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performance of back up power at KMBO primary seismic station post upgrade

At the KMBO 3C primary seismic station, International Monitoring System and Global Communications Infrastructure (GCI) equipment are powered by 240 VAC mains power. A power stabilizer is installed, which regulates the input AC mains power voltage between 180V and 260V. Station visits for routine operation and maintenance are performed once every calendar month. Before 2021, the seismic station was characterized by rampant AC mains power outages and/or voltage fluctuations. The power outage problem was exacerbated by an aged backup power supply provided by 24 batteries. In addition, rampant GCI outages occasioned by a high threshold of GCI UPS battery capacity of 96% often caused data transmission outages to the International Data Centre. In order to mitigate the rampant mains power outages at KMBO, the station underwent a major power upgrade from August to October 2021 as per IRS-PR-KMBO-161955. The backup power system now consists of a Belotti Variatori SRI AC power stabilizer, 10KVA, 48V Vitron AC/DC inverter/battery charger and 24 pieces 2V, 3000AH RITA OPZV batteries IRS-CCN-KMBO-163645. The performance of the new power backup system is rated excellent. During SnT2025, we will demonstrate the excellent performance on the basis of recent mains power outages, which occurred from 16 to 17 April 2024 as per IRS-PR-KMBO-182162.

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