

Newsletter October 2016

RISKOP – Managing Risk in Offshore Operations

The Crisis and Safety: What lies ahead?



Photo: Jan Roald Jonassen



STORD/HAUGESUND UNIVERSITY COLLEGE



PETRO MARITIME RESEARCH TEAM
HSH, HAUGESUND

The RISKOP project studies how risk is identified and managed in order to increase safety in offshore operations. This knowledge will be converted to or integrated into teaching programs at HSH and University Nord, our partners and SIMSEA. The project is running for a period of four years from June 2013 and is financed by the Norwegian Research Council, Lundin Norway, Odfjell Drilling, Knutsen OAS, Solstad Offshore, Østensjø Rederi, Eidesvik Offshore, Farstad Shipping, Deep Ocean and Westcon Løfteteknikk. The project includes SINTEF, Uni Research Polytec, SIMSEA and Kongsberg Maritime as research partners and a resource group of the professors: Helen Sampson, SIRC at University of Cardiff, Rhona Flin, University of Aberdeen, both UK, Erik Hollnagel, University of Southern Denmark, Ole Andreas Engen, University of Stavanger, Norway, Silvia Jordan, University of Innsbruck and Richard Bagozzi, University of Michigan, USA.

The project is organized in three work packages; the first is studying risk management in anchor handling, rig move and lifting operations offshore. The second work package is studying work relations, leadership and the participants' evaluation of operational results. The third work package group, studies bridge officers' risk perception, risk identification, and the non-technical skills of bridge officers (the cognitive, social and personal resource skills that complement technical skills).

The RISKOP team: Jan R. Jonassen (Project leader), Lene Jørgensen, Idar A. Johannessen, Bjarne Vandeskog, John Ferkingstad, Chunyan Xie, Guro Persdotter Fjeld, Helle Oltedal, (all from Stord/Haugesund University College) Kari Skarholt, Gunnar Lamvik (from SINTEF) and Gunnar Birkeland (UniResearch Polytec). Contributors to this newsletter: Guro Persdotter Fjeld, Bjarne Vandeskog and Jan R. Jonassen.

Reduced trust and lack of collaboration can hurt safety offshore

This is one of the conclusions presented at a Partner meeting of the RISKOP project September 21 at Stord/Haugesund University College, Haugesund, Norway. The basis for the conclusion was an academic article written by Professor Jan R. Jonassen in collaboration with researchers from SINTEF research institute and NTNU University. The article was presented and published at the ESREL (European Safety and Reliability) conference, Strathclyde University, Glasgow on September 26, 2016: <https://brage.bibsys.no/xmlui/handle/11250/2413279>

Skarholt, K., Lamvik, G., Antonsen, S., Røyrvik, J. and Jonassen, J.R. (2016), Economic crisis in the Norwegian offshore industry: How may it affect safety conditions in offshore operations? In Walls, J., Revie, M. and Bedford, T.: Risk, Reliability and Safety, Innovating Theory and Practice, CRC Press/Balkema, Leiden, The Netherlands. ISBN: 978-1-138-02997-2.

What are the oil companies doing and how are suppliers responding?

The oil companies tackle the drop in oil price by implementing several actions towards their suppliers, Professor Jonassen says:



- Operators are pressing the contract risks down the supplier chain.
- The focus is now on control; costs, documentation, crew, vessels and equipment.
- Trust and openness between companies, teams, and individuals are threatened, as it is pivotal for the upkeep of safety.
- Measuring time in anchor handling operations has been implemented again.
- Uncoordinated and coincidental inspections are potential dangers for running operations and should be coordinated.
- The oil business have few standards on equipment and parts enabling considerable cost reductions which would have contributed to the upkeep of competence and safety.
- There is no room for provisos in the contracts anymore, not even for uncontrollable factors such as bad weather.



Preparing for «Scale Squeeze» - chemical pipe cleansing.
Photo: Jan Roald Jonassen



The entrance to the hangar.
onboard a subsea vessel. Photo: Jan Roald Jonassen



ROV Remotely Operated Vehicle.
Photo: Jan Roald Jonassen

- Shorter contracts with an increased demand on documentation.
- Driving forces in the market is changing from collaboration and partnership to sole responsibility for the suppliers and resulting in what some respondents call “cannibalism”.

However there are positive effects of the crisis; Cost reduction, increased productivity, distribution of competence to other parts of maritime business and potential simplification of management systems. Statoil as the major operator has made a considerable effort to reduce their costs both in running operations (20 %) and in engineering of new field plans (40 %) in order to handle lower oilprice.



Preparing for subsea operation.
Photo: Jan Roald Jonassen

How will these measures affect safety?

