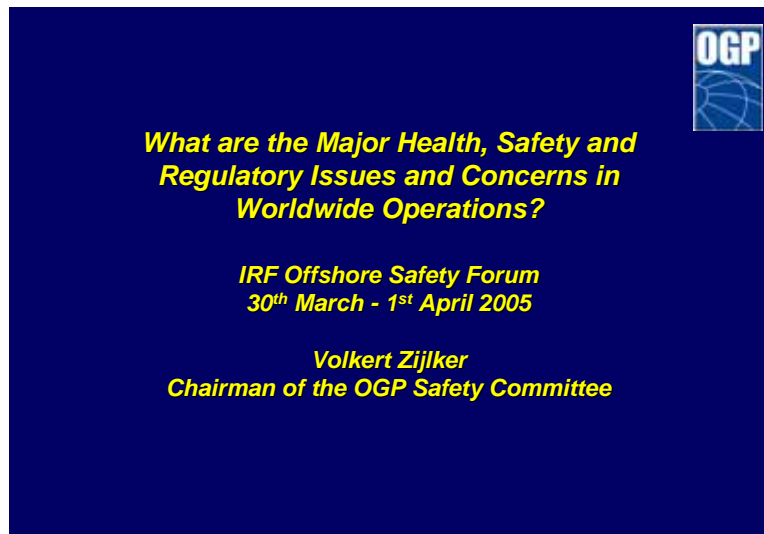




***What are the Major Health, Safety and  
Regulatory Issues and Concerns in Worldwide  
Operations?***

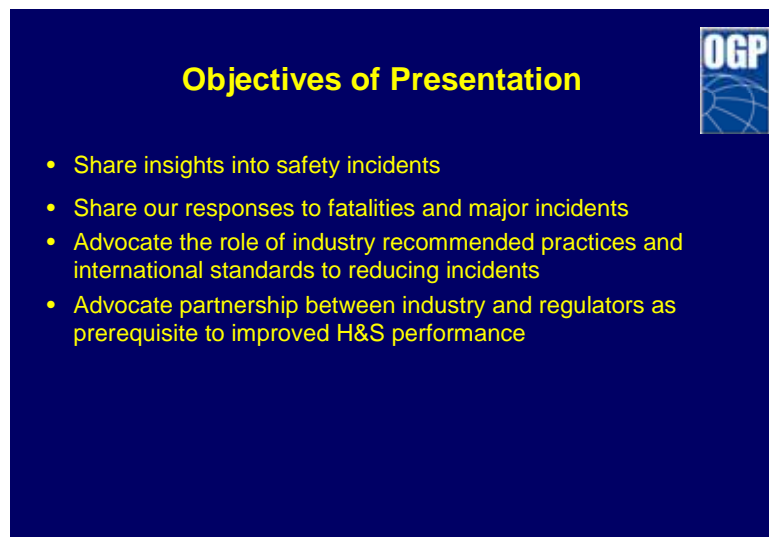
***Presentation to  
IRF Offshore Safety Forum  
30th March - 1st April 2005***

***Volkert Zijlker  
Chairman of the OGP Safety Committee***



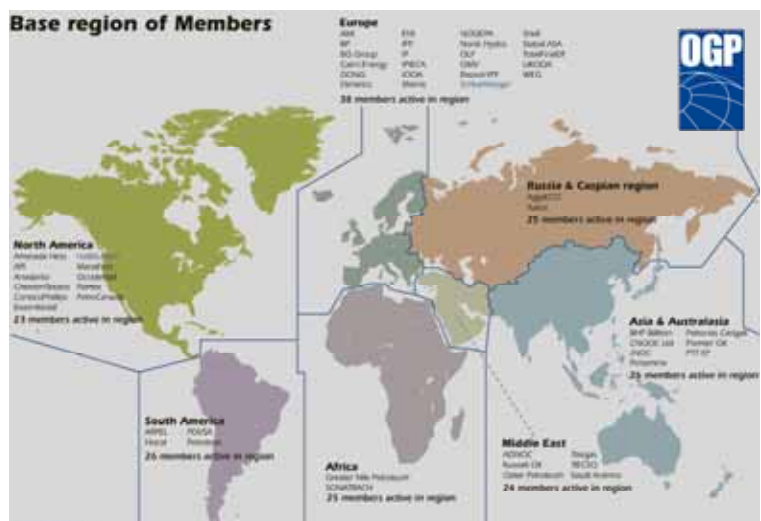
### *Introduction*

1. Honored guests, with appreciation OGP has accepted your invitation to share our views on the most important health, safety and regulatory issues facing the international oil and gas offshore industry.



