

ENERGY
ENVIRONMENT
ECONOMY

NEW PLC SYSTEM INCREASES AVAILABILITY FOR KOHINOOR ENERGY



“WÄRTSILÄ TRULY LISTENED TO OUR NEEDS.”

“Initially this PLC upgrade had to be made because the old system was becoming obsolete. But now we see that upgrading was a very wise decision in many ways! After the upgrade several unanticipated benefits were discovered. Availability as well as the efficiency of the power plant has improved with the many new system features.”



Ghazanfar Ali Zaidi,
General Manager (Technical)
at Kohinoor Energy Ltd

Kohinoor Energy Limited (KEL) is a joint venture of the Saigol Group, a multi-industrial group from Pakistan, and Toyota Tsusho Corporation, a multi-industrial consortium from Japan. KEL is one of the pioneers of the Independent Power Producers in Pakistan. They own and operate a 124 MW power plant equipped with eight Wärtsilä 18V46 engines. KEL is located close to Lahore and connected to the national grid, where they serve the domestic and industrial areas of Lahore.

The Pakistan Water and Power Development Authority (WAPDA) buys energy from KEL through a power purchase agreement (PPA).

– This means that we need to maintain availability and reliability with regards to the contract. It is vitally important, both for us and the utility company, that our power station is up and running 24/7, says Ghazanfar Ali Zaidi of Kohinoor Energy.

– We are bound to the agreement and will have to pay penalties if we cannot fulfil the terms in the contract. We also get requests depending on the electricity demand pattern, which can go from base load and intermediate load to peak load; we also need to maintain a minimum level of availability throughout the year, he continues.



UPGRADE WITHOUT ANY EXTRA DOWNTIME

The originally installed PLC system handling all the control, monitoring and control functions of the generator set and plant equipment had become obsolete.

– At the time we had a Maintenance Agreement with Wärtsilä and we were informed that we needed to either upgrade or replace our PLC system, since the support for it would stop. We decided to upgrade to the latest available PLC equipment and programming that would last for the remaining lifetime of the power plant, says Ghazanfar Ali Zaidi.

– The challenge for us was to carry out the upgrade work during the routine maintenance down-time of the engines, since longer outages could cause penalties to the customer. To meet the customer’s needs we coordinated the activities between Wärtsilä and KEL to complete the project as required and in a cost-effective way, states **Rashid Islam**, Manager of Service Sales at Wärtsilä in Pakistan,

– The whole PLC upgrade included a complete replacement of the automation and control system, including PLCs, Operating Stations and all commissioning services.

– Together with Wärtsilä we were able to agree on some modifications to the proposed system and add some more features. We were very happy that Wärtsilä listened to our needs. Thanks to the extra features we now feel comfortable in providing the customer with a high availability supply, says Ghazanfar Ali Zaidi.

CO-OPERATION GIVES TANGIBLE RESULTS

– The new PLC system has also drastically reduced plant tripping compared to the old system. The upgrade was a clear success and a true joint effort where Wärtsilä people worked very well together with us, declares Ghazanfar Ali Zaidi of Kohinoor Energy.

– Through the Maintenance Agreement we were able to provide in-depth knowledge about the complete power plant and its



Challenges	Solution	Benefits
<ul style="list-style-type: none"> – Replace the existing PLC system with a new one without affecting power-plant operation – Minimise downtime and project costs – Provide a solution that meets customer’s needs. 	<ul style="list-style-type: none"> – Upgrade the existing PLC system with the latest available PLC equipment and programming that would last for the remaining lifetime of the power plant. – Perform the upgrade work during routine plant maintenance – Coordinate activities between Wärtsilä and KEL to complete the project according to customer needs, in a cost-effective way. 	<ul style="list-style-type: none"> – A modern PLC system that increases availability and efficiency – Project completed without causing any extra downtime and operations could continue as normal – Tripping reduced compared to old PLC system – Lower fuel consumption was an extra bonus.

operation, which helped us in providing the correct solution that met the customer’s requirements. The Wärtsilä solution also improved plant availability and efficiency, says Rashid Islam of Wärtsilä Pakistan.

– We have now been able to measure a lower fuel consumption, which is important since fuel prices are constantly rising. It is now also easier to monitor fuel consumption more efficiently. This is an excellent example of Wärtsilä providing us with guidance and information on how to improve the plant operation, says Ghazanfar Ali Zaidi.

The long and close co-operation between Kohinoor Energy Limited and Wärtsilä has been very fruitful.

– Fifteen years of close co-operation with Wärtsilä makes it a true success story. We are constantly working together to improve

plant efficiency. As part of our Maintenance Agreement we follow Wärtsilä’s recommendations and realise that efficiency, performance, lube oil and fuel oil consumption are getting better and better. Even after 15 years the power plant is efficient, reliable and available which is a good achievement, concludes Ghazanfar Ali Zaidi at Kohinoor Energy Ltd.

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