Service Insights
Turbogears | Petrochemicals | Emergency Repair | EMEA

Application  Compressor – Ethylene
Product       BHS Planetary Gear, Type RP 40
Country       Norway
Operator      International Producer of Ethylene and Propylene

Within 14 Days from Crash to Reuptake of Production

After the explosion of gas that had penetrated a gearbox, the production of an ethylene plant ceased. Due to very high downtime costs, the customer had to resume production as quickly as possible. Within 14 days, an emergency team from Voith was able to provide the customer a turbo gear unit using a creative solution.

Viewpoint of the customer: The failure of the oil supply pump on a planetary gear in an ethylene production plant in Norway in October 2016 led to a loss of function of the seal between the BHS gear and the compressor. The gas penetrating into the gear unit ignited and destroyed the complete gear unit. The production stopped, 500 k€ production downtime costs were now incurred day by day.

Order: The operator called immediately Voith to provide a solution as quickly as possible. Shortly after submitting several options, the client chose the one with the higher risk factor, but with the shortest implementation time of promised 21 days. An extraordinary solution was implemented.

Insights: Even before the turbo gear unit arrived at Voith in Germany the day after the accident, a special 4-member work task force was set up. When it was clear that a complete repair of the destroyed planetary gear unit was impossible, other creative solutions had to be found. Based on the information provided by the Voith database and the operator, the client was suggested to use certain parts of a running order and of a similar gear unit from the customer. The gear he had as spare unit in another production plant in Great Britain. This was also quickly sent to Germany to take the sun gear, the planet gears and the ring gear. At the same time, Voith suggested to the customer to use the housing and the planet carrier of a Voith training gear unit in order to follow the shortest possible time path. Only a few small parts of the damaged old transmission could be reused or repaired. The parts were machined and adapted in round-the-clock shifts, even over the weekend. When the ‘new’ transmission was assembled, it was subjected to a test run like every new or overhauled gearbox. Since everything worked perfectly, it was shipped from Germany to Norway on the 14th day after the accident – seven days prior to the contractually agreed date.

‘New’ planetary gear unit during test run in GER

Technical Details: The emergency repaired planetary gear ran for more than two years with only slightly increased vibrations compared to the optimum. In spring 2019, the operator replaced it with a new BHS planetary gear from Voith.

How we make the difference…
"Excellent. Thanks for all the assistance," Site Procurement Manager, UK
“Excellent work and support during finding this solution.” Chief Engineer, Maintenance Department, NOR.

More about this Voith-Produkt at: www.voith.com/BHS-Turbogears

More about the Voith Service at: www.voith.com/turbo-industry-service