		
5	offshore	925	175.87
6	combined	451	198.36
7	combined	689	237.83
8	offshore	4,486	186.79
9	offshore		
10	combined	9	11.235
11	combined	184	69.056
12	offshore	85	4.6997
13	combined	93	27.444
14	offshore	395	250.76
15	offshore		
16	offshore	3	0.6609
17	combined		
18	offshore	5,120	284.26
19	offshore	228	10.656
20	offshore	1,782	177.69
21	offshore	691	82.849
22	combined	17,864	2,089.8
23	combined	24,120	7,598.2
24	offshore	102	13.365
25	offshore	1,166	96.494
26	combined	13	69.801
27	combined	819	298.69
28	combined	297	125.63
29	combined	28,374	1,202.6
30	combined	5,347	170.62
31	offshore		
32	offshore	62	43.183
33	combined		
34	combined	11,308	116.08
35	combined	22,410	2,221.2
36	combined	1,304	64.072
37	combined	1,477	23.378
38	offshore	839	250.89
39	combined		
40	offshore	732	54.581
41	offshore	7	17.485
42	offshore	87	54.016
43	offshore		
44	combined	59	27.327
45	offshore	5,340	182.34
46	combined		
47	offshore	4	2.9582
48	offshore	4,898	174.99
49	combined	330	184.17
50	offshore	23	10.128
51	combined		
IMCA		142,795	190.19

Table 12 - Safety observation frequency rate (SOFR) 2005

7.3 Reporting Activity Level (RAL)

Formerly, this was calculated thus:

$$\text{Old RAL} = \frac{(5 \times \text{FNMR}) + (20 \times \text{MTR}) + (100 \times \text{RWIR})}{(1 + \text{Number of Lost Time Injuries})}$$

The RAL has been re-defined as a straightforward rate. The number of hours over which it is normalised remains one million. The definitions of FNMR, MTR and RWIR can be found in Appendix I.

$$\text{New RAL} = ((5 \times \text{FNMR}) + (20 \times \text{MTR}) + (100 \times \text{RWIR})) \text{ per million man-hours}$$

92% (47 out of 51) of companies provided data on reporting activity enabling us to calculate a value for RAL. In 2004, 88% (32 of 36) of companies provided data.

Company	Origin of LPI data	Medical treatments	Restricted work cases	First aid	Near-miss reports	Old RAL	New RAL
1	combined	16	0	24	14	510.00	885.22
2	combined	3	0	24	57	116.25	389.76
3	combined	5	0	0	16	90.00	371.83
4	combined					0.00	0.00
5	offshore	7	1	21	925	2,485.00	4,724.69
6	combined	1	0	7	19	37.50	329.87
7	combined	2	3	4	20	230.00	793.93
8	offshore	8	2	66	98	168.57	245.66
9	offshore						
10	combined	7	1	1	6	137.50	1716.39
11	combined	1	0	5	0	15.00	84.44
12	offshore	2	0	0	150	263.33	218.40
13	combined	2	1	8	13	122.50	361.50
14	offshore	3	0	13	18	215.00	682.44
15	offshore	3	0	5	55	90.00	866.63
16	offshore	0	1	3	3	65.00	143.20
17	combined	48	0	392	152	184.00	384.38
18	offshore	16	6	0	92	460.00	383.09
19	offshore	5	23	65	228	257.67	903.20
20	offshore	14	3	97	146	179.50	894.94
21	offshore	5	2	34	43	171.25	410.65
22	combined	3	0	0	10	55.00	64.34
23	combined	10	3	69	160	164.50	2591.02
24	offshore	0	0	41	0	102.50	134.31
25	offshore	6	3	29	85	141.43	409.64
26	combined						
27	combined	0	1	17	9	230.00	419.41
28	combined	3	3	11	3	215.00	909.44
29	combined	20	2	178	97	164.58	418.53
30	combined	12	3	18	6	330.00	105.30
31	offshore	5	0	10	0	50.00	82.10
32	offshore	2	0	4	0	60.00	208.95
33	combined	20	15	34	0	172.50	237.37
34	combined	61	26	255	99	465.83	286.92
35	combined	6	0	14	74	186.67	277.53
36	combined	27	3	36	177	317.50	468.01
37	combined	30	9	51	149	500.00	197.85
38	offshore	2	2	2	6	140.00	418.66
39	combined	5	0	7	4	155.00	551.67
40	offshore	22	0	0	42	92.86	242.33
41	offshore	3	0	3	1	80.00	999.15
42	offshore	0	0	7	6	65.00	201.78
43	offshore						
44	combined	4	1	1	17	135.00	625.27
45	offshore	15	12	142	571	422.08	864.76
46	combined	66	11	0	0	127.37	89.00
47	offshore	0	0	0	8	40.00	147.91
48	offshore	39	9	104	125	470.83	504.64
49	combined	1	1	2	2	46.67	390.66
50	offshore	0	0	6	10	11.43	176.13
51	combined	1	1	2	0	130.00	108.45
IMCA		511	148	1812	3716	280.11	350.70

