

PROFITABLE CONDITION MONITORING

Wind turbines in a challenging environment



A well functioning Condition Monitoring System (CMS) considerably increases the profitability of wind turbines. CSR Wind Power recognized this fact very early on and now has its own CMS department which equips its wind turbines with suitable systems. The Bachmann M1 automation system has been used for several years as the controller for the 2 MW turbine of CSR Wind Power. Bachmann's tried and tested Condition Monitoring Solution is now also being used in their plants.

CSR Wind Power has ten years of experience in the development and construction of wind turbines. More than 100 wind turbines are currently being delivered to the Huarun Power Group in Hubei province (China) and commissioned. Initially 28 of these systems are being fitted with the Bachmann CMS.

Challenging environmental conditions

CSR Wind Power has been involved in the Condition Monitoring of wind turbines for many years, and now has its own specially created department for this area. In recent years they have used systems from a wide range of different manufacturers. »We have thus acquired a comprehensive knowledge of CMS,« Xiangyan Ruan, head of CMS at CSR Wind Power, explains. The diverse geography of China is a particular challenge. »The intertidal zone with saline-alkali soil in Liaoning province, Inner Mongolia with its very low temperatures and the high altitudes of the provinces of Gansu, Yunnan and Guizhou – our wind turbines and CMS systems must be able to withstand all these environmental conditions,« Xiangyan Ruan explains the difficulties involved.

Profitable cooperation

The controller system for the 2 MW turbines has been implemented with Bachmann for several years. »We know and appreciate the benefits of the Bachmann automation solution – the high level of reliability speaks for itself,« Xiangyan Ruan says. »On the basis of this experience

we are sure that Bachmann's CMS will function just as well.« The idea behind the project is simple. »We know our wind turbines and the environmental conditions in China like no other – and Bachmann has extensive experience in the field of Condition Monitoring,« Xiangyan Ruan explains. »Together we now have the opportunity to develop an advanced, practical and comprehensive CMS solution for wind turbines in China.«

Step by step to greater success

The next steps for CSR Wind Power are already planned. The Bachmann CMS will thus be temporarily installed as a stand-alone solution. »We want to be able to understand the system and also examine it,« Xiangyan Ruan explains the idea behind it. A continuous and close exchange with Bachmann is also planned for this. The subsequent step will focus on the testing of the integrated CMS. »Bachmann correlates measured values with other operating parameters, considerably increasing the diagnostic reliability of the Condition Monitoring,« explains Xiangyan Ruan. »The possibilities resulting from this are very exciting.« Precise statements on the condition of different plant sections can thus be made, the lifespan of already damaged parts extended, and maintenance dates scheduled precisely. CSR Wind Power is excited about the results of the test in all cases: »This approach will soon provide us with a reliable CMS perfectly tailored to the requirement of our wind turbines and the Chinese market,« Xiangyan Ruan sums up.



CSR Zhuzhou Institute CO., Ltd. or CSR Wind Power for short, was founded in August 2006 as a subsidiary of CSR Corporation Ltd. The company develops, builds and sells wind turbines and is one of the top ten in the Chinese wind power market. CSR Wind Power has over 50 years of experience in the construction of locomotives and other components for the Chinese railway. The company is renowned for its wind turbines, which demonstrate a proven track record in terms of reliability, even under varying environmental conditions.

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