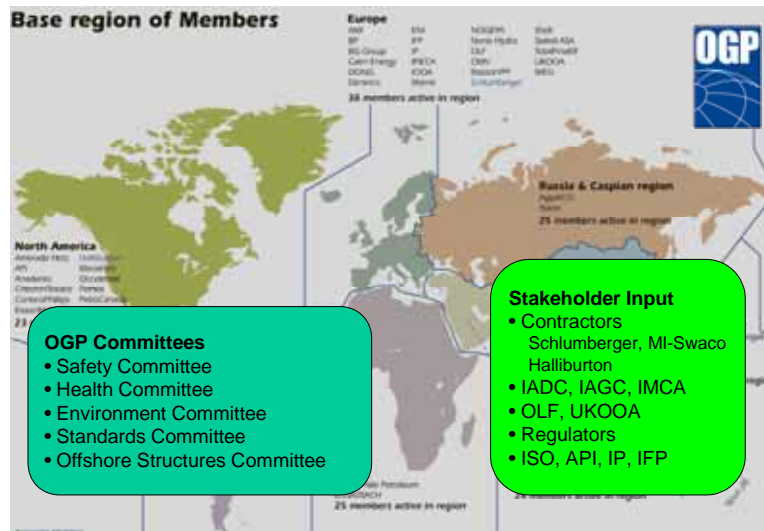
### *Objectives of Presentation*

2. As Chairman of the OGP Safety Committee, I will:
  - Share our insights in safety incidents
  - Share our responses to fatalities and major incidents
  - Advocate the role of industry recommended practices and standards
  - Advocate partnership between industry and regulators as prerequisite to improved safety



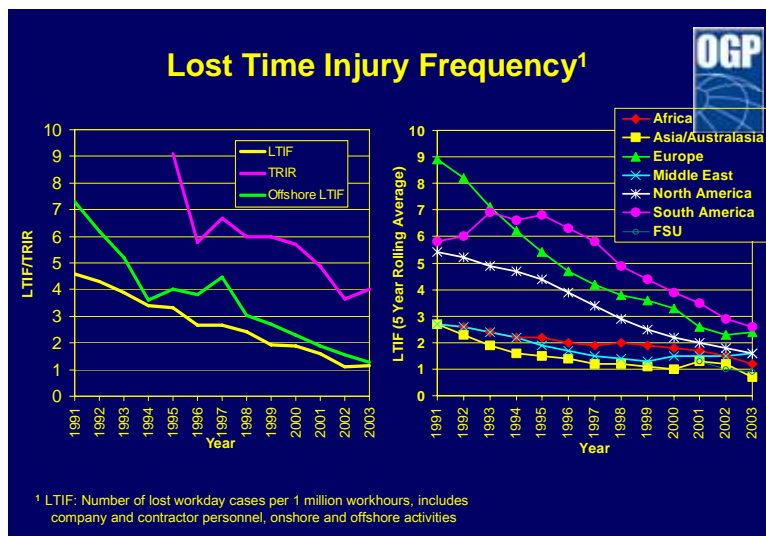
*Base region of members*

3. The International Association of Oil and Gas Producers, OGP, encompasses most of the world’s leading publicly traded, private and state-owned oil & gas companies, oil & gas associations (including IADC, IAGC, IMCA) and major upstream service companies.
4. OGP members produce about 60% the world’s oil and about one third of its gas and therewith OGP forms a representative body.
5. The association was formed in 1974 to develop effective communications between the upstream industry and ironically, an increasingly complex network of international regulators.
6. OGP helps members and the broader EP Industry to achieve continuous improvements in HSE, in engineering and in operation of upstream ventures. Our international membership brings with it a wealth of know-how, data and experience.



