

## Human Factors; How to be Proactive in a Reactive World

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Step Change in Safety have developed an online self-assessment tool to help organisations in the oil and gas industry gauge how effective they are at addressing human factors issues. This tool has enabled companies to identify areas of strengths to expand upon, and points of weakness to develop further, to overall enhance their safety performance. Human Factors in the oil and gas industry continues to hold an element of mystery to most of the offshore workforce who see it as an emotional exercise to discuss how they feel rather than physical barriers which could save their lives if considered properly. The Step Change tool dives into this unknown area to gain insight at an industry level and identifies areas to focus the efforts of the data-driven Human Factors Workgroup. Essentially, this work is a proactive way to address potentially catastrophic 'unknown unknowns' (as per Donald Rumsfeld) and make human factors accessible to all. The online tool has been used more than 4,000 times by workers on and offshore and this paper will explore the three most popular themes it has identified; Fatigue, Managing Human Failures and Training and Competence. This paper will examine the results and showcase examples where companies have made a proactive change as a result of intelligence gained from this tool, as a strong example of how to be proactive in a reactive world. Furthermore, this paper will put the 'human' into human factors in the oil and gas environment and discuss proactivity in a climate where cost efficiency often means that reaction is the first line of defence.

Keywords; Human Factors; Step Change in Safety; Offshore Safety; Fatigue; Managing Human Failures; Training and Competence

### Being Human

#### Using Step Change in Safety to Proactively Enhance Safety Performance

We are all human. Human Factors affects us all, from forgetting whether the iron has been turned off or pressing the wrong button whilst booking a holiday; people make mistakes. Human Factors in the oil and gas industry is all about recognising that this can happen in a major accident hazard environment and ensuring our 'humans' are set up for success in their working environment. Whilst Human Factors is a widely recognised and researched area, there is a distinct gap between those who know about it – such as safety professionals, academics, subject matter experts etc – and those who need to know about it – such as the offshore workforce. Step Change in Safety is driven fundamentally by the workforce (as well as the regulators and the employing companies) and therefore when we are talking about Human Factors, these are the humans we are referring to.

Step Change launched an online self-assessment tool on Human Factors (which is completely free for members) which offers clarity on an area full of shades of grey to Joe Blogs and Jane Doe. The tool is aimed at everyone onshore and offshore to answer some simple yes/no questions on areas we have identified as particularly relevant for the working environment. These questions are themed under People, Process and Plant and include Fatigue, Risk Assessment, Safety Critical Communication, Training & Competence, Behavioural Safety, Supervision and Incident Investigation amongst others. The tool is a proactive way to get an insight into an organisations performance with Human Factors. Covering everything from shift patterns to safety critical conversations, the tool subliminally educates those completing it as it introduces topics into the forefront which perhaps had not been considered a safety issue previously. The tool has already seen huge successes when applied within organisations and had already identified focus areas for some companies which have now been written into 2016/2017 plans. This proactive tool is an extremely effective way to assess and educate on human factors.

In an industry which is obsessed with benchmarking and comparing numbers from yesteryear, it can be extremely challenging to talk about being proactive and collecting information before an incident, accident or – let's face it – disaster. The Hazards 25 conference spoke to Dr. Kletz' famous phrase 'if you think safety is expensive, try having an accident' which speaks to being proactive but maintains the ominous dark cloud we all have to face; safety costs, but the price depends on 'you'.

#### *The Tool*

Currently, more than 4,000 people have completed at least one of the question sets on the 'Human Factors; How to take the Next Steps' tool. In doing so, a huge amount of information has been collected in the sixteen different areas of the tool. Of this sixteen, the three most populated areas can be seen in Fatigue, Managing Human Failure and Training and Competence<sup>1</sup>. Within each of these areas there are an average of ten questions with yes/no/N/A answers and a free text box at the end of the form to allow for further comment.

