CASE STUDY

Tullow Oil Enhances Safety and Improves Risk Management With RiskPoynt

Company

Tullow Oil

London

Oil & Gas

Challenges

- How do personnel changes impact their overall cumulative risk profile?
- Are they safe to operate after the impact of personnel changes?
- How can they visualize all aspects of their risk profile?

Results

- Increased ability to pinpoint personnel competency deficits effect on safety
- Increased compliance with IOGP standards from improved risk management process
- Enhanced ability to identify safety threats
- Reduced cost of reporting

Tullow Oil Enhances Safety and Improves Risk Management With RiskPoynt

ABOUT TULLOW OIL

Tullow Oil is headquartered in London, operates in 22 countries with 68 producing fields, and produces 73,400 BOEPD.

Within the Ghana region, Tullow operates 2 main production fields in the Gulf of Guinea's Tano Basin - Jubilee and TEN fields. The fields are deep water between 1,000 and 2,000 meters. Both fields operate with floating production storage and offloading vessel (FPSO). The TEN project umbilical's (which connect the FPSO to the subsea equipment) have a total combined length of over 60 km. Produced Oil is then sent to shore by offloading tankers.

Tullow are live with a cloud-deployed instance of RiskPoynt; which is used daily, weekly, fortnightly, monthly and yearly for reviews, discussions, audits and formal reporting. Tullow also uses a control instance of RiskPoynt for "what-if" scenarios to help anticipate potential risk elevating scenarios. Using open integration, the teams feed into RiskPoynt the following:

- Asset Information with cross reference to their DCS tag references
- Work order Information from AMOS and Maximo
- Safety Critical Backlog – used to impact the performance of the related barriers
- Bow Tie References
- Reliability Information

In addition, Tullow takes full advantage of the RiskPoynt area breakdown of the respective FPSOs. Tullow has Jubilee FPSO split into 55 areas and 75 areas for TEN – Main deck, Flare Tower, Gas Process, Crude Separator, etc. Each area is able to be analyzed separately, providing a specific barrier health display for each individual section or processing unit. Also, each area is set up with an associated schematic drawing which the engineer can plot the risk record over the top of, thus creating a risk heat map for both initial and residual risk.

CHALLENGES

The FPSO on Jubilee is an aged vessel compared with the TEN FPSO - which was built and commissioned in Singapore and shipped to Ghana in June 2016. In both cases, RiskPoynt is providing the necessary visualizations on the integrity health level of each respective installation. However, the addition of a second vessel has stretched the utilization of competent personnel, as the resource-heavy initial start-up phase for TEN has begun.

For Jubilee, additional analysis was required around the impact of personnel changes which have accompanied the changes in operation. Changes in personnel have led to changes in competencies. How does this impact Jubilee's overall cumulative risk profile? Are they safe to operate?