*OGP Committees and Stakeholders*

- OGP operates a series of standing committees such as the Safety Committee, Health Committee and Standards Committee, to manage the exchange and dissemination of this knowledge through Publications and Events around the world. OGP has engaged a series of stakeholders in its activities.
- Since 1985, we have collected, analysed and published the safety performance of our membership. This information has assisted OGP to identify areas needing specific attention. These include the safety associated with aviation and geophysical related activities, and with security and health management issues.



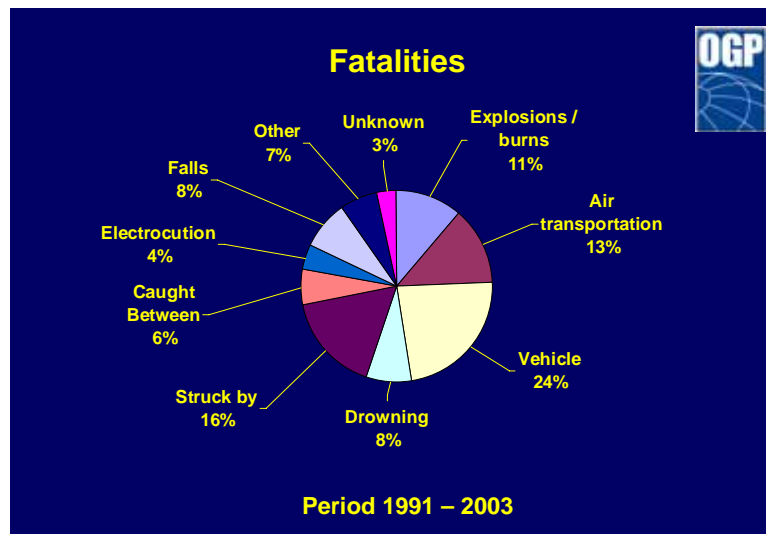
*Lost time injuries total workforce*

- The most commonly referred safety indicators are the Total Recordable Incident Rate and Lost Time Injury Frequency.
- Through OGP, members reported LTIF reducing from 4.6 incidents per 1 million man-hours in 1991 to 1.2 in 2003 for our combined onshore and offshore total workforce; a near four-fold improvement.

11. For offshore alone, we reported a decrease from 7.3 in 1991 to 1.3 in 2003. Both representing our collective efforts to provide a safe workplace for our oil field staff.
12. We started reporting Total Recordable Incident Rates from 1995 onwards and we can observe similar improvements over time.

*Lost time injuries regional*

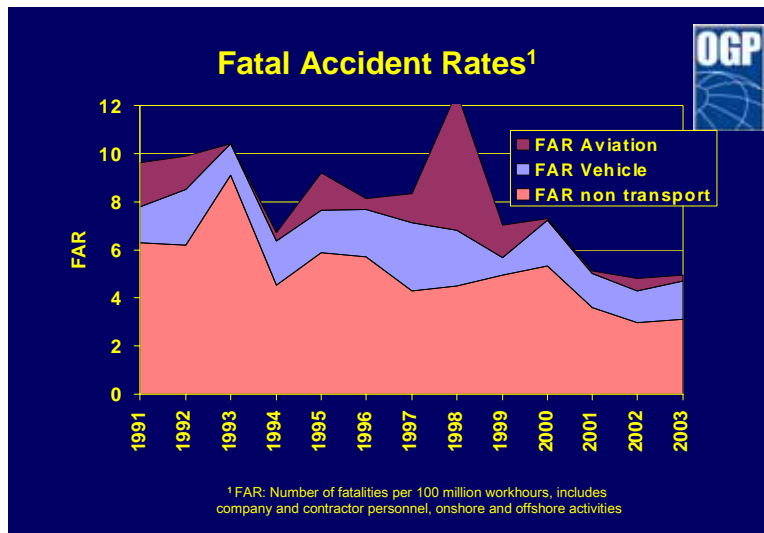
13. There are regional differences in reported incident frequencies. But each region is improving and trends are converging on the back of local efforts and increased global presence and connectivity within the industry.
14. We have set up a task force to understand these differences and assess whether the rate of improvement is fast enough in all regions with due recognition of the exposure of our oil field staff.
15. We have also asked this task force to search for further opportunities and additional KPIs to reflect the industry's health and safety performance; including leading indicators relating to integrity, management systems, audit compliance, etc, and seek further ways to accelerate learning across regions as needed.
16. Notwithstanding improvement in LTI, fatalities in our industry still occur and reflect the ultimate human consequences of our activities.