The tool can be accessed online and the user-friendly platform themes each assessment under People, Process and Plant. There is also a separate section on Incident Investigation which naturally sits out-with these. Upon completion of an assessment, the end-user gets instant results in a speed-o-meter style gauge to tell them how their answers compare to the rest of industry. This therefore gives an instant result and idea of strengths and weaknesses at an individual or team level. This results page also answers the 'so what's next?' question by offering some simple hints and tips to improve in this area – such as recommended rest periods, HSE guidance on shift-work and ideas to improve. This page also guides people to

<sup>1</sup> Valid at the time of writing this paper – January 2016

industry references, regulatory frameworks and best practice in this field. It is a platform to share lessons learned and see how other organisations have dealt with similar issues. Essentially, it makes human factors accessible to everyone.

The free-text comment box has proven to be a hugely beneficial portal to specifically address any concerns which may not have been picked up from the questions alone. Further, all these questions are answered anonymously per company; the only demographics collected are job level and location. An example of some comments collected are found below;

‘I have no awareness of what my competency should be. Budget constraints mean I don’t think I can get the training I need. How do I feedback to my training provider? How do I know what I am able to do?’

‘Some [company] procedures are very good, but some are exceptionally poor. There is no formal avenue for reporting errors in procedures. I have been asked to write a procedure in the past with no formal training provided, would I be able to get training in this if I wanted it?’

‘Regarding fatigue management – only one of our senior construction managers brings up the problem of fatigue. Supervisors don’t really know much about it. Generally they turn a blind eye, which is hugely worrying.’

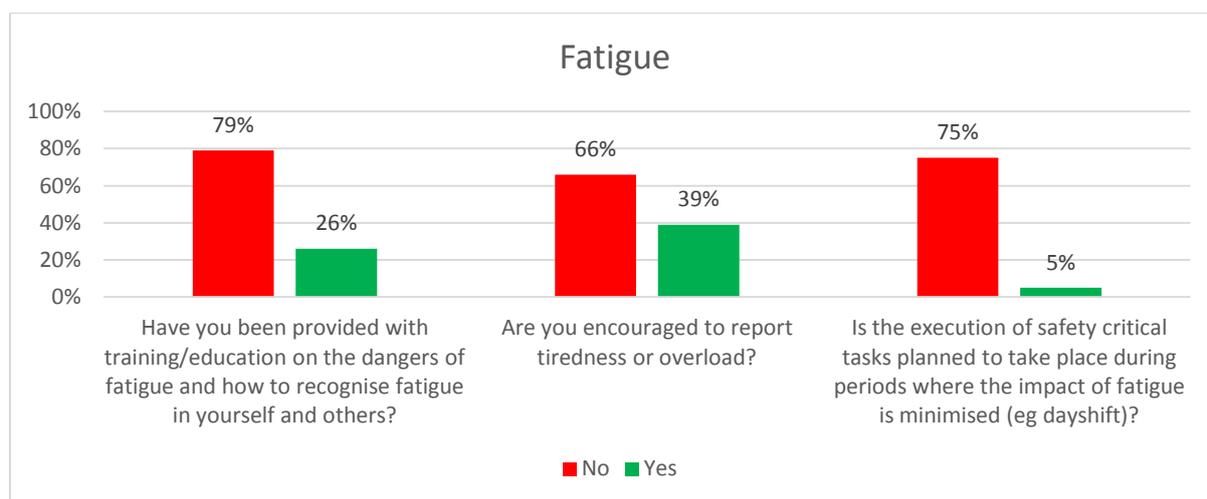
‘There is a panel in the control room of [the asset] which doesn’t sit properly, obviously it hasn’t been considered thoroughly by the engineers because it juts out so whenever you need to reach the computer screen, rather than look up and get the information you need you have to run around physically past this panel to access the screens. It’s a simple fix, just need to remove the panel, but they won’t let me!’

