

Long-Term Services Contract Pays Dividends For Emirates National Oil Company Refinery

RESULTS

- Saved substantial financial losses by preventing pump breakdown and plant shutdown
- Achieved exceptional levels of asset reliability
- Improved plant safety
- Optimized performance of plant assets, helping to meet production goals
- Proved the value of long-term partnerships



APPLICATION

Emerson's vibration analysis experts periodically collect and analyze vibration data on more than 400 rotating assets, such as pumps, compressors, and fans. Many are critical to maintaining production at a high level.

CUSTOMER

Emirates National Oil Company (ENOC), which is wholly owned by the Government of Dubai, supplies the energy required for Dubai's phenomenal growth. A subsidiary, the ENOC Processing Company L.L.C. (EPCL), operates a 120,000 bbl per day refinery in the Jebel Ali Free Zone, producing gasoline, naphtha, jet fuel, diesel fuel, fuel oil, and liquid petroleum gas (LPG).

CHALLENGE

Not long after the refinery went into operation in 1999, managers at EPCL recognized the need to protect essential assets from unexpected failure. This meant establishing a dependable program to assure the long-term operation of refinery assets at a high level of performance. However, the expertise needed to establish and operate such a program was not available in-country at that time, so EPCL started to look elsewhere.

"We utilize Emerson services to help support us in minimizing breakdowns for improved reliability."

Haroon Al Awadhi
Reliability Engineer,
ENOC Processing Company, L.L.C.

SOLUTION

Emerson's monitoring services met the need perfectly. As a leading provider of vibration monitoring equipment and analytical software, Emerson is committed to using the most powerful tools and proven methodology for advanced machinery monitoring, analysis, and predictive maintenance.

Emerson and ENOC entered into a services agreement about ten years ago to collect vibration data every month using machinery health analyzers on more than 400 rotating assets.

Emerson's experts analyze the results and issue monthly reports on the condition of this machinery. The data are also uploaded to AMS Machinery Manager predictive maintenance software for further analysis and troubleshooting. This software is installed at client work stations where the data and trends can be viewed by refinery personnel at any time. The monthly reports, which highlight urgent needs, go directly to the refinery's Reliability Engineer, who oversees a predictive maintenance program that often identifies evolving equipment issues before anyone else notices them. Schedules are then adjusted so that corrective maintenance can be performed long before a failure can actually occur, avoiding expensive downtime, costly repairs, and possible safety consequences.

In one case, misalignment was detected on a critical pumping unit that moves gas oil product from a gas oil stripper to the diesel oil drawing unit. A potential problem with this pump was indicated by excessive vibration that was discovered during a data collection round. Additional testing confirmed severe misalignment. The pump was taken out of service as soon as possible, and site maintenance personnel used the Emerson's laser alignment tool to re-align the shafts.

Had the condition of that pump not been identified, an unexpected breakdown would have occurred eventually, forcing a shutdown that would have resulted in substantial financial losses due to repairs and lost production.

Over the past ten years, Emerson's vibration data collection and analysis service has proved its value over and over, and EPCL continues to utilize this world-class support to keep reliability high while avoiding costly breakdowns.



“Emerson’s powerful tools and methodology in vibration data collection and analysis deliver an exceptional level of asset reliability.”

Haroon Al Awadhi
Reliability Engineer,
ENOC Processing Company, L.L.C.

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