*Fatalities pie chart*

17. Since 1991, we regrettably reported 1251 fatalities through the OGP member companies in both onshore and offshore operations, total workforce, i.e. including our contractors.

18. Let's understand what activities the reported fatalities relate to ... explosions/burns 142 ... road transport 288 ... air transport 164 ... lifting and hoisting 206 ... drowning 95 ... caught between 78 ... falls 104 and ... electrocution 52 ... with the remaining 120 into a miscellaneous category. This excludes our impact on 3<sup>rd</sup> parties (particularly road transportation).

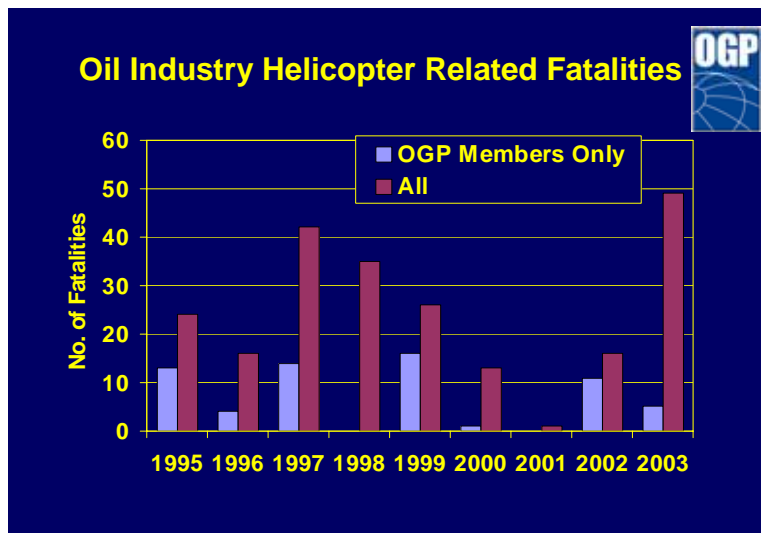


#### *FAR non-transport*

19. Excluding land/air transport activities, onshore and offshore, total workforce, fatal accident rates reduced from 6.3 fatalities per 100 million man-hours in 1991 to 3.1 in 2003, a two-fold improvement over time. Specifically offshore it reduced from around 10 in 1991 to 4 in 2003.

#### *Fatalities road transport*

20. However, over the same period, no improvement in the reduction of road transport fatalities is evident, these remain around 1.5 to 2.0 fatalities per 100 million man-hours per year. That is incremental to the previously mentioned FAR figures. Notwithstanding this, some individual OGP members have reported significant advances in improving road transport safety, such that for extended periods they have not incurred fatalities.

