

Energy efficiency in mobile phone base stations in India

The number of base stations is expanding rapidly due to the sharp increase of mobile phone subscribers nationwide in India. However, there are many regions in India with fragile power supplies that suffer from frequent power outages and regions that are not supplied with power at all. In such regions, mobile telecom operators use diesel generators during power outage to operate base station continuously, therefore the burden of diesel fuel cost of the generator becomes a big financial problem.

Since the Indian government requests for green-industry, mobile base station companies in India are required to reduce fuel consumption by diesel generators, operation cost and CO₂ emissions simultaneously on the viewpoints of both business management and environmental issue.

These issues were taken up for the energy related discussion between the governments of India and Japan (the India-Japan Energy Dialog), and the demonstration project by Japan's New Energy and Industrial Technology Development Organization (NEDO) opened to the public in 2013.

As the result of NEC's application for the project, NEC was selected by NEDO to implement the demonstrational operation from September 2013 to March 2017. Through this operation, the energy management systems, which consisted of photovoltaic generation systems, lithium-ion rechargeable battery systems, remote monitoring of whole EMS systems, operation planning and battery charging/discharging control, were installed into 20 mobile phone base stations in India. Since the systems were confirmed to be able to reduce the annual CO₂ emissions about 40% of their original level by the most suitable operation plan using the data acquired by the system itself, NEC approved this EMS system as "ECO Symbol Star".

Through the 2-year-operation on the actual sites, we could acquire know-how needed as a business, like various knowledge for the operation. We are going to link these findings to develop specific business in India where more than 400,000 mobile phone base stations exist.



【Demonstration Project for Telecom Tower Sites in India】

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