



Step Change in Safety Human Factors

Steve Murphy

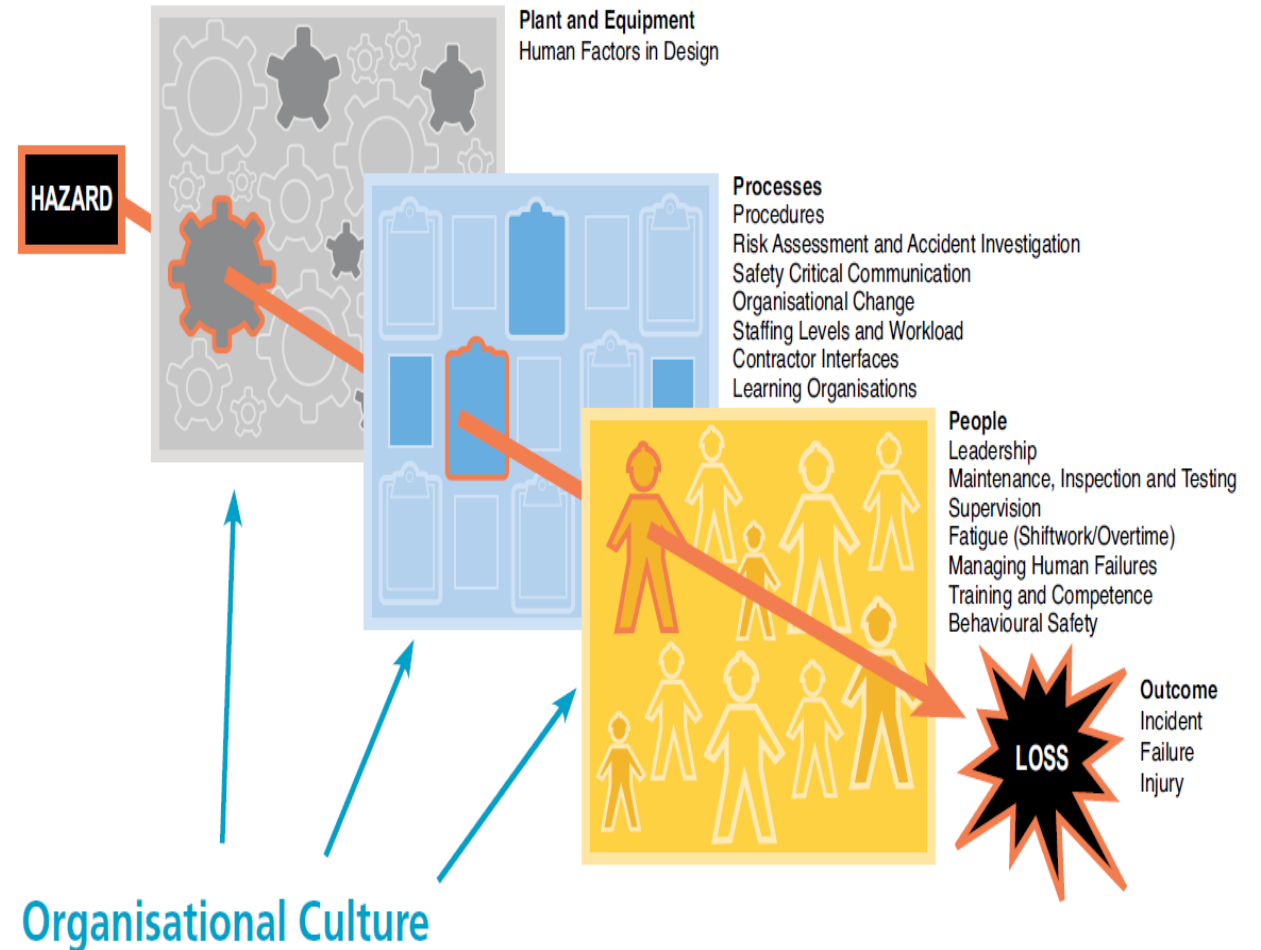
TAQA HSE

Step Change Human Factors co-chair

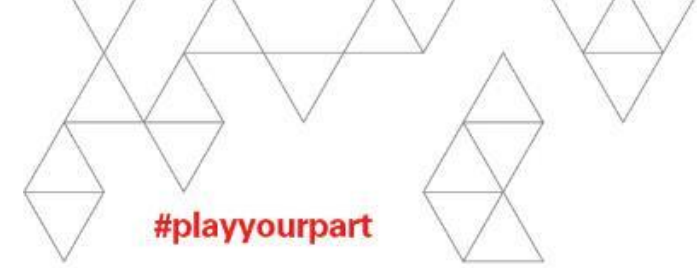
What are Human and Organisational Factors