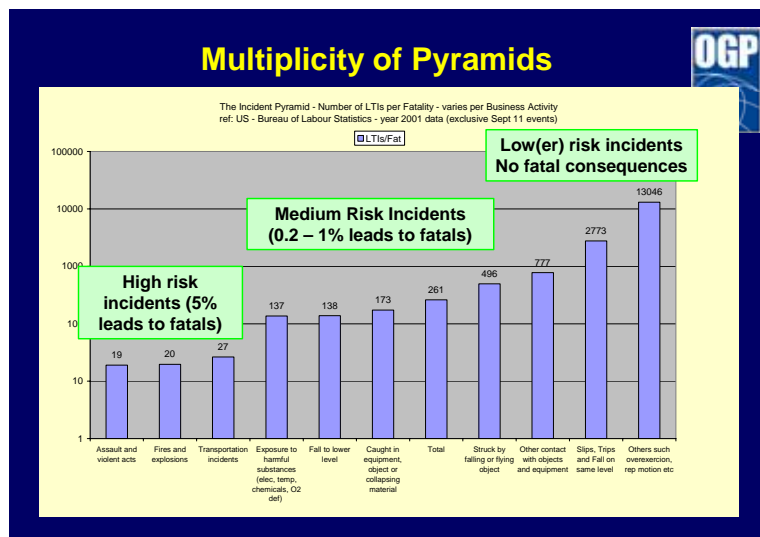


#### *Fatalities air transport*

21. Fatalities related to air transport are recurring over the period directly related to aviation incidents.

#### *Fatalities air transport OGP and non-OGP*

22. However, as we reported in our annual Aviation Safety Reports ... disproportionately, in many years, more industry fatalities occur within non-OGP member organisations. This concerns us as it tells us that helicopter transport by different Companies, through the various helicopter operators, is offered at greatly different levels in safety risk, thus effecting the exposure of oilfield staff, our own staff, contractors and inspectors going offshore.
23. Why did incident rates improve by a factor 4, whereas fatal accident rates only improved by a factor 2, and why have we not seen a reduction in transport related incidents?
24. TRIR is a well-established safety indicator. But the view of a single incident pyramid with many near misses leading to a significant incident / fatality has now changed. Broadly speaking, we recognise three incident pyramids relating to:
  - Low(er) risk activities such as *repetitive motion, contact with equipment and objects, and slips, trips and falls*. These represent the vast majority of incidents reported behind TRIR and LTIF, but without a significant escalation potential
  - Medium risk activities such as *falls, caught in equipment, and struck by falling objects*. The are limited numbers of these types of incidents, however they have the potentially to lead to individual fatalities
  - High risk activities such as *transport, fire & explosion, and assault*. These are incidents with significant escalation potential to multiple fatalities and significant asset loss.



### *Multiplicity of pyramids*

25. Analysis of the 2001 heavy industry OSHA incident database has further helped to substantiate this. This chart shows a segmentation of incidents into 10 categories with increasing escalation potential. The frequently occurring low(er) risk incidents have ratios of well over 2000 LTIs to a single fatality. For the medium risk activities, this ratio is 200 to 1, whilst for the high risk activities, this ratio is 20 to 1. So, for the latter category, there are only a few trigger opportunities to correct pro-actively.
26. Collectively we tend to focus on the lower risk incidents. TRIR and LTIF are good indicators for workplace safety and we can be proud of the improvements achieved. They should be maintained, but they have limited predictive value towards fatal accidents.
27. We need to differentiate our focus on recurring safety incidents commensurate to the escalation potential: lower risk activities should be locally / regionally managed. The greater the escalation potential, the more global industry focus and collaboration with regulators should take place.





*What Constitutes a Safety Incident?*

28. Let's take a closer look at a series of potential outcomes: a Medical Treatment Case, a LTI, a fatality and an explosion potentially leading to a multiple fatality and a significant disruption of supply.



*Medical Treatment and LTIs*

29. OGP members have put in place a number of recommended practices to address these including: the HSE management systems guidance, guidance on contractor HSE management, geophysical operations guides and aviation management guide (with the associated audit guidelines). Work is underway on occupational health documents relating to health risk assessment, malaria, stress etc.
30. Through the Human Factors task force, supporting Hearts and Minds programmes are sponsored to understand the influence human behaviour.