We can see several actual areas where safety may be considerably affected, for example:

- Administrative and contractual consequences of incident reporting (punishment, vessels taken off hire, captain in endless meetings/“trials”) may lead to loss of trust, fear and less reporting.
- Companies claim that safety will be upheld, but we wonder if control authorities will accept minor changes which over time in total could reduce the safety standard.
- Shorter contracts and more temporary crew hire may lead to protection of individual competence and less knowledge sharing between crewmembers.
- Reduced trust may result in reduced openness.
- Reduced openness may lead to less reporting of incidents and near incidents, less learning, and a negative impact on the work quality.

- The oil companies are firm on breach of safety standards; which may lead to termination of contracts but how will this affect the reporting of future incidents and near incidents?

Hugo Halvorsen representative from SfS, (Samarbeid for Sikkerhet) Cooperation for Safety, reflected on the theme “How to keep, and further develop trust and safety in times of increasing pressure on cost and resources? Halvorsen claims that leaders in the offshore and maritime domains seem genuinely interested in keeping their organizations safe, despite the current crisis in the industry. However, he points to the challenge of acting on good intentions – and on involving all parts of the organization from leadership to operators at the ground floor.

According to Halvorsen, the key points in meeting the current challenges relate to 1) leadership, 2) the retention of good competencies, 3) continual innovation, and 4) being a learning organization.

When it comes to leadership, the importance of real involvement and communication with the “sharp end” is upheld. A continuous – and authentic focus of the importance of safety and HSEQ is a vital part of this process. One side of this development is involving all parts of the organization in the effort, for example

by engaging in discussions about the real dilemmas concerning the tensions between cost-effectiveness and maintaining safe practice.

The retention of competencies is also an important point. In times of downsizing and penny pinching, organizations should attempt to find the balance between cutting costs and keeping essential competencies. In addition to preserving the key competencies in each department, it is important to ensure continuous competence development for the personnel (as a whole, as well as each individual) remaining in the organization.

Continuous innovation is important, as well and many organizations believe this to be essential. However, actually daring to explore new possibilities and practices is a challenge in an insecure market. Halvorsen encourages organizations to put a real and concrete effort into daring to innovate, and to identify new solutions that can contribute to both lower costs and safer practice.

Experiences drawn from successes, as well as failures should be used as a basis for learning. It is important to establish structures that enable and facilitate learning at all levels of the organizations, as well as in the broader domain.

The operator perspective - Statoil

Bjørn Ø. Holst, Chief Operating Officer – Corporate Safety & Security, represented Statoil at the meeting. He energetically presented the balance of managing a system with thousands of suppliers in a time dominated by major cost reductions and restructuring.

Statoil currently focuses on four main strategic initiatives. **1) Compliance and leadership.** In this, there is a sense of desired practicality and pragmatism.



One example of this is that Statoil seeks to make their procedures shorter and more relevant - without losing any of the important content that lies in these.

2) Risk awareness. 3) Efficient barriers. This entails a focus on both the technical and non-technical aspects of risk and safety and **4) Improve relationships with suppliers.** This final point requires Statoil to continue to be dependent on their suppliers, and continue to work to improve these relationships and operational cooperation. Holst points out that a main goal for the four strategic initiatives is to focus on real efforts and real consequences.

He encouraged as well the societal responsibility Statoil has as a partially owned public company. Statoil does not benefit from a situation where suppliers are losing money in the end. He is preoccupied with the value for Statoil to learn from their suppliers and keep the door open for input and suggestions.

How is safety maintained, by proactive and preventive measures, when radical cost-cutting is implemented?

This discussion opened up many issues. Among these was the problem of how to simplify and standardise quality assurance and safety management procedures, in order to focus on the kinds of accidents that really matter, i.e. serious personal injury, fatal accidents and large scale disasters.



Hugo Halvorsen from SfS (Cooperation for Safety) pointed out that safety management systems that focus on the small, and relatively insignificant, personal injuries undermine the legitimacy of the safety management systems as a whole.

One of the shipping delegates commented that a serious stumbling block for this kind of change is that a reporting system that does not gather information about small scale accidents may not gather enough data to identify trends, and thus cannot be used to compare differences in safety practices between different actors, vessels, shipping companies etc.

One of the HSEQ directors conveyed that they have recently streamlined their procedures and have produced a safety management system that their employees actively use (one pager A-5 plastic laminated). Maintaining a simple, yet efficacious system is a continuous challenge as clients regularly demand that new elements should be added to the existing system. His shipping company now challenges these demands by demonstrating how the new demands are already met within the existing system. The discussion then turned to whether sub-contracts with a shorter duration could also lead to shorter contracts for employees, and if this could influence safety negatively.

A related question was how the industry can maintain high levels of competency among employees?

One of the offshore companies informed us about their change from a 1:1 shift system to a 1:2 system which has been implemented to maintain crew competency. When they had to lay up ships they wanted to avoid losing the crews and their competence. By changing from two to three shifts, on the vessels still under contract, they have avoided letting anyone go.

