

FPSO Slop Water Flowbacks: KLEEN FLUX™

membrane technology used to treat 137,000bbls for discharge in GoM with no carbon



BACKGROUND

Remote locations, ultra-deepwater operations and costly infrastructure continue to make viable the use of FPSOs as oil & gas production facilities.

FPSOs allow operators to store a large amount of “slop water” in vessel tankage. In some cases, this water is stored for months or years. Inevitably, however the point is reached when this “slop water” must be managed. Historically, the options have been to transport this water to the shore for disposal or utilize consumable medias to treat the water for on-site discharge. Additionally, logistical constraints limit the feasibility of traditional consumable technologies.

SITUATION

An FPSO operator in the Gulf of Mexico contracted Baleen Process Solutions to process and discharge a significant amount of slop water fluids, some of which had been onboard for years. Baleen Process Solutions advised the operator of a solution centered on its KLEEN FLUX™ technology, which would help them meet the project goals: meet NPDES discharge compliance, reduce slop water volumes to more manageable levels, and perform Incident Free Operations (IFO), while maintaining an overall project budget.

SOLUTION

Baleen Process Solutions worked closely with the operator to engineer a custom-designed system to meet all objectives. The system was optimized to work with facility design with maximum effectiveness, centered around KLEEN FLUX™ technology. KLEEN FLUX™ is a filtration technology that uses a regenerable composite membrane that breaks reverse emulsion and enables fluids to be discharged while meeting overboard compliance standards.



SOLUTION

Baleen Process Solutions' technology was simple to deploy. The engineering team provided all documentation such as P&IDs, safety charts, and procedures facilitating the regulatory submittal process for the operator. A live demonstration at Baleen Process Solutions' facility in Louisiana provided a great opportunity to ensure that the equipment package could safely meet footprint limitations and could execute all safety system requirements as needed.

RESULTS

The use of this innovative technology allowed 100% of fluids discharge to meet overboard compliance. In total, 137,125 barrels of oily slop water were successfully treated and discharged overboard, meeting the NPDES discharge compliance. In addition, KLEEN FLUX™ provided:

- Inlet stable emulsion as high as 448 ppm processed to below 29 ppm for disposal
- IFOs successfully executed with over 6,000 manhours of activity
- No carbon
- Significant reduction in waste disposal costs
- Performance validation of advanced, innovation technology

CONCLUSION

Baleen Process Solutions' KLEEN FLUX™ technology made it possible for a large amount of slops water to be treated to levels not only meeting, but exceeding, regulatory requirements while generating minimal amounts of waste compared to traditional carbon technology.

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