31. Access to data is important as it gives us insight into what is happening. When performance is not measured, it can't be managed, and you miss the triggers for improvement.
32. Of course there are still limitations to the OGP data: reporting through OGP by its members is voluntary and local regulatory reporting requirements vary. However our figures are increasingly complete and OGP has a standing protocol and definitions widely used and recognized.
33. We now learned of the IRF project on data reporting. I need to squarely challenge this. What makes operations in the 8 countries offshore operations special to warrant a separate protocol of reporting and analysis, slightly modified from existing protocols? I call on IRF to join with OGP and IADC to test how existing protocols: can be enhanced and made more complete; how specific parameters typical for the operating environment can be added, and how the reporting requirements can be extended to mandatory reporting with the backing of the regulator.
34. Preliminary discussions have already taken place with a few software providers on exchangeable databases to facilitate uploading of contractor data and to ease access to data for benchmarking. There are benefits to join forces and I offer OGP services to this end.
35. At the 6<sup>th</sup> SPE Conference on HSE in Calgary, the former SPE President Kate Baker used OGP safety performance data to hold up the mirror to the assembled industry ... this year, we have accelerated the data reporting and will formally present the 2004 OGP reported safety performance data at OTC in Houston on May 3<sup>rd</sup>.
36. Within OGP, we look for signals of recurring incidents with significant escalation potential to people, assets and environment. This brings me to two important themes OGP is now working on with its members.



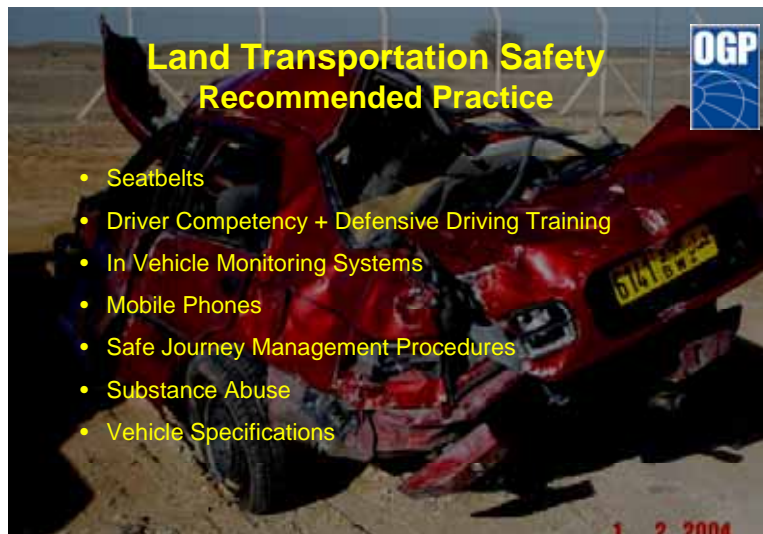
*OGP themes 2005/2006*

37. The first theme is Transporting People Safely. Data shown earlier indicated that about 60% of the fatalities originate from land, marine and air transport activities or are related to lifting and hoisting incidents.
38. In OGP, we have taken a very aggressive response to address these issues with our members. Two existing sub-Committees, *aviation and geophysical*, and two new task forces, *land transportation and lifting & hoisting*, are tasked with preparing OGP recommended practices in each risk area.



*Beyond regulations*

39. Recommended practices are important to communicate the industry requirements, and to demonstrate transparently and concisely to our contractors amongst whose staff most fatalities occur. Currently we, as individual E&P Companies, impose complex requirements, which include much duplication and contradicting requirements, and are in addition to the local regulatory requirements. Best practices of OGP members and their contractors, appropriate to the risk, and as we individually learned from engagement with those regulating, advising or affected by our industry, have been captured and are now agreed upon. They go beyond regulations, but have already a proven track record in the industry to substantially reduce fatalities.



#### *Land transportation RP*

40. We anticipate to issue the OGP road transport recommended practice at OTC in May. It is a good example where industry has recognized it needs to go beyond regulations. Key elements addressed within this recommended practice are: safety belts, driver competences including defensive driving training, introduction of in vehicle monitoring systems and their associated reviews, a ban on use of mobile phones when vehicle in motion, safe journey management procedures, substance abuse, and vehicle standards.
41. The recommended practice aims to make the E&P industry best in class in terms of vehicle safety. It is relevant to all organisations in this room and will help to deliver the safety expectations in this area. Not only impacting on our own staff and contractors, but also on the general public affected by our transport activities.



