

Crew Resource Management Training

Maximize human factors to deliver enduring performance behaviors



*"[Human factors] is very much behavioural based and focused on how our thoughts and actions can affect given scenarios."
Donald Millar,
Rig manager, Seadrill*



Importance of human factors in offshore operations

The human dimension is not only pivotal in the optimal performance of a crew, it is also central to the ability to prevent and recover from incidents. IOGP reports 501 and 502 have identified the importance of crew resource management focused training for offshore operations. In accordance with the IOGP, our customers are agreeing that mandatory technical training is not enough.

The imbalance of technical skills compared to non-technical (people)

skills affects every aspect of offshore operations. Aside from the skills gap that potentially exists, it is also vital to acknowledge that humans can only keep focus for limited periods, our memory capacity is finite, critical information is overlooked when making decisions and judgements are affected by entrenched biases. To deliver optimal performance, individuals, teams, and leaders must be aware of separate and collective limitations so approaches are adjusted with human factors in mind.

Ultimately, faced with a challenging market place, companies that maximize performance of their crews by incorporating human factors based training deliver a real competitive advantage. When implementing these concepts, our customers experience improvements across their organization including leadership, communication, and better teamwork – leading to enhanced safety and operational efficiency.



IOGP Definitions of Non-Technical Skills/Human Factors:

1. SITUATION AWARENESS

Developing and maintaining a dynamic awareness of the situation and risks present during operations, based on gathering information from multiple sources from the task environment, understanding what the information means and using it to think ahead about what may happen next.

2. DECISION MAKING

Skills for diagnosing the situation and reaching a judgement in order to choose an appropriate course of action.

3. TEAMWORK

Skills for working in a group, in any role, to ensure joint task completion, these include co-ordination, co-operation and conflict resolution.

4. COMMUNICATION

Skills for the exchange (transmission and reception) of information, ideas and feelings, by verbal (spoken, written) or non-verbal methods.

5. LEADERSHIP

Skills for directing, managing, and supporting a team in order to accomplish tasks for set targets.

6. PERFORMANCE SHAPING FACTORS – STRESS AND FATIGUE

Factors that affect the ability of people to perform reliably; including stress, fatigue, health, distractions, and environmental stressors. They can arise from personal sources or external factors.



The foundation for human factors courses

IOPG 501 recommends major topics should be covered once every two to three years, preferably in conjunction with a simulator for exercises and skills debriefing. It also recommends the optimal class size as ten to twelve students. The objective is to teach transferable non-technical skills which can be used with any team.

CLASSROOM TRAINING

Initially, courses begin in the classroom, with a significant focus on human factors over the first two days. A first step is to ensure that each team gains a greater understanding of human limitations including issues associated with perception, attention, memory and cognitive biases. Students

may sometimes have initial skepticism of human factors inclusion, but they soon see the potential negative impact of human limitations, including our subconscious irrationality.

SIMULATOR SESSIONS

Each day there is also an exercise in the advanced simulator, often lasting several hours. The simulator provides a high-fidelity environment that closely replicates the offshore setting. This setup provides a fully immersive environment for the crew to practice non-technical skills learned in the classroom. Throughout the session, the participants are under visual and auditory observation from instructors in the control room. The instructors,

both technical and human-factors, monitor the unfolding scenario to identify good behaviors and areas for improvement.

DEBRIEF

Each session ends with a team debrief. Participants are encouraged to identify which aspects of the exercise went well and which could have been better. Input is also provided from the instructors and one-to-one coaching can also be incorporated. The goal here is to embed reflection and continuous improvement, with the inclusion of human factors, into offshore operations.



“Even with competence you can get into a problem – but you are better prepared to solve it.”
Bjørn Risvik,
Project Leader Drilling, Statoil

A benchmark training program

Crew resource management is in our DNA

Although non-technical skills have only recently become a focus in the oil and gas industry, Maersk Training has extensive experience with CRM training for over twenty years. We train personnel from various industries to handle dynamically escalating situations, emphasizing the need to apply human factors principles in real life situations. The purpose of implementing non-technical skills is to reduce the risk of accidents. Through theory presentations, practical

case studies, group discussions, and supervised simulator training, we address how human factors affect safe and efficient operations.

Simulator training reinforces theories and makes the concepts learned easily transferable to daily operations. The participants are provided with tools to improve teamwork, leadership, communication, decision-making, and situation awareness.

Training incorporating non-technical skills typically spans five days and combines classroom theory and exercises with a number of sessions in the simulator. This mix of training delivery methods takes account of different individual learning styles and incorporates a feedback loop through debrief and coaching.

Incorporating crew resource management training across disciplines

Maersk Training offers multiple courses and programs that include human factors principles

OIL/GAS

- IWCF Enhanced Well Control
- IADC Enhanced Well Control
- Integrated Crew Optimization
- Team Based Well Control
- Managed Pressure Drilling

MARITIME

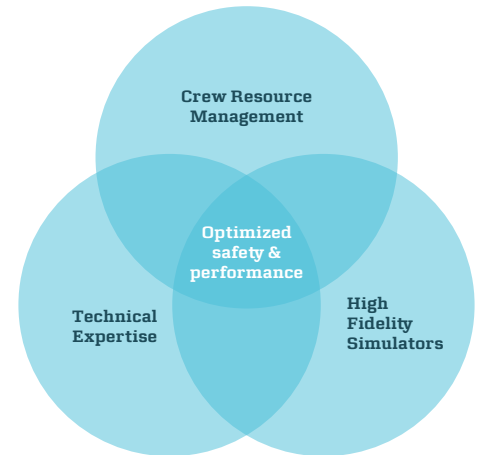
- Bridge Resource Management
- Engine Room Resource Management
- Integrated Bridge & Engine Room Optimization

MAJOR EMERGENCY MANAGEMENT

- Initial Response
- Controlling emergencies

CREW RESOURCE MANAGEMENT OPTIMIZATION

- Onboard Coaching & Mentoring
- Crew Development Training
- Motivating Performance Feedback
- Personal & Professional Development / Assessment
- Cross Cultural Awareness
- Difficult Conversations & Conflict Management
- Situational Leadership
- Safety Leadership



The value of combining Crew Resource Management, Technical expertise and High Fidelity Simulators

Tangible & universal benefits

Sharpen technical abilities by enhancing non-technical skills

The goal from a human factors perspective is not only increased understanding of crew resource management, but also concrete behavior change of individuals, and collectively to the functionality of the team.

- Enhance decision-making skills & increase understanding of decision biases
- Improve use of personal and team resources to reduce overload and improve planning
- Improve team member assertiveness & encourage sharing of ideas and concerns
- Improve quality of communication within and across rig disciplines
- Recognize deterioration of cognitive and interpersonal skills in self and others
- Enhance ability of supervisors to manage in highly stressful environments
- Develop non-technical skills that can be universally applied to any situation
- Deliver tools necessary for crews to assess and critique individual performance

TOP

ACT

- Comms. TO:

- Everyone involved
- Mudloggers

... people/ manage/ schedule

... responsibilities

... monitoring the situation
... data

... ACT:

REVIEW

"...the importance of psychological factors relating to perception and motivation was noted by well control specialists twenty years ago." IOGP Report No. 501

- Think





Maersk Training A/S
Dyrekredsen 4
5700 Svendborg
Denmark

Telephone: +45 70 26 32 83
commercial@maersktraining.com
www.maersktraining.com