## 运行证明

## **Operation Certification**

江苏神马电力股份有限公司为±660kV 青岛换流站工程提供 51 支变电站复合绝缘子。

Jiangsu Shemar Electric Co., Ltd. provided 51 pieces of substation composite insulators for ±660kV Qingdao convertor substation.

供货清单如下:

The supply list is as follows:

	电压等级	变电站绝缘子类型 供货数量
Application Equipment	Voltage grade	Type of Substation Composite + Quantity
		insulator
HGIS	500kV	空心复合绝缘子 人 51
		Hollow composite insulator

In December of 2009, ±660kV Qingdao convertor substation was successfully put into operation.

±660kV 青岛换流站位于中国山东省青岛市, 青岛地处北温带季风区,又濒临黄海。月平均湿度 72%。年平均气温 12.7℃,极端最高气温为 38.9℃,极端最低气温为-16.9℃。青岛市年平均降水量为 662.1mm, 具有高盐雾的特殊工况。

Qingdao convert station is located in Qingdao City, Shandong Province. The city belongs to the north temperate monsoon region and borders the Yellow Sea. The average monthly humidity is 72%. The annual average temperature is 12.7 °C, the maximum temperature can reach 38.9 °C, the minimum temperature is -16.9°C. The average annual precipitation in Qingdao is 662.1mm. It has special work condition of high fog. 至今为止,该变电站内神马所提供的所有的变电站复合绝缘子均运行状态良好,无任何质量 事故;对复合外绝缘未进行任何针对性维护。

Till now, Shemar' s substation composite insulators are all in good condition without any quality accident. There is no any special maintenance for composite external insulation.

特此证明。

Hereby certificate