Table 13 – Reporting activity level for 2005

7.4 Management Visit Ratio (MVR)

Formerly this was calculated using the following formula:

$$\begin{aligned} \text{Old MVR} &= \text{No. of managerial visits per 100,000 man-hours per (1 + No. of Lost Time Injuries)} \\ &= \text{MV} \times 100,000 / ((1 + \text{LTI}) \times \text{Man-hours}) \end{aligned}$$

As with the reporting activity level (RAL), a new formula has now been employed without the LTI clause:

$$\text{New MVR} = \text{No. of managerial visits per 100,000 man-hours}$$

76% (39 of 51) of contributing companies provided data on management visits. In 2004, 69% (25 of 36) of companies provided data.

Company	Origin of LPI data	Management visits	Old MVR	New MVR
1	combined	5	0.8679	0.8679
2	combined	124	2.5984	10.3935
3	combined			
4	combined			
5	offshore	33	1.5686	3.1371
6	combined	28	1.5394	6.1575
7	combined	141	12.1678	24.3357
8	offshore	32	0.0952	0.6662
9	offshore			
10	combined	39	12.1708	24.3415
11	combined	21	1.3136	3.9407
12	offshore	150	1.3823	4.1468
13	combined	3	0.2213	0.4427
14	offshore	24	7.6179	7.6179
15	offshore	4	0.2407	0.9629
16	offshore	12	0.6609	1.3219
17	combined			
18	offshore	200	1.8507	5.5520
19	offshore	200	0.3116	4.6737
20	offshore			
21	offshore			
22	combined	265	7.7501	15.5002
23	combined	896	14.1128	141.1281
24	offshore	108	3.5378	7.0756
25	offshore	55	0.3251	2.2758
26	combined	4	10.7385	10.7385
27	combined	36	6.5647	6.5647
28	combined	4	0.4230	0.8460
29	combined	277	0.4892	5.8701
30	combined			
31	offshore			
32	offshore	39	13.5818	13.5818
33	combined			
34	combined	787	0.3366	4.0395
35	combined	39	0.6443	1.9328
36	combined	97	0.3972	2.3831
37	combined	30	0.0475	0.2374
38	offshore	101	7.5507	15.1015
39	combined	65	23.1345	23.1345
40	offshore	35	0.1864	1.3049
41	offshore	7	8.7426	8.7426
42	offshore	3	0.9313	0.9313
43	offshore	15	113.3273	113.3273
44	combined	12	1.3895	2.7790
45	offshore	185	0.2632	3.1586
46	combined			
47	offshore	2	0.7396	0.7396
48	offshore	1402	4.1741	25.0446
49	combined	18	1.6743	5.0228

50 offshore
51 combined

IMCA	5498	0.0195	3.66
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Table 14 – Management visit ratio data 2005

7.5 Lessons Learnt Ratio (LLR)

Old LLR = $\frac{\text{Number of bulletins issued}}{(1 + \text{Number of LTIs})}$

New LLR = Number of bulletins issued per 100,000 man-hours

58% (29 of 50) of contributing companies provided data on safety bulletins. In 2004, 64% (23 of 36) of companies provided data.

