



CASE HISTORY

Technology Review



Value Based Technology Assessment

Spend reduction realized by major Operator through technology value-based assessment

The Challenge

Following the implementation of Automatic Rig Tank cleaning packages across a rig fleet, an international Operator's drilling team perceived a lack of definitive value by the newly implemented technology, but were not in a position to take informed action. Specialised resource limitations and persuasive supplier justification were maintaining the status quo, which resulted in additional spend, increased rig times and additional waste generation.



The Solution

A project was formulated by which the Automatic Tank Cleaning technology was assessed across efficiency, time, resource use, waste generation and spend, in order to ascertain whether there was merit in retaining the technology.

A detailed assessment protocol was devised, in conjunction with the user and supplier, in order to measure the technology against a group of performance indicators wider than those offered by the supplier.

- ✓ *Efficiency* focused on the levels of cleanliness required by each tank on each installation, defined by the fluid to be handled and its intended application.
- ✓ *Time focused*, not only on the time required to clean each tank but the total time required to transition the rig system between tank cleaning cycles following each completion.
- ✓ *Resource use*, focused on seawater intake and use in the cleaning process full cycle.

- ✓ *Waste Generation*, focused on the waste streams generated throughout the system cleaning cycle.
- ✓ *Spend*, capturing not only the rental spend on ancillary systems, personnel sharing, installation consumables, in addition to the pure tank cleaning package operation itself. Additionally, the commercial considerations of a technology with low utilisation and high retention costs.

The Results

The Operator identified a realised spend **reduction of 1.5MM USD per rig, per year**. The systems were released and a simpler protocol implemented which was reversed engineered from the expected required tank cleanliness level and adjusted to the operational time. (Drilling to completion mode fluid system transition), also considering field logistics, and SIMMOPS (simultaneous operations).

The Details

The drilling and procurement teams acknowledged that only a holistic approach could quantify the real value brought about by a technology. Whilst fundamentally sound, it was not the right fit for the specific operation since it offered a level of cleanliness beyond that required by the types of completions run. Moreover, the decisions leading to the technology implementation included several stakeholders with conflicting purchase and performance criteria.

The protocol involved an audit of one tank cleaning operation with detailed inventory of the actual cost, time and resources (CT&R) involved in preparing and executing a job, up to the resumption of drilling. The main drivers of inefficiency identified were:

- The CT&R required for one system to transition from onshore standby mode to operation and back to stand-by.
- The CT&R required to complete the final stage of the cleaning cycle, including a remaining requirement for (albeit reduced), personnel entry into confined spaces.
- The CT&R required to handle contaminated seawater resulting from the cleaning process which in actual audited operations produced more than that initially expected, which had consequential impact on other completion operations and downstream processes/logistics.
- A supplier oriented commercial contractual model, based on high compensation for retention of multiple systems or low utilization (12-16 days per year).

Summary

The value-based technology assessment enables a small drilling, procurement and base management (platform) team, to review the technology implementation and make timely adjustments to the approach. This provided evidence that resulted in a *fit for purpose solution* that satisfied the expectations of cost effectiveness without compromising operational, environmental or safety performance.

The decisions and protocols arising from this intervention, designed and executed by the Directors of BEAD ENVIRONMENTAL SOLUTIONS, remain in effect to this day, sustained by the operational team and continues to yield value to the Operator.



Contact us

We are here to help with your environmental & waste management challenges.

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