

CAMNUT ON SUPERCRITICAL STEAM TURBINES

Technofast's system replaces standard hex or round nuts with a CamNut which provides connection to the bolt, attachment for an Hydraulic Bolt Tensioner and a rigid platform to accept the reaction from the tool.

Technofast's CamNut system continues to find success in the Power Generation industry, with the system now in use in the most extreme and demanding applications. Having proven its suitability for high temperature service with applications on steam valve bonnets, CamNuts have now been used for half-joint bolting of a Supercritical Steam Turbine. Previous Steam Turbine applications have been for Low Pressure units.

ACCURACY OF THE HYDRAULIC BOLT TENSIONING

The operators of the turbine, East West Power (Korea), were delighted with the installation, saying "Even though this was the first application of this kind for the CamNut system, the turbine was bolted up in only a few hours. Normally this would take over two days to complete, as we would have to allow for heating, cooling, remeasuring and some repeating of this process for adjustment of bolts which were not to the specified elongation. We were especially pleased with the accuracy of the hydraulic bolt tensioning, and how quickly adjustments can be made."

Bolting applications such as gas and steam turbine main joints, valve bonnets and steam supply flanges rarely have bolts which have sufficient stud length or available room around the nut area to allow engagement of any type of hydraulic bolt tensioner. Technofast's system replaces standard hex or round nuts with a CamNut which provides connection to the bolt, attachment for an Hydraulic Bolt Tensioner and a rigid platform to accept the reaction from the tool. Technofast's engineers calculate the forces required to tension the bolts for any application and custom design their EziTite Hydraulic Bolt Tensioners to suit.

STUDS CAN BE TENSIONED SIMULTANEOUSLY

The CamNut system can utilise multiple Tensioners operated simultaneously, with different bolt sizes accommodated in the

operation as necessary. In some applications such as steam supply valves, all studs can be tensioned simultaneously for maximum sealing and alignment certainty. Huge time savings are made in such instances.

REDUCED OUTAGE TIME

Technofast's C.E.O., John Bucknell explained his company's role. "We see ourselves as the providers of the ultimate solution for many of these age-old bolting problems, where we can install systems which safely deliver efficient and accurate outcomes. This is especially relevant for power generation equipment, where reduced outage time means that the plant can be producing and earning much sooner". The company has a long history with Power Generation, and has pioneered other ground-breaking technologies such as the metal-sealed High Temperature Hydraulic Nut.

SUMMARY

Technofast's technology has previously earned international industry recognition, winning the coveted Platts Award, and has been successfully installed in critical bolting applications in Nuclear Steam Supply Systems (NSSS) for Commercial Nuclear utilities worldwide. Technofast's products are also used in Hydro Power and Wind Generation across a broad spectrum of applications.