#playyourpart

HF refers “...environmental, organisational and job factors, and human and individual characteristics which influence behaviour at work in a way which can affect health and safety.”
Human factors covers a huge range of topics which can be grouped under three key headings:



Human Factors First Steps



Human Factors: how to take the first steps

or effectively:

‘How to identify simple first steps to help manage human factors’



Human action plays a key role in incidents. Understanding of human factors and how to manage them varies widely across the industry. The document aimed to establish key concepts and a way for people to begin recognising human factor issues in their workplace.

“Human rather than technical failures now represent the greatest threat to complex and potentially hazardous systems”

James Reason, 1995

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Welcome to the
Human Factors online
assessment tool

Get Started »



Launched in
2015



16
Question sets



36
Companies



164
Worksites



7253
Offshore
responses



9116
Individual
responses

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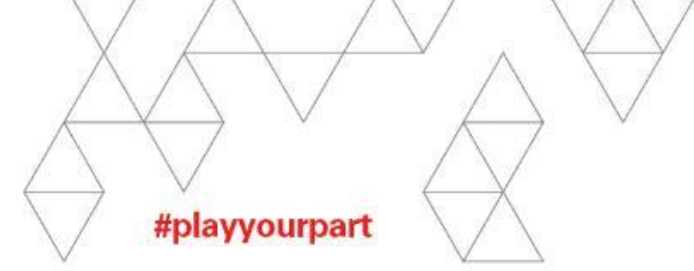
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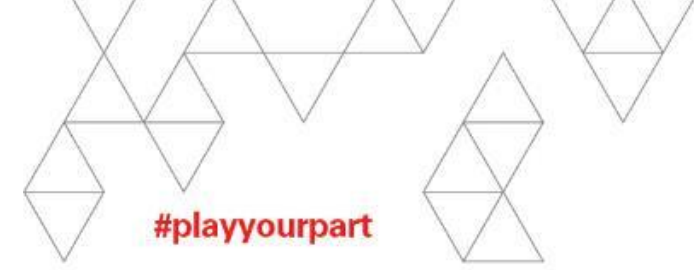
 **STEP CHANGE
IN SAFETY**

Breakfast Briefing 1



- Fatigue
- Training & Competence
- Behavioural Safety
- Supervision

Fatigue



Is fatigue considered in the risk assessments?



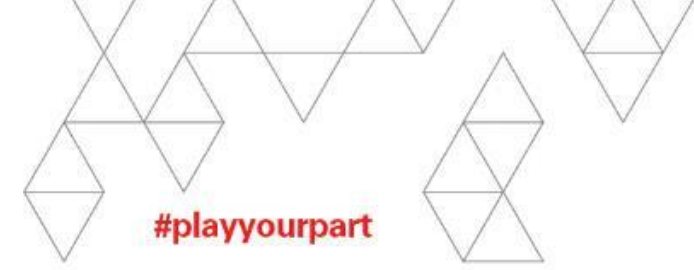
Are there sufficient rest periods allocated between shifts?



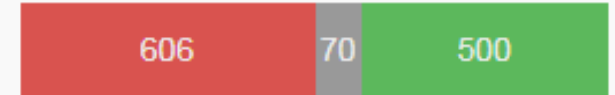
Are the asset facilities good enough to make your time off relaxing and to ensure adequate rest?



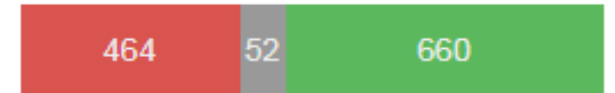
Improvement Areas



Have you been provided with training/education on the dangers of fatigue and how to recognise fatigue in yourself and others?