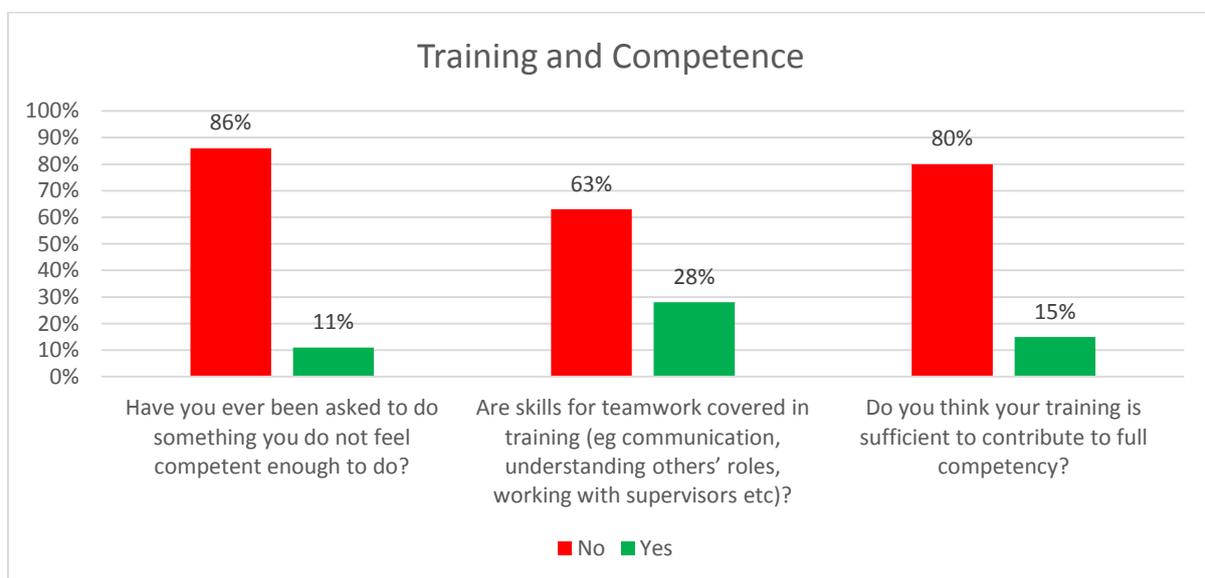
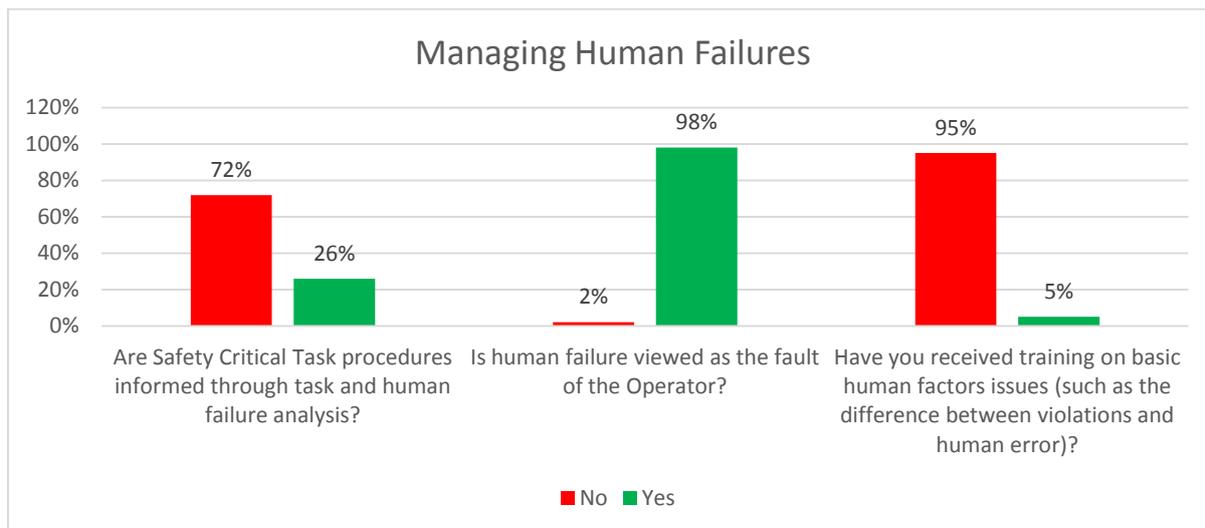
There is a perceived divide between onshore and offshore workers, with the most common complaint being that offshore do not feel listened to. The tool offers a channel of communication without compromising identities and offers a unique insight into these perceptions.