### *Transporting People Safely*

42. Based on fundamental aviation technical work by several member companies, the Aviation Subcommittee is now progressing supplementary requirements to the ICAO and national aviation regulations in terms of enhanced procedures, training and aircraft equipment fit and human factors management. The overall aim is to reduce the risk of travel by helicopter to similar levels as for a regional commuter airliner. We believe that this could reduce aviation fatalities by up to 60%.
43. When implemented, not only can we offer predictable risk levels, we may also be able to move from hiring helicopters to buying seats, thus greatly enhancing flexibility and efficiency. Strong advocacy is in progress amongst OGP members, under mandate of the OGP EGM, and further with helicopter operators, manufacturers and with regulators including FAA, UKCAA and other regulators.
44. We are forming a taskforce to address safety in lifting & hoisting operations. Also here, we expect to compile an OGP recommended practice. We face a wide range of local regulations, often very prescriptive and detailed, on requirements for the extensive range of equipment types, on competency standards, on operating practices, but each incomplete to drive the performance improvement we look for.
45. We are very pleased that the Health and Safety Executive will join this OGP task force. I hope we can bridge the IRF initiative in this area, not only to avoid new diverging standards, but also avoid that collaboration becomes the addition of all existing standards and therewith unworkable. Clarity is the key driver.
46. We will bring the above projects to an initial conclusion in November 2005 at a 2 day OGP sponsored Conference “Transporting People Safely.” There we as Industry will lead the path towards enhanced controls. This conference will be held in Cairo.
47. We concluded that TRIR/LTIF have little predictive value towards the potential escalation to single and multiple fatalities, they also tell us little about major accident risk.


**Preventing Next Major Accident**  
**OGP 2006**

OGP

- Helsingör workshop November 2004
- Traditional safety statistics have little predictive value towards escalation
- Ageing assets to complex assets and processes in increasingly remote areas / new provinces
- How we assess and manage these types of risks
  - Integrity, risk management & change control, leading KPIs, human factors and priming senior management
- OGP Safety Theme for 2006
  - Taskforces incl. existing safety data task force

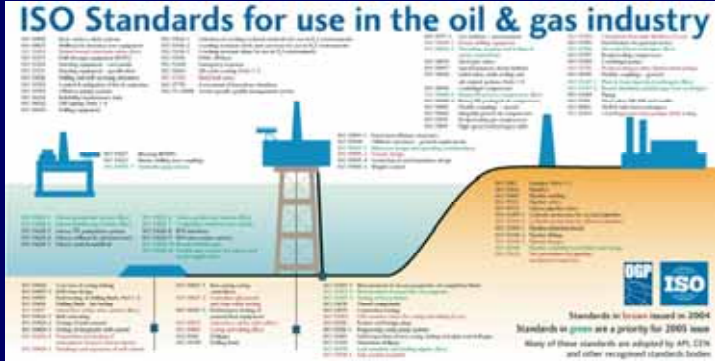
### *Preventing Next Major Incident*

48. That leads to the second theme we have developed in OGP. We expressed concern about the occurrence of a series of high consequence/low frequency incidents. We all know the industry examples and have been reminded of those during last week's explosion with BP in the US. As industry we need to ascertain and ensure enough is done systematically across the world to minimize the likelihood of such major incidents.
49. During our Helsingör workshop in November 2004 the issue of "Preventing the Next Major Incident" was discussed from a variety of angles. The richness of examples and well-established views by members, contractors and regulators, and notwithstanding the progress made in a large number of areas, have validated the concerns expressed.
50. We expanded our scope from "conventional ageing assets used in field life extensions" to the significantly more complex assets and processes we are currently introducing into more hostile and increasingly more remote areas / new provinces.
51. We recognized that controls towards "Preventing the Next Major Incidents" around the world are substantially different, however a major incident anywhere is equally bad. We need to step up self-regulation in this area if we are to deliver on predictable outcomes, while at the same time taking into account risk and economic realities.
52. We agreed in OGP to concentrate our efforts going into 2006 to "Prevent the Next Major Incident". A number of actions have been distilled and are being initiated. These include: technical integrity, risk management and change control, a demonstration that HSE risk controls have been identified and put in place and are effective, setting leading KPIs, addressing human factor issue, and priming senior management to the complexity we create to meet today's energy challenges.