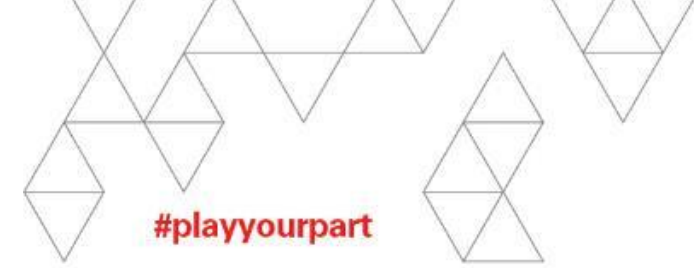
Are you encouraged to report tiredness or overload?



Is the execution of safety critical tasks planned to take place during periods where the impact of fatigue is minimised (eg when you are most alert?)



Comments



‘Normally fatigue is not an issue within the company, but during heavy workload periods such as rig moves this does become a factor and is not readily addressed.’

‘I have never been made aware of any fatigue policy offshore ever!! I have never had any training on the effects of tiredness’

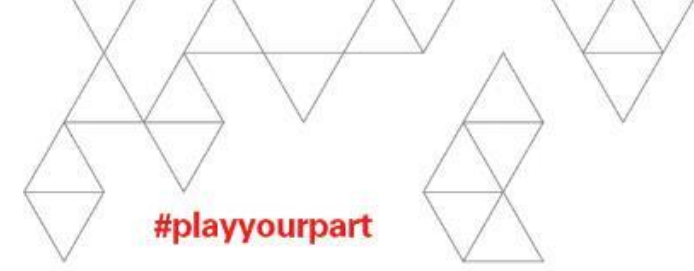
‘Although there is not a specific Fatigue policy document, fatigue is recognised as a hazard and therefore captured in our risk assessment process. Offshore are guided by the Shift pattern guidance from step change. Onshore has HR policies on working hours etc but not specifically fatigue’

Breakfast Briefing 2



- Risk Assessment
- Procedures
- Maintenance, Inspection, Testing
- Managing Human Failures

Procedures



Are procedures checked and authorised by appropriate technical experts and supervisors?



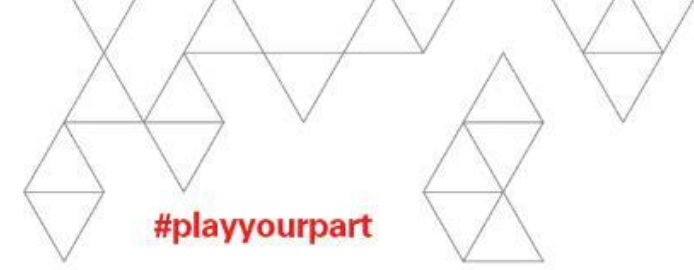
Is it clear within the procedures/work instructions you use who does what and when?



Do you understand what could go wrong if these procedures are not followed?



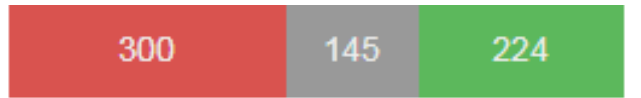
Improvement areas



Have you received training in how to write good procedures?



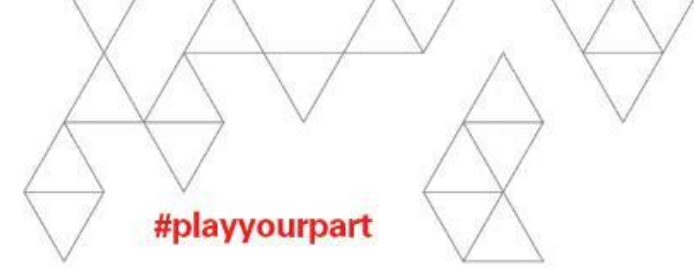
Have you found the process for updating procedures quick and simple?



It is always possible to follow these procedures?



Comments

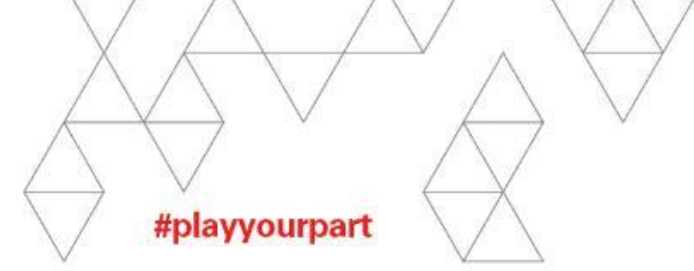


‘The quality of procedure is different from one engineer to the next, there tends to be no standard!!!
The general standard is very good but on some occasions very bad and usually the same engineers.’

