

# FUGRO UNMANNED PLATFORM MONITORING

**Driven by oilfield economics, an increasing number of platforms are being decommissioned or operating unmanned. Fugro UPM (Unmanned Platform Monitoring) provides a means of remotely monitoring the integrity of these platforms at minimal cost.**

## **DECOMMISSIONED PLATFORMS**

Platform decommissioning can be a complex process, and can span a number of years with breaks in operation. The operator may have to wait on the availability of a particular heavy lift vessel, or the services of a specialist contractor. As a result, the platform may be in a cold, unmanned state for an extended period. Remote monitoring of the structural motions allows the operator to assess the integrity of the platform during these periods.

## **UNMANNED PLATFORMS**

Unmanned platforms are often a solution for minimum cost oil production. As a result of being unmanned, the structural integrity management issues change and the inspection philosophy can include a remote monitoring regime. As an example, collisions between vessels and offshore oil & gas platforms and infrastructure are a major problem, and in some operating regions of the world are reported to cause more damage to structures than the natural environment.



*Decommissioning application - platform motion monitoring equipment with satellite communication.*



*Monitoring repair of damaged platform due to collision.*



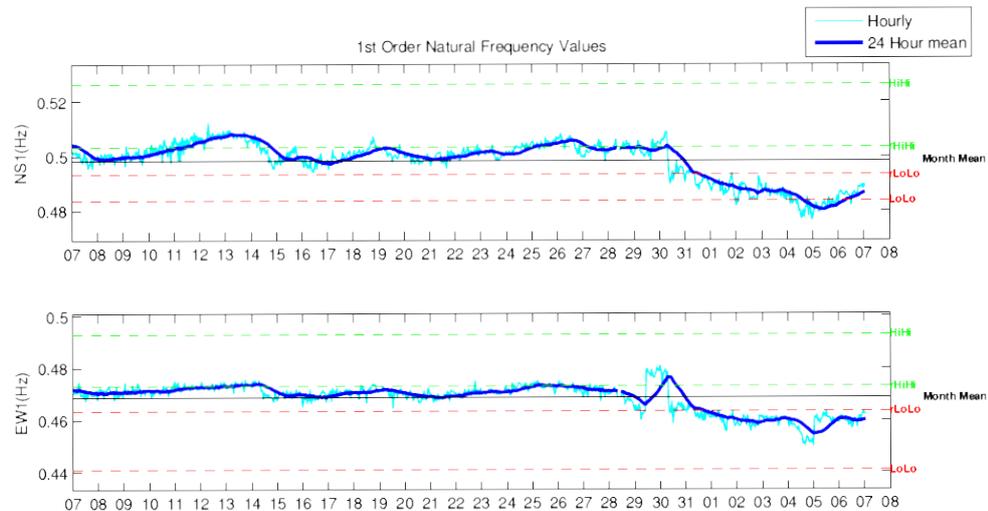
The monitoring of unmanned platforms and structures can ensure that collisions and integrity issues are identified and addressed immediately.

## SOLUTION

The Fugro UPM is a small, low cost means of monitoring the structural integrity of unmanned platforms and of detecting impacts. Systems can be battery powered with very long battery lives (multi-year). Remote communications by satellite, wireless and GSM technologies is proven.

## BENEFITS

- Detects significant deterioration of the jacket/foundation
- Improves structural reliability with immediate detection of major structural issues
- Continuous monitoring
- Low cost, low maintenance, simple installation, proven technology



Reporting of natural frequencies of a platform.

## UNMANNED STRUCTURE MONITORING

By monitoring the displacements and natural frequencies of a structure, and comparing the results with the output from the platform model, UPM identifies significant structural events and notifies the operator of these changes.

The operator can incorporate the technology into the structural integrity management plan and obtain significant cost benefits by minimising other inspections.

The processing is performed remotely with little to no offshore intervention required. Fugro can provide a full monitoring service, including the development of a protocol defining the actions to be taken in the event of a limit exceedance.

Active monitoring of offshore structures can be used to confirm that structural integrity is maintained after significant events such as major storms, hurricanes, earthquakes or collisions and reduces the requirement for expensive visual inspections.

## TYPICAL INSTALLATION

The UPM is designed for rapid installation and rapid battery changing, if required. Two small suitcase-sized enclosures are used. The instrument enclosure contains the motion sensors, data logger, and electronics. The second enclosure contains the system batteries, and simply plugs into the instrument enclosure so that batteries can be changed very quickly by non-specialist personnel.

- Mains or battery installation
- Wireless, satellite or GSM data telemetry (or self-logging with manual data download)
- Safe or hazardous area installation
- Battery life up to 3 years
- Annual continuous monitoring service
- Solar recharging option