The tool itself is free for members of Step Change in Safety to use and assigns human factors Champions in each company. This champion, or champions, act as administrators for the tool and are able to view the results for the organisation. This is broken down demographically as well as a useful red/green/amber bar chart which can be exported into more malleable formats and communicated out. This process also allows these champions to target particular question sets to particular people or projects.

*Overview of Results*

Managing Human Failures, Fatigue and Training & Competence are the most popular question sets out of the sixteen available in the tool. Within this, some interesting trends have appeared across industry. For example, the first question in the Fatigue set is ‘Does your workplace have a written fatigue management policy in place?’ to which 87% answered ‘No’. This has prompted an industry-wide focus on Fatigue Management which is especially relevant given the current debate on equal-time rotas. In some cases, being asked this question has given a pertinent insight into the requirements which would need to be in place before this rota changed which could, arguably, have avoided a fatigue-related incident. The graphs below shows the main three results from these three areas.





The UK oil and gas industry is currently finding its feet in \$35 oil. As a result of Oilmageddon, the industry is becoming much more efficient which has an interesting translation in this online tool. Traffic to specific question sets has increased exponentially in the last three months and the table below shows the main areas of interest;

Question Set	% online traffic increased since November 2015
Staffing Levels and Workload	78%
Fatigue	62%
Managing Human Failures	53%
Supervision	33%
Leadership	32%
Behavioural Safety	24%
Organisational Change	12%

Whilst some of the above are unsurprising – people offshore want to further understand fatigue or staffing levels and workload if they are being asked to work more – some of this increased popularity is quite interesting. For example, there is a stronger interest in senior managers which could be an attempt to better understand their roles in managing the organisational changes associated with a low oil price. This is a trend which is echoed in other areas – more attention is being given to the competency and training of supervisors and senior leaders. This is iterated again in current industry conversations around defining the roles of a supervisor and outlining competency requirements for them. At a time of cost-cutting and streamlining, it would seem that ‘human factors’ are being used to better understand wider issues. This may not be surprising for the majority of people reading this paper with expertise in the field, however for the average worker offshore this is new territory which has not been considered as a proactive way to address issues. In this way, the human factors online tool can be seen as a way of driving efficiency and streamlining how safety is seen offshore. It is being proactive in addressing human factors, and not reacting to an incident. In this way – it is hoped to never know how useful this tool can be – it should not be considered in hindsight.

With the Government-led Energy Jobs Taskforce looking for ways to simplify the ways in which the UKCS addresses safety, it could be argued that this is a method to do so.

This presentation accompanying this paper will further analyse the data received in a more up-to-date manner for relevance.

## Conclusion

With belt-tightening being an integral part of the 2016 oil and gas industry, proactivity does not sit naturally as a priority item on the safety agenda. Therefore it has been difficult to engage with members of the industry to encourage them to utilise this free resource as time and availability dictate what actions are taken. Human Factors cannot be and should not be viewed as a problem with a ‘quick fix’ – often in industry the reaction to human factors issues is to hire a subject matter expert and contract the problem out. The beauty of this tool is that it allows any health and safety professional the opportunity to gain a better understanding of the issues as well as pointing them in the right direction to address them. This proactivity avoids the traditional ‘reactive’ nature of the oil and gas industry’s attitude towards human factors, where it is only considered as part of incident investigation. By being on the upper foot, we can only continue safely improve our performance with human factors.