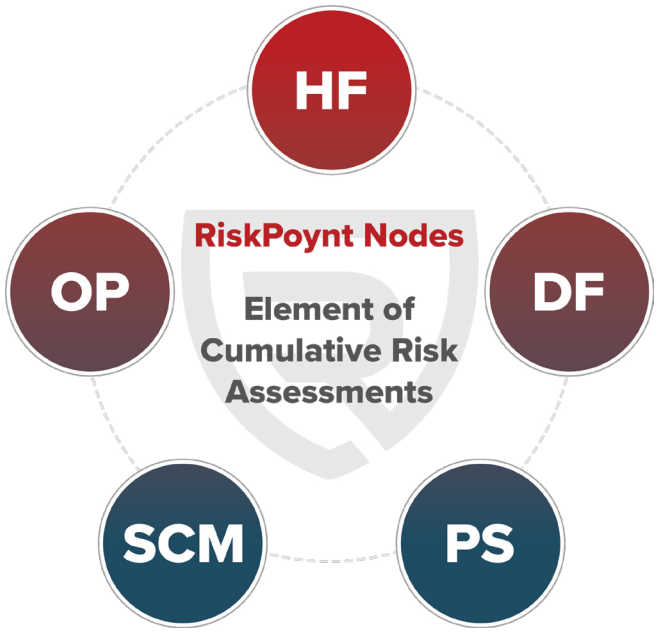
SOLUTIONS

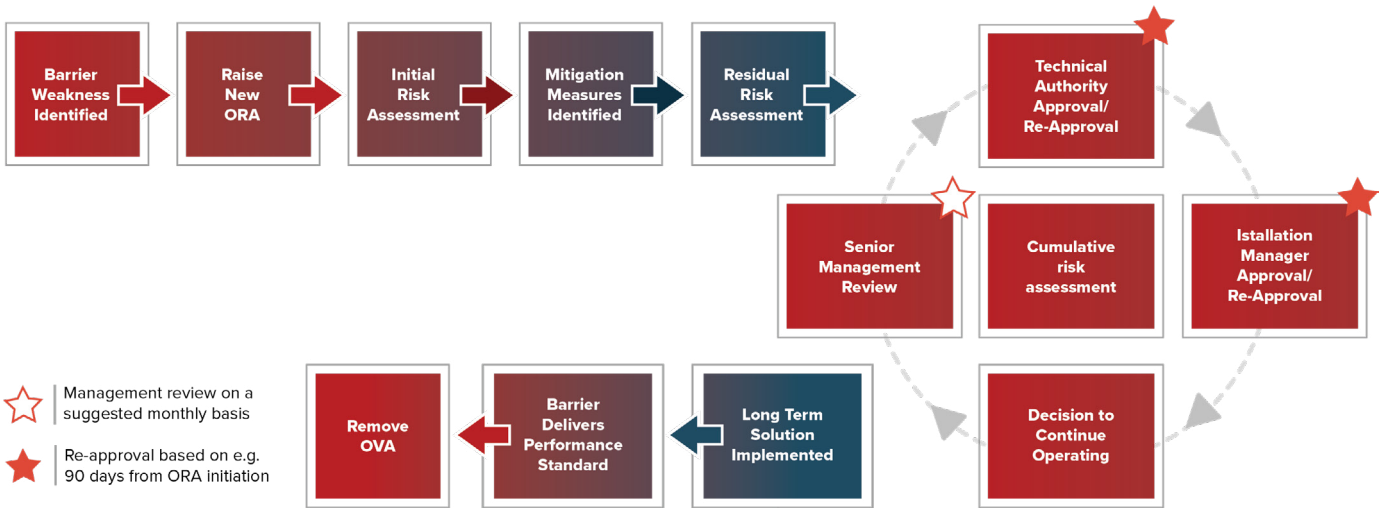
These personnel impacts were entered as risk assessment records into RiskPoynt, merged in with the current impact of operational risk and work order backlog, and effectively provided a controlled visualization of what the cumulative health of the barriers would be in the months ahead. Using RiskPoynt, the management team could clearly identify where competency issues would expose the business to higher risk. This re-enforced RiskPoynt's ability to:

- Identify interrelated failures
- Create a greater understanding of the risk
- Display a highly visual overview that is easy to understand
- Communicate effectively to all levels of the organization

PROCESS

Jubilee followed the standard risk assessment process, used via RiskPoynt, by initially identifying which barriers the lowered competency levels would weaken, and then applying these records to the “HF - Human Factor” nodes of the appropriate barrier within RiskPoynt.
For Tullow Oil, the process starts with the platform – integrity-related issues are identified – and discussed at installation management meetings. Here the assessment is made initially using performance standards, identified interrelated failures and understanding of the risk. Interim control measures are then agreed. Mitigation control measures are documented through the operations risk assessment process which outlines the management of mitigation measures applied.





Onshore Support and technical authorities further discuss the issue. Discussion ranges around the deepening of the understanding of the issue including challenges for continued operation, clarification of standards and agreement that the control mitigation measures are adequate and appropriate to reach ALARP.

Once risk and mitigation measures have been fully understood and applied, the result is communicated across the organization via RiskPoynt’s dashboard visualization. The use of the cumulative risk profile to explain and illustrate is an effective way of demonstrating the integrity status of the installation.

Consequently, management discussion and engagement with the installation are brought into focus with clear visibility on status of asset integrity due to competency deficiencies - along with open discussion, better decision making and effective interventions leading to long-term solutions.

BENEFITS

Immediate

- Increased ability to pinpoint personnel competency deficits effect on safety
- Improved analysis of Asset Safety Cases with barrier models and bow tie visualization
- Increased compliance with IOGP standards from improved risk management process
- Improved ability to perform and validate “What if” scenarios
- Increased discussion around factors affecting safe operation
- Enhanced visibility of Operational Risk exposure to senior management

Ongoing

- Reduced cost of reporting
- Enhanced ability to identify safety threats
- Reduced loss of production
- Improved detection of interdependencies

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