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Meidensha Corporation

Meiden installs a NAS battery system with voltage drop compensating function at JAXA

Meidensha Corporation (Meiden) has installed a NAS battery system with a voltage drop compensating function at the Japan Aerospace Exploration Agency (JAXA). The system started running on December 15, 2022.

The NAS battery system was installed at JAXA's Misasa Deep Space Station (MDSS) in Saku, Nagano Prefecture. By taking measures against voltage drops and power failure, JAXA plans to improve reliability in operating deep space probes, including the Hayabusa2. In this project, Meiden organized work to design the system and installed a 1,200kVA AC-DC converter for a NAS battery with a voltage drop compensating function (indoor use), as well as a NAS battery manufactured by NGK INSULATORS, LTD..

The system is capable of leveling the load used on the MDSS site; controlling power demand during peak hours of electricity usage; and supplying electricity during a blackout as part of a business continuity plan (BCP). Also, it can protect clients' important facilities by preventing voltage drops that could happen after a power transmission line is struck by lightning and until transmission is restored. Furthermore, it can prevent system errors and data loss that could be caused by power failure by using the voltage drop compensating function.

The AC-DC converter for a NAS battery with a voltage drop compensating function installed at JAXA's Misasa Deep Space Station.

Meiden will develop and provide products and services to protect clients' facilities by providing measures to deal with voltage drops so as to better respond to their need to have robust BCPs. Doing so will be ever more important against the backdrop of the increased requirement of controlling power demand at times of tight supply and demand for power, and frequent natural disasters accompanying climate change.

<Features of Meiden's power conditioner system (PCS) for NAS battery with the voltage drop compensating function>

- Capable of constantly leveling the load
  It is possible to lower the maximum electricity usage under contract with a utility company by storing power with a NAS battery during the night or other off-peak hours and discharging power during hours of high power consumption.
- Capable of curbing power demands during peak hours
  Facility operators can receive remuneration for curbing power consumption. This is made possible by saving energy during the designated hours at the request of electric power companies or other entities when they forecast that electricity supply and demand will become tight, such as during summer heat and winter cold waves.
- Power failures caused by disasters, lightning and other accidents in the power grid can suddenly stall production lines, compromising product quality and thus inflicting tremendous damage on manufacturers. Introducing a PCS for a NAS battery will make it possible to restart important facilities from the time of accident-caused power failure to power restoration, as the PCS is capably of supplying electricity independently of the power grid.

Note: NAS is a registered trademark of NGK INSULATORS, LTD. and Tokyo Electric Power Company Holdings, Incorporated. NAS Battery is a product name of the latter.