**New standards for the Oil and Gas Industry** 

*OGP promotes the development and use of ISO and IEC standards - International standards should be used wherever possible*

**ISO Standards for use in the oil & gas industry**



Standards in green issued in 2004  
Standards in grey are a priority for 2003 issue  
Many of these standards are adopted by API, IEC and other recognized standards bodies

*New standards for the Oil and Gas Industry*

53. We are progressing the putting in place of management system type recommended practices. But as a global industry, trading in international markets and with contractors, suppliers and customers who operate within a multitude of different regulatory frameworks, it is not surprising that we also want to use International Standards that are relevant to the global market.
54. For the purposes of developing and operating our plants, OGP is driving the use of international industry standards, with a preference for ISO/IEC standards (and ICAO within the aviation operations), and the minimizing of additional requirements in company standards or specifications.
55. We seek to influence the standards bodies openly, with the aim of increasing the number and improving the quality of international standards applicable to our industry. We believe this is essential for driving transparency and efficiency, again in particular towards our contractors carrying out most of the work, but also towards regulators in demonstrating which controls we adhere to.
56. We support organizations such as API and the European Organization for Standardization, and appreciate the results of their work with ISO that has resulted in the publication of the hundred plus voluntary international standards published in the last five years illustrated in this slide.
57. Another good example of such collaboration is sharing between OGP and ISO where the ISO Standard on risk management has been used to present industry examples of how the Standard can be put into practice.
58. Of course, regulators have different roles from industry. In some form or another, you represent specific Country interests; have accountability towards the Government and public directly or indirectly affected in health, safety and environment. You are responsible for ensuring that oil and gas resources are well developed and managed, ensuring security of supply, and that regulations are complied with. However, equally you have a responsibility to work with industry to understand the changing risk

profiles and how these are best addressed. That is where goal-setting regulations are so important as they force the conversation between the duty holder and the regulator.

59. OGP and IADC, and other bodies in which contractors are also represented provide mechanisms to allow industry to interact. Similarly an extended IRF with global reach could provide a vehicle through which a number of regulators can interact. Some examples of local and regional industry / regulator collaboration like STEP Change, like the NW European Safety Case initiative, have shown what can be achieved through collaboration.
60. In short, it is a fact that we are operating in an international environment. Only if we think and act globally, will we be able to make the next drive to enhance safety performance possible.
61. It is interesting, that whilst we drive goal-setting regulation, I have highlighted various examples of our efforts to be more specific and standardized. The nuance lies that in the component parts of our risk control framework. We provide the necessary clarity on our expectations and then properly identify risks and put in place and maintain a selection of controls building on this risk framework.



**What do we want from the regulators?**

- **Differentiation of safety incidents**
  - Recurring incidents with progressive escalation potential
  - 2005 Transporting People Safely
  - 2006 Preventing the Next Major Incident
- **Recognition of existing effective processes to develop industry recommended practices and standards**
  - engagement of regulators in this process
- **Recognition of industry recommended practices and standards**
  - encourage use within regulatory frameworks
- **Partnerships are a pre-requisite for removal barriers and improved safety**
  - OGP offers statutory framework.

*What do we want from the regulators?*

62. I shared the differentiation in escalation potential of recurring safety incidents and the need of a progressive global industry and regulatory responses with increasing escalation potential.
63. I shared the specific OGP responses through Transporting People Safely in 2005 and Preventing the Next Major Incident in 2006 in addition to ongoing initiatives as Safety Data Reporting, etc.
64. Both in OGP and in various industry associations as IADC, IAGC and IMCA, we have effective processes in place to develop a range of industry recommended practices and standards linked to key risk areas. We welcome the participation of regulators herein and encourage the use of industry recommended practices and standards in national regulations.



65. Also I have referred to partnerships. If we are to improve safety performance in our industry, progressive global collaboration between companies, contractors and regulators is required.

*In conclusion*

66. But why? We cannot sit idle and watch our current performance. We must continue to drive programmes which may help us to ensure our staff, our contractors or those otherwise affected by our industry return to their families safely and healthy at the end of their shift.
67. Thank you.

