

SUPERQUARRY BEATS 'MISSION IMPOSSIBLE' DEADLINE

The failure of the gearbox on a superquarry ship loader conveyor could have cost Foster Yeoman Ltd up to £25,000 per day in penalties. With a ship due into port in 3 days, one supplier said the repair or replacement of the gear set would take around 5 weeks.



engage the excellence

Ewan Smith, engineering manager at Foster Yeoman's Glensanda quarry on the Morven Peninsula, Western Scotland recalled the 'fastest to market availability' service philosophy advocated by the team at David Brown some 2 years before and decided to put the claim to the test.

David Brown was set the deadline of 48 hours to arrive at a solution, and produced a miracle by working around the clock. A series G size 1930 triple reduction helical gear unit, 28:1 ratio with backstop was selected from their standard range, completed and test-run within 24 hours. In addition to supplying the gearbox David Brown was required to re-machine and fit existing couplings, while the engineering team at Foster Yeoman had to rebuild the existing support structure - a tough task in itself.

During the loading operation it was apparent that the fluid coupling urgently needed attention, and once loading was complete, Foster Yeoman engineers decided to upgrade the conveyor system and the conveyor gearbox.

The new gearbox was delivered to site with the couplings fitted within the 2-day deadline, employing the original fluid coupling despite its poor state of repair because a replacement unit of the same size was not an option within the time scale. Foster Yeoman's team installed the whole drive system and the ship was successfully loaded.

"The prompt response of David Brown and the delivery of all that they set out to achieve on our behalf helped us recover from a very difficult situation, and helped keep losses to a minimum. David Brown is now working with us to develop a plan to replace our critical drives, like the one that failed unexpectedly, through a secure spares programme," Ewan Smith, Engineering Manager, Foster Yeoman.

The clock was ticking once again, because the next ship would be arriving soon. David Brown again demonstrated their customer commitment, recommending the supply of a G2130 gear unit with a capacity of 680kW, selected from their standard Series G range of industrial reducers. The unit was ordered on Wednesday, and delivered within 4 working days on the following Monday.

The Glensanda quarry is located 600 metres above sea level and is being developed in a series of 20 metre benches with high capacity primary crushing. The material is then transferred by the 'Glory Hole' method - a vertical shaft 300 metres deep into the mountain connected to a 1.8 kilometre long tunnel conveyor which transfers the aggregate to the Processing Plant on the foreshore. This produces a wide range of dry and washed aggregate stored in large capacity stock piles ready for ship loading. Glensanda Harbour can receive vessels of over 100,000 tonnes loading at 6000 tonnes per hour. Ultimately the quarry will reach 15 million tonnes per annum through phased development.



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