Employees including labour unions accepted the new temporary system and a 39 % reduction in salary. Consequently, when they manage to secure new contracts for their laid up ships they have all the crew members they need, ready and on hand, and can mobilise a laid up ship in only four days. The crew can then return to their previous schedule and salary.



What can Statoil do to prevent a decay of safety offshore?

“This is a job we have to do together with our suppliers”, Holst, Statoil, said summing up his impressions of the meeting, “we are not able to manage the situation without you”; he said to the participants and furthered; “I have learnt a lot in dialog with you during this meeting, which I will bring to the top leadership. *I will bring with me some commitments for further evaluation and development within the company:*

- The system of incident reporting (with a view to simplify and increase focus on incidents with a serious potential and major accident focus).
- Standardization of contract formats and reduction of documentation volume (need for simplification, especially by short contracts).
- Operators have to be more receptive to the knowledge and recommendations of suppliers regarding cost effective and sustainable logistical systems.
- Simplification of bridging documents.
- Approved international certification must be basis for reduced operator verifications and documentation requirements.

Trust & Safety

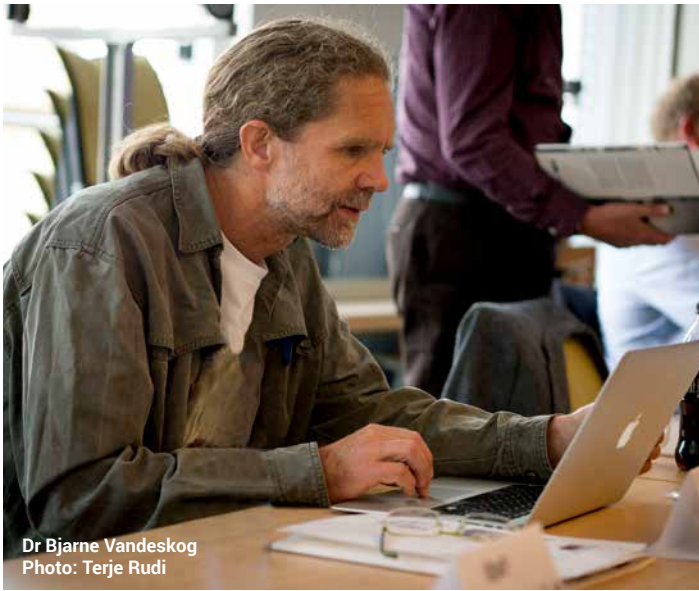
To round up the conference, researcher Dr Bjarne Vandeskog presented his research on the micro-dynamics of trust in relationships between PSV (Platform Supply Vessels) crews and crews on offshore installations.

The mainstay of his message was that cooperation is the key to effective and safe cargo delivery operations, and trust between vessel and installation is crucial to achieve it. Both crews share the overarching aim to keep the installation operating, but installations and vessels have different sub-interests at heart when trying to do so. Sometimes these interests are in conflict, e.g. when a vessel needs to leave an

installation that is not ready to receive it, in order to keep its schedule with other installations. Vandeskog also pointed out that there is an inequality of power between vessels and installations, with vessels as “servants” and installations as “masters”.

During lifting operations it is also necessary for operators to maintain a “healthy” level of “distrust”





Dr Bjarne Vandeskog
Photo: Terje Rudi

of each other so that one constantly monitors that the other is not doing something unsafe. In addition to this, operators on both vessels and installations engage in “othering” discourses where they portray the crews they need to cooperate with, as less competent and with slacker moral than themselves.

These four structural elements (conflicting interests, unequal distribution of power, the need to question competence and “othering” discourses) all pull in the direction of undermining trust in the relationship. At the same time, other mechanisms contribute to increase trust; e.g. every time they collectively agree on terminating an operation because the weather was too bad, every time a crane operator who has previously worked as a sailor acknowledges that he recognises and appreciates the working situation of the AB’s and similar experiences of looking out for each other. The problem is that there are far more structural generators of distrust than the opposite. Previously PSV and installation crews regularly participated in co-training workshops where they learned about each other. Part of these workshops took place in simulators where they would swap jobs, crane operators working on the PSV and sailors operating the crane.



Anchor handling.
Photo: Jan Roald Jonassen

All the informants we spoke with who had participated in such workshops, or had had similar experiences where they learned about the work-situations of the people on the other end, wanted more of the same in order to give the trust in the relationships better conditions to grow.



The bridge on an anchor handler. Photo: Jan Roald Jonassen

Further plans for the RISKOP team:

- Completion of a major survey towards crews on board multipurpose vessels on job performance and daily management support
- Define and examine important non-technical skills used by bridge officers for performing safe and effective operations.
- Complete the article «Risk, trust and othering in the offshore cargo supply chain».
- Complete an article on stimulus case interview methodology.
- Complete report on management and performance of subsea operations and report on risk, safety, and management of anchor handling operations.
- In cooperation with our partners, we will develop better ways of familiarizing the crew for risky operations.

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Photo: Jan Roald Jonassen