‘Our procedures are rubbish and getting worse.’

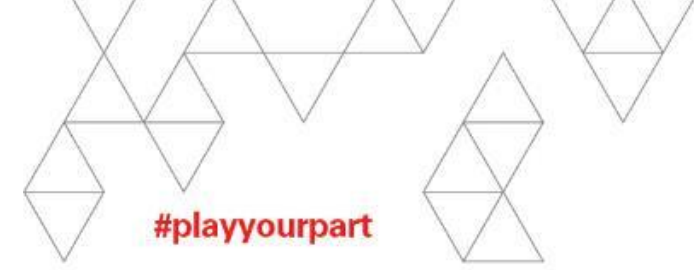
‘Procedures often too long winded, should be short sharp and to the point otherwise people won't read them.’

Breakfast Briefing 3



- Safety Critical Communications
- HF In Design
- Staffing Levels and Workload

Staffing Levels and Workload



Is sufficient time allocated within the working day to conduct safe work planning (eg risk assessments, HAZOPS etc)?



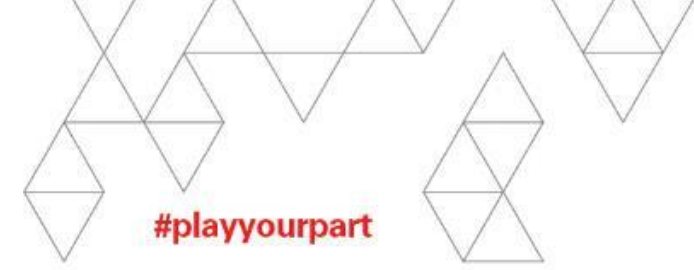
Is your workload reassessed when significant changes are made to your job?



Do you consider your workload to be reasonable (not too high or too low)?



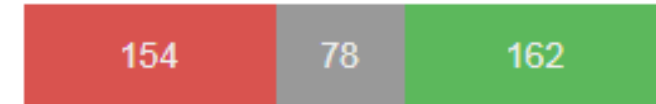
Improvement Areas



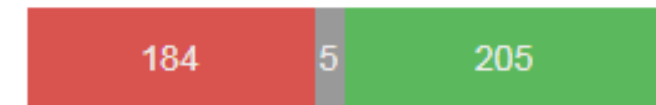
Do you think that the organisation has a good understanding of the staffing levels and mix of skills required to operate safely?



Does your organisation look for trends in performance to identify staffing shortages and individual work overload?



Is the quality of your work affected by the amount you have to do, and the time you are given to complete it?



Comments



Manning levels are often underestimated by the organisation. [Group of 10]

There is constantly a compromise between quality and time. I ensure any work done is completed to an acceptable quality, there is often the quality could be improved with more time taken.

For me safety of personnel has to be a priority and this should never be compromised. However when it can take up to 3 hours to fill out the permit paperwork for a job that will take 10 minutes I cannot help but feel that we have gone too far. The whole safety process needs streamlining, one form to fill out not the multiple pages that are currently in place. The continual increase in Admin burden for ALL personnel is distracting everyone from what we should actually be doing.

Breakfast Briefing 4



- Incident Investigation
- Contractor Interfaces
- Learning Organisation

- Leadership - January 2020



Reports

Demographics

Assessments



Work Site

Onshore/Offshore

Job Level

Subject

Date Range

21/01/2014 to 21/01/2015

Work Sites



London The Exchange 2 WGPSN Trial

Onshore / Offshore



Onshore

Job Levels



Other Senior Manager Site Leader Supervisor / Foreman Worker

Subjects



Toolbox Talks Tuesday 18th November WGPSN

Participation



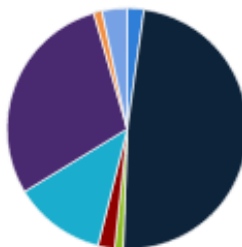
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Areas

