

PRESS RELEASE



DMS technologies Supplies Lifeline AGM Batteries for Remote Deployment in Kazakhstan

February 2016

Its January 2016, I'm just back from Kazakhstan having successfully commissioned our latest power project. I thought that both you and Lifeline deserved a few site observations and endorsements about the batteries we ordered last year (2015). Thank you, Felix Merry, Solar Wheel Ltd.

Solar Wheel were commissioned to design, build and install a stand-alone power supply in Kazakhstan. The system is required to relay data 3kms using a long range WiMax wi-fi link. The design brief was very exacting due to the extreme ambient temperature range, reaching up to +30°C in summer and down to -40°C in winter.

The project objective was to provide a year-round power supply for a data monitoring station, including cabinet heating and ventilation at an average power consumption of 80 to 100 Watts at 24 Volts. The target date for successful commissioning was set as January 2016.

We last saw the batteries in the UK in May, fully charged prior to shipping.

We're uncertain as to when the equipment was actually deployed on site, but probably around mid-October. The location is an opencast mine in the middle of nowhere, and the system is part of a remote power supply that would normally be powered by a diesel generator. There hadn't been any charging since the installation. The external temperature before wind chill was -33°C when we were on site, I think the worst the system would have experienced was about -38°C two weeks before we left the site.

On opening the cabinet, the batteries were showing 25.0V (it's a 24V system). Everything was frozen solid, as one might imagine in those temperatures. By switching on one of the PV solar charging circuits the voltage rose quickly to the charge regulator absorption voltage of 31.0V, we suspected that the batteries had failed. We proceeded with other commissioning checks and, after fifteen minutes or so, the batteries were heard to rumble and gurgle quite loudly. After about an hour of PV charging the charging circuit was switched off and we were disappointed to see the charge drop from 31.0 to 27.5V in about twenty seconds. We stopped monitoring and expected the voltage to fall to 25.0V again.

After four or five minutes of further investigation of the system we were ready to switch on another PV charging circuit. On checking the battery state-of-charge we were pleasantly surprised to see that it had only dropped to 26.4V. Yet again, after switching on a PV charging circuit the charge shot back up to 31.0V. It was late in the day for us, the cold was penetrating, so we headed back to the work compound. We left the PV charging circuit on, as well as switching on the loads such as the cabinet heaters and other monitoring equipment.

The following morning we went back out to see how the system had behaved. The PV arrays weren't quite in direct sunlight, and the battery bank had dropped to 24.3V during the night. As the day brightened over the next half hour and the PV arrays began to charge the system, the batteries climbed to 25.4V, a level that we would have expected under normal operating conditions. The on-site Commissioning Engineer was happy to take over, deciding that the batteries were behaving correctly.

The client was very happy with the batteries, and we can't think of any other batteries that would have withstood the low temperatures.

Ends

Solar Wheel began life specialising in the gathering and transfer of wind data over long distances and has as a result, become involved in renewable energy. Realising the potential of renewable energy, the company began making solar thermal panels in 1980, (hence the name Solar Wheel). Since then it has evolved to encompass all aspects of renewable energy. Wind energy offers by far the most cost effective and widely available source of renewable power in the UK, and so has the greatest potential to make a real difference to the environmental costs associated with our energy use.

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DMS technologies has specialised in batteries and portable power systems for industrial, transport and military applications for some 30 years. Whether the requirement is for high rate cranking or deep cycle, DMS technologies can provide the optimum solution, using the most relevant or practical battery technology such as sealed lead acid, lithium, NiMH or even NiCd for approved uses.

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