




Case Study: May 2017: Asset Reliability Management

Offline Lube Oil Filtration unlocks potential savings of ~\$60,000 per rig over three year contract period

	<p>Industry Segment:</p> <ul style="list-style-type: none"> Oil & Gas <p>Customer:</p> <ul style="list-style-type: none"> Jack up rig operator in India <p>Equipment:</p> <ul style="list-style-type: none"> Caterpillar diesel engines 	<p>ARM Solution Module:</p> <ul style="list-style-type: none"> Offline filtration system in kidney-loop configuration <div style="display: flex; justify-content: space-around;">   </div>
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CHALLENGE

- **The high cost of new lube oil** due to frequent oil changes on 5 CAT diesel engines onboard an offshore rig.
- **Long response time** (typically 8-10 weeks) for lab reports on oil samples, and **the data by then is outdated**.
- Based on their previous experience, the rig team was manually extending the oil change interval from the OEM recommended 1000 hours to 2000 hours. **However, this was not a data-backed decision** and lube oil contamination was frequent.
- The team regretted the **lack of real-time visibility of the oil quality**.
- ~**USD 80,000** was being spent on new oil over the 3 years contract period.

SOLUTION

- Neptunus has been a **preferred partner** to this customer for [predictive engine maintenance](#) across their multiple rigs.
- The Customer deployed Neptunus' **offline filtration system in a kidney-loop configuration** on one rig.
- This **filter with a high beta Ratio of 929** had an effective capability to filter up to 3 microns of contaminants **along with the moisture and soot**. This system is part of Neptunus' [Asset Reliability Management solution](#).
- This solution helped the customer make a **confident decision backed by real-time data to extend the oil change interval by a factor of up to 4500 hours while enhancing the reliability of engines**. This was 4.5 times of the standard OEM interval, and 2.25 times of the existing practices.

BENEFITS

- Cleaner lube oil leads to **fewer breakdowns or failures**. Lube oil related issues cause 54% of machine failures. (Ref: Noria Corporation)
- **Cleaner components lead to extended MTBO (Mean Time Between Overhauls), less spare part consumption**. According to the ISO Cleanliness Code, cleaning lube oil from 20/17 to 17/14 increases diesel engine **component life by 2x**.
- Actual **savings on lube oil changes and inline filter changes** on 1 engine over 1 year period ~**\$4000**.



- **Projected savings for one rig if deployed on all 5 engines over a 3-year contract ~\$60,000.**
- **Saving logistical hassles of discarding dirty oil, while being environmentally responsible.**

About Neptunus Power Plant Services

Neptunus combines 23+ years of experience and expertise in engineering services & solutions for engines, generators and all kinds of rotating equipment. Our solutions include Engine Lifecycle Management, Asset Reliability Management and Turnkey EPC Projects. We serve customers in marine, oil & gas, industrial and data center segments from 25 countries.
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