Company	Origin of LPI data	Safety bulletins	New LLR	Old LLR
1	combined	9	9.00	1.56
2	combined	52	13.00	4.36
3	combined			
4	combined			
5	offshore	15	7.50	1.43
6	combined	2	0.50	0.44
7	combined	42	21.00	7.25
8	offshore	15	2.14	0.31
9	offshore	9	9.00	17.67
10	combined	11	5.50	6.87
11	combined	37	12.33	6.94
12	offshore	195	65.00	5.39
13	combined	4	2.00	0.59
14	offshore	152	152.00	48.25
15	offshore	5	1.25	1.20
16	offshore	1	0.50	0.11
17	combined			
18	offshore	5	1.67	0.14
19	offshore	20	1.33	0.47
20	offshore		0	0
21	offshore	17	4.25	1.02
22	combined	20	10	1.17
23	combined	11	1.10	1.73
24	offshore	54	27.00	3.54
25	offshore	15	2.14	0.62
26	combined	0	0	0
27	combined	16	16.00	2.92
28	combined	7	3.50	1.48
29	combined	38	3.17	0.81
30	combined			
31	offshore			
32	offshore	18	18.00	6.27
33	combined			
34	combined	31	2.58	0.16
35	combined	56	18.67	2.78
36	combined	40	6.67	0.98
37	combined			
38	offshore			
39	combined	12	12.00	4.27
40	offshore	2	0.29	0.07
41	offshore	12	12.00	14.99
42	offshore	5	5.00	1.55
43	offshore	9	9.00	68.00
44	combined	752	376.00	174.15
45	offshore	15	1.25	0.26
46	combined			
47	offshore	2	2.00	0.74
48	offshore			

49	combined	12	4.00	3.35
50	offshore			
51	combined			
IMCA		1718	9.14	1.14

Table 15 - Lessons learnt ratio 2005

Definitions

In order to compile meaningful statistics, it is important that standard, consistent, well defined terms are used. For the purposes of compiling the IMCA statistics the following definitions are used:

Lagging Safety Statistics

Hours worked	for offshore operations – the ‘actual hours worked’, based on a 12-hour day for onshore operations – the actual hours worked, including overtime hours
Number of fatalities	the total number of employees and others who died as a result of an accident
Fatal accident rate (FAR)	number of fatalities per 100,000,000 hours worked
Number of lost time injuries (LTIs)	all accidental injuries (including fatalities and lost work day cases but excluding restricted work day cases) where: <ul style="list-style-type: none"> ◆ A lost work day case is any work-related accidental injury other than a fatal injury which results in a person being unfit for work on the next shift/day; and ◆ A restricted workday case is any work-related injury other than a fatality or lost work day case which results in a person being unfit for full performance of a regular job on the shift/day after the injury. Work might be: <ul style="list-style-type: none"> – an assignment to a temporary job; – working in the regular job but not performing all the usual duties of the job Where no meaningful restricted work is being performed, the incident should be recorded as a lost work day case.
Lost time injury frequency rate (LTIFR)	$\frac{\text{Lost time injuries} \times 1,000,000}{\text{hours worked}}$
Total recordable incident rate (TRIR)	the number of injuries and/or illnesses per million hours worked = $\frac{\text{total number of recordable incidents} \times 1,000,000}{\text{total hours worked}}$

NB OSHA (the US Occupational Safety & Health Administration) uses an alternative definition for TRIR. The primary difference is that IMCA follows the practice of referencing recordable injuries against one million man-hours rather than the OSHA definition which references against 200,000 man-hours (a base for 100 full-time equivalent workers working 40 hours per week, 50 weeks per year).

Recordable incidents

from the American Bureau of Labor Statistics
www.bls.gov/iif/oshdef.htm

Work-related injuries and illnesses – events or exposures in the work environment that caused or contributed to the condition or significantly aggravated a pre-existing condition.