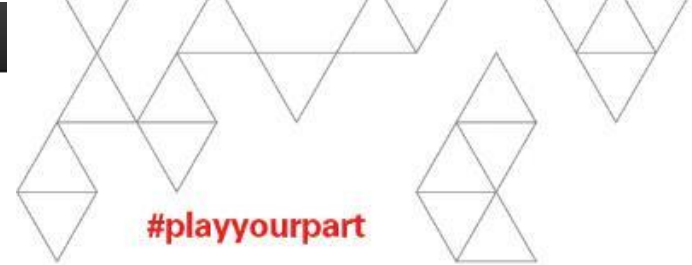


People Plant & Equipment Process

Assessments



Contractor Interfaces Fatigue Human Factors in Design Procedures 1/2



#playyourpart



Forum for the HSE



Inspection Findings: Human Factors in Risk Assessment



- Overreliance on external expertise – Intelligent customer capability
- One off, poorly integrated in MAH risk assessment – resource intensive, not revisited, think about the process
- Tasks not sufficiently broken down or guidewords not systematically applied
- HRA on “high” criticality operational task only – Review medium criticality tasks, and a range of tasks (e.g. maintenance, drilling, marine, emergency response)
- Hierarchy of control not applied – Do not restrict recommendations to more/better procedures, training and competence

SAFETY MOMENT

People will put up with what they're given...



Disclaimer: this safety moment is designed to prevent similar incidents occurring. All guidance herein is provided in good faith and Step Change in Safety nor its member companies accept responsibility for any inaccuracies or omissions contained within this safety moment.

Working together to continuously
improve our safety performance

#playyourpart

 **STEP CHANGE
IN SAFETY**

SAFETY MOMENT

What happened?

- A driller was operating a top drive drilling unit. The design of which required him to use all four limbs.
- There was a stand of drill pipe clamped in the slips, and the top drive was raised and held on the brake.
- The driller saw a roughneck step into a hazardous area of the rig floor and reached for the microphone to tell the roughneck to step back.

What could go wrong?

SAFETY MOMENT

What went wrong?

- As he reached for the microphone, he slightly released pressure on the brake
- The top drive descended, bending the drill pipe which fortunately did not spring out
- A 27kg pipe-guide fell 90 feet to the floor, narrowly avoiding the roughneck



Working together to continuously
improve our safety performance

#playyourpart

 **STEP CHANGE
IN SAFETY**

SAFETY MOMENT

Why did things go wrong?

- To communicate, the driller had to lean towards the microphone, use his left knee to operate the talk-back system, use his right foot on the manual brake, whilst still trying to maintain control of the top-drive using both hands
- The brake system design was counter-intuitive and known to be difficult to operate
- Over time, more equipment was added and controls were placed wherever they could fit without considering how they would be operated



SAFETY MOMENT

Barriers which failed resulting in this incident

- **Equipment design:** inadequate initial design – unsafe/inefficient operations leading to creeping changes
- **Management of incremental change:** design, procedures, competence, unintended consequences. Were safety and human factors sufficiently considered during this change?
- **Recognising risk and raising concerns:** routine task although system was known to be difficult to operate. ‘Can do’ attitude - driller nor observers raised concerns

Everyone has the ability to manage at least one of these barriers

SAFETY MOMENT

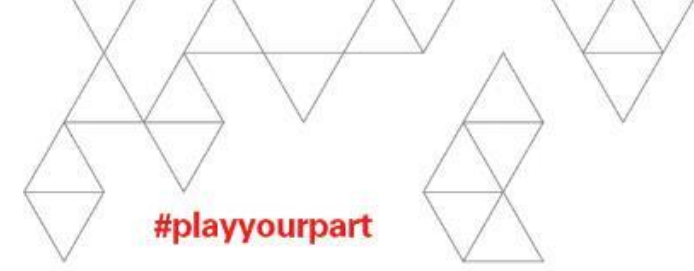
What can we learn from this?

- Any change can have consequences. Consider if changes in your workplace have impacted safe working
- Speak up if equipment or processes are difficult to use. Identify workarounds and don't accept them
- Routine tasks can still be hazardous and people become normalised to risks. Challenge yourself and others

What will you discuss in your teams to address these issues?

DISCUSS

Plan for 2020



- Release full report from tool
- New Website
- More Breakfast Briefings -
Leadership - January 2020
- What do you want?