



ОАО "СУРГУТНЕФТЕГАЗ"



FLOWSERVE SUPPORT ON RESOLVING TECHNICAL ISSUES ALLOWS CUSTOMER TO SECURE THE ONGOING HYDROCRACKER OPERATION

Challenge:

HDO-type pumps exhibited several issues after laying dormant for a long time at unknown storage conditions. The customer contacted Flowserve to help diagnose and resolve the issues.

Solution:

The Flowserve AMSS team visited the customer's site. Technical discussions with the customer revealed vibration and coupling hub issues for several HDO pumps. The issues were resolved upon the coupling hub's replacement.

Result:

Improved equipment reliability and availability enabled the customer to switch its focus from operational issues to strategic planning and process improvements.

Challenge

Surguteftegas has placed an order for hydrocracker unit pumps in 2004. Flowserve delivered more than 150 pumps for use at the company's new refinery unit in Kirishi, Russia (KINEF).



Figure 1: SurgutNeftegas Company, St. Petersburg, Russia

The project included 12 high-speed hydrocracker charge HDO type pump packages with power recovery turbines. Vibration levels were increasing above recommended levels on some of pumps during operation due to maintenance issues.



**Figure 2: SurgutNeftegas Company,
St. Petersburg, Russia**

“Many thanks to the Flowserve team (guys know what they are doing – excellent specialists) for the strong support provided to improve the vibration condition of our Flowserve pumps.”

— **Alexey Belousov,**
Deputy chief mechanical engineer, KINEF

10 years ago, but due to a delay in construction, the pumps were stored on-site for more than five years in unknown storage conditions.

Hydrocracker was commissioned about two years ago. During the commissioning, some problems arose which were attributed to the pumps' long storage before installation. In addition, minor start-up issues with some pumps — i.e., vibrations on a few charge pumps above normal levels were not completely resolved due to the Customer internal deadlines to start the unit. After commissioning, the customer unsuccessfully tried to resolve these outstanding issues himself.

Solution

Relationships with the customer have re-strengthened over the last few months. The site visit was arranged by a team of Flowserve aftermarket specialists, W. Potters, A. Sakovich and R. Vermaesen, in the end of 2015. They conducted several technical discussions explaining to the Customer technical specifics of equipment, which resulted in new aftermarket opportunities. Some technical points which were not clear enough for the customer were patiently explained by the Flowserve team. Based on these communications, the customer saw Flowserve technical troubleshooting had resolved the operational issues. Customer started to consider using Flowserve support more seriously for help with the other operating equipment within the plant, New business opportunities has been raised like spare charge pump cartridges, order of repair tools, operating conditions review, hydraulic power recovery turbine upgrade, etc.

In early summer of 2016, Flowserve vibration diagnostic engineers visited the customer site and successfully resolved the vibration and coupling hub replacement issues on several Flowserve HDO pumps. The customer, after several unsuccessful attempts to solve the problem himself, was more than satisfied with how Flowserve resolved the issues and the technical skilled demonstrated by the Flowserve team. This prompted the customer to request Flowserve to perform in addition the same work on third party equipment which had suffered of the same problem.



Figure 3: HDO-type pump

Result

Flowserve managed to fix the equipment issues by onsite balancing and resolving several coupling issues, improving pump reliability and availability. As such, the customer felt much more confident running the unit. It made possible for the customer to focus less on solving maintenance issues and more on strategic planning and process improvement. For example, the customer is now interested in visiting references of HPRT installations in Europe, with the intention of optimizing of his own turbines on the hydrocracker unit.

Many thanks goes to all the team members involved, especially to engineering team - W. Potters, A. Sakovich, R. Vermaesen and service team - I. Suleimanov, I. Vakhapov who were instrumental in making this a true success story in permanently improving the Flowserve relationship with Surguteftegas.

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Customer Success Story Program

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