Recordable cases – include work-related injuries and illnesses that result in:

- ◆ Death
- ◆ Loss of consciousness
- ◆ Days away from work
- ◆ Restricted work activity or job transfer
- ◆ Medical treatment (beyond first aid)
- ◆ Significant work related injuries or illnesses that are diagnosed by a physician or other licensed health care professional. These include any work related case involving cancer, chronic irreversible disease, a fracture or cracked bone, or a punctured eardrum.
- ◆ Additional criteria that can result in a recordable case include:
 - Any needlestick injury or cut from a sharp object that is contaminated with another person's blood or other potentially infectious material.
 - Any case requiring an employee to be medically removed under the requirements of an OSHA health standard.
 - Tuberculosis infection as evidenced by a positive skin test or diagnosis by a physician or other licensed health care professional after exposure to a known case of active tuberculosis.
- ◆ Days away from work, days of restricted work activity or job transfer
- ◆ Days away from work, days of restricted work activity or job transfer are cases that involve days away from work, or days of restricted work activity or job transfer, or both.
- ◆ Cases involving days away from work are cases requiring at least one day away from work with or without days of job transfer or restriction.

Job transfer or restriction cases occur when, as a result of a work-related injury or illness, an employer or health care professional keeps, or recommends keeping an employee from doing the routine functions of

his or her job or from working the full workday that the employee would have been scheduled to work before the injury or illness occurred.

Leading Safety Statistics

The SEL core committee is currently reviewing the definitions of these leading performance indicators. This work has progressed, leading to an initial conclusion that lagging indicators such as LTIFR should not be used in the formulae for calculating the leading performance indicators. Therefore, reporting activity level (RAL), management visits ratio (MVR) and lessons learnt ratio (LLR) have been calculated using simpler definitions. For completeness, the previous definitions (as set out in information note IMCA SEL 05/03) are included here as well.

Safety observations frequency rating (SOFR)

Number of safety observation per 200,000 man hours:
= $\frac{\text{Number of safety observations} \times 200,000}{\text{Total man-hours}}$

Injury events reporting level

Old definition:
$$\frac{(5 \times \text{FNMR}) + (20 \times \text{MTR}) + (100 \times \text{RWIR})}{(1 + \text{no. of lost time injuries})}$$

New definition:
(5 x FNMR) + (20 x MTR) + (100 x RWIR) per million man-hours

Line management visits rating (MVR)

Old definition:
No. of managerial visits per 100,000 man-hours per (1 + No. of lost time injuries)
= $\frac{\text{MV} \times 100,000}{(1 + \text{LTI}) \times \text{man-hours}}$

New definition:
No. of managerial visits per 100,000 man-hours

Lessons learnt rating (LLR)

Old definition:
$$\frac{\text{No. of bulletins issued}}{(1 + \text{no. of LTIs})}$$

New definition:
No. of bulletins issued per 100,000 man-hours

Input definitions:

First aid injury

A one time treatment for the purpose of dealing with minor scratches, cuts, burns, splinters etc which do not ordinarily require medical care

FNMR

Number of first aid injuries and personal near-miss reports

Lost time injury (LTI)

A work related injury which causes the injured person to be absent from work for at least one normal shift* after the event because he is unfit to perform any duties. * This should take into account travel time in attending the doctor to assess the injury

Managerial visit (MV)

Managerial visits may be counted if the managers meet the criteria provided below. The visits should be made offshore during operational activities and be of at least 24 hours duration. (Management visits during port visits are seen as routine). The visit must include a safety briefing or presentation to the majority of the offshore people. It may also involve the manager making a safety performance check of the site with the people who manage or supervise the activities.

- ◆ The manager has commercial or production responsibility for the company (e.g. Managing Director);
- ◆ The manager has responsibility for health, safety and environmental processes or other key process within the company;
- ◆ The manager is directly responsible for the operational or service support activities of the particular offshore barge or ship (e.g. Operations Manager);
- ◆ The manager is directly responsible for the conduct of the project (e.g. Project Manager).

