



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

INDUSTRY SEGMENT:	Oil & Gas
CUSTOMER:	Jack Up rig operator in India
EQUIPMENT:	Caterpillar make diesel engines
ARM SOLUTION:	Offline filtration system in kidney-loop configuration

CHALLENGE

- **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- **Long response time** (typically 8-10 weeks) for lab reports on oil samples, and **the data by then is outdated**.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 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 upto 3 micron 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 disposing dirty oil, while being environmentally responsible**.