The North Sea Continental Shelf is well known in the offshore industry for the exploration and production of natural gas. In the Dutch sector of the North Sea, gas is produced from various platforms and production installations. The gas vapour is extracted and purified at special offshore gas treatment facilities, after which it is pressurized and injected into a network of pipelines that transports the gas onshore for further distribution.

The K6-P platform is a large gas treatment platform operated by a crew that lives on the platform to ensure continuous operation. Due to the typical construction of most offshore platforms and the different types of installed equipment like for instance compressors and generator sets, vibration and noise travel freely through the steel structure of the rig. Just like on other offshore rigs, these harmful and annoying vibrations had a negative impact on working and living conditions on the platform.

The K6-P platform owner takes safety and the health of employees very seriously, so when the K6-P needed to be upgraded one of the challenges was to minimize the effects of vibrations and noise. Especially in the accommodations, where the crew needs to rest after a day or night of hard work.

"Since these annoying vibrations are gone, our living quarters are habitable again. We can finally relax after a day of hard work on the platform."

As a specialist in shock, vibration and noise control, Loggers was consulted by a leading offshore contractor and asked to take up the challenge of isolating vibration and noise in the accommodations of the platform.
Loggers’ Center of Excellence analyzed this typical offshore vibration problem, that could originate from various sources. By using Loggers’ Solution Development Methodology (SDM), the engineers were able to develop a solution that meets the strict requirements the offshore industry is well known for, including Health, Safety and Environment (HSE) regulations.

The main source of the vibration and noise turned out to be the compressor in the direct proximity of the facility. Vibrations were transmitted through the structure and could eventually be felt in the accommodations on the platform. By performing advanced calculations, Loggers was able to present the most optimal and cost effective solution. In the design, the living quarters that weigh over 30 tons are “decoupled” from the platform by a special offshore version of the Evolo 633 vibration mount. Depending on the disturbance frequency (rotational speed) of the gas turbine, vibration isolation from 70% up to 96% is achieved.

The Evolo 633 vibration mounts are capable of isolating up to 96% of the vibrations on the K6-P.

After completion of all engineering tasks and installation of the new accommodations for the crew, the vibrations and noise originating from the gas turbine could hardly be noticed anymore. Since the renewal program, the platform owner is able to keep the crew aboard, while complying with the applicable working conditions and safety rules and regulations. As a result, exploitation of the platform has become more cost efficient. Additionally, the overall morale and motivation increased as well due to the higher level of comfort on the platform.

For more information on this innovative solution for the suspension of offshore accommodations, please contact:

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