Man-hours

- ◆ for onshore operations – ‘actual’ hours worked, including overtime hours
- ◆ for offshore operations – the hours worked, based on a 12-hour exposure day

Medical treatment injury

Is work related injury, which requires attention from a medical practitioner (not necessarily a doctor) but does not result in either a lost time injury or a restricted work injury

MTR

Number of medical treatment reports

RAL

Reporting activity level

Restricted work injury

A work-related injury which causes the injured person to be assigned to another job on a temporary basis or to work at his normal job less than full time or not necessarily undertaking all of the normal duties

RWIR

Number of restricted work injury reports

Safety observation

Report identifying at-risk behaviour, or an unsafe condition to prevent loss or harm e.g. 'stop' card

All Statistics

All Offshore Statistics

	LTI	LTIFR	Medical treatment	RWP	TRI	TRIR	First aid	Near- miss
1	0	0	16	0	16	34.59	24	14
2	2	2.63	2	0	4	5.26	23	50
3	1	2.81	5	0	6	16.84	0	14
4	0	0	0	0	0	0	0	0
5	1	0.95	7	1	9	8.56	21	925
6	3	7.13	1	0	4	9.51	7	19
7	1	1.91	2	3	6	11.48	4	18
8	6	1.25	8	2	16	3.33	66	96
9	0	0	0	0	0	0	0	0
10	1	6.72	7	1	9	60.44	1	6
11	2	3.97	1	0	3	5.96	5	0
12	2	0.55	2	0	4	1.11	0	150
13	1	1.87	2	1	4	7.47	8	13
14	0	0	3	0	3	9.52	13	15
15	3	7.22	3	0	6	14.44	5	55
16	1	1.10	0	1	2	2.20	2	3
17	19	2.24	46	0	65	7.66	388	152
18	2	0.56	16	6	24	6.66	0	92
19	14	3.27	5	23	42	9.81	65	228
20	9	4.49	14	2	25	12.46	97	146
21	3	1.80	5	1	9	5.40	26	20
22	0	0	3	0	3	2.05	0	10
23	6	10.70	8	3	17	30.32	66	125
24	1	0.66	0	0	1	0.66	41	0
25	6	2.48	6	3	15	6.21	29	85
26	0	0	0	0	0	0	0	0
27	0	0	0	1	1	2.61	16	9
28	1	2.46	3	3	7	17.23	11	3
29	11	2.98	18	2	31	8.39	160	88
30	1	1.23	0	0	2	2.46	3	2
31	2	1.09	5	0	7	3.83	6	0
32	0	0	2	0	2	6.97	4	0
33	11	1.43	20	15	46	5.97	34	0
34	11	1.16	61	26	98	10.32	255	99
35	2	1.05	6	0	8	4.18	14	68
36	5	1.23	27	3	35	8.60	36	177
37	2	0.52	11	6	20	5.21	19	53
38	1	1.50	2	2	5	7.48	2	6
39	0	0	4	0	4	17.74	6	4
40	6	2.24	22	0	28	10.44	0	42
41	0	0	3	0	3	37.47	3	1
42	0	0	0	0	0	0	3	4
43	0	0	0	0	0	0	0	0
44	0	0	4	1	5	15.46	1	11
45	11	1.88	15	12	38	6.49	142	571
46	12	1.43	31	3	48	5.71	0	0
47	0	0	0	0	0	0	0	6
48	5	0.89	39	8	52	9.29	88	103
49	1	5.65	0	0	1	5.65	1	1
50	6	13.21	0	0	7	15.41	6	10
51	0	0	1	1	2	2.06	2	0
IMCA	172	1.69	436	130	743	7.30	1703	3494

All Onshore Statistics

	LTI	LTIFR	Medical treatment	RWP	TRI	TRIR	First aid	Near- miss
1	0	0	0	0	0	0	0	0
2	1	2.32	1	0	2	4.63	1	7
3	0	0	0	0	0	0	0	2
4								
5								
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	2
8	1	0.95	0	0	1	0.95	0	2
9	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0
12								
13	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	3
15	0	0	1	0	1	5.54	0	0
16	0	0	0	0	0	0	1	0
17	0	0	2	0	2	1.83	4	0
18								
19								
20	0	0	2	1	3	3.74	0	0
21	0	0	1	1	2	1.05	8	23
22	1	4.08	0	0	1	4.08	0	0
23	3	40.41	2	0	5	67.35	3	35
24	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	1	0
28	0	0	0	0	0	0	0	0
29	0	0	2	0	2	1.95	18	9
30	0	0	12	3	15	2.75	15	4
31	0	0	0	0	0	0	4	0
32	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	
34								
35	0	0	0	0	0	0	0	6
36								
37	2	0.23	19	3	24	2.73	32	96
38	0	0	0	0	0	0	0	0
39	0	0	1	0	1	18.02	1	0
40								
41	0	0	0	0	0	0	0	0
42	0	0	1	0	1	24.82	4	2
43	0	0	0	0	0	0	0	0
44	1	9.22	0	0	1	9.22	0	6
45								
46	6	0.32	35	8	49	2.61	0	0
47	0	0	0	0	0	0	0	2
48	1	0.22	5	1	7	1.55	16	22
49	1	5.51	1	1	4	22.04	1	1
50								
51								
IMCA	17	0.29	85	18	121	2.10	109	222

All Overall Statistics

	Band	LTI	LTIFR	Medical treatment	RWP	TRI	TRIR	First aid	Near- miss
1	B	0	0	16	0	16	27.77	24	14
2	C	3	2.51	3	0	6	5.03	24	57
3	A	1	2.07	5	0	6	12.39	0	16
4	A	0	0	0	0	0	0	0	0
5	C	1	0.95	7	1	9	8.56	21	925
6	A	3	6.60	1	0	4	8.80	7	19
7	B	1	1.73	2	3	6	10.36	4	20
8	D	7	1.20	8	2	17	2.90	66	98
9	A	0	0	0	0	0	0	0	0
10	A	1	6.24	7	1	9	56.17	1	6
11	B	2	3.75	1	0	3	5.63	5	0
12	C	2	0.55	2	0	4	1.11	0	150
13	B	1	1.48	2	1	4	5.90	8	13
14	A	0	0	3	0	3	6.22	13	18
15	B	3	5.04	4	0	7	11.75	5	55
16	B	1	1.01	0	1	2	2.03	3	3
17	D	19	1.98	48	0	67	7.00	392	152
18	C	2	0.56	16	6	24	6.66	0	92
19	C	14	3.27	5	23	42	9.81	65	228
20	C	9	3.21	16	3	28	9.98	97	146
21	C	3	0.84	6	2	11	3.08	34	43
22	C	1	0.58	3	0	4	2.34	0	10
23	B	9	14.18	10	3	22	34.65	69	160
24	C	1	0.59	0	0	1	0.59	41	0
25	C	6	2.41	6	3	15	6.03	29	85
26	A	0	0	0	0	0	0	0	0
27	B	0	0	0	1	1	1.82	17	9
28	A	1	2.11	3	3	7	14.80	11	3
29	C	11	2.33	20	2	33	6.99	178	97
30	D	1	0.16	12	3	17	2.71	18	6
31	C	2	0.99	5	0	7	3.47	10	0
32	A	0	0	2	0	2	5.68	4	0
33	D	11	1.26	20	15	46	5.27	34	0
34	D	11	0.56	61	26	98	5.03	255	99
35	C	2	0.99	6	0	8	3.96	14	74
36	C	5	1.23	27	3	35	8.60	36	177
37	D	4	0.32	30	9	44	3.48	51	149
38	B	1	1.36	2	2	5	6.82	2	6
39	A	0	0	5	0	5	17.80	7	4
40	C	6	2.24	22	0	28	10.44	0	42
41	A	0	0	3	0	3	29.59	3	1
42	A	0	0	1	0	1	2.76	7	6
43	A	0	0	0	0	0	0	0	0
44	A	1	2.32	4	1	6	13.89	1	17
45	D	11	1.88	15	12	38	6.49	142	571
46	D	18	0.66	66	11	97	3.57	0	0
47	A	0	0	0	0	0	0	0	8
48	D	6	0.59	44	9	59	5.83	104	125
49	A	2	5.58	1	1	5	13.95	2	2
50	A	6	13.21	0	0	7	15.41	6	10
51	C	0	0	1	1	2	1.67	2	0
IMCA		189	1.18	521	148	864	5.42	1812	3716