

Sendai Microgrid

What is Sendai microgrid?

Configuration of Sendai Microgrid The Sendai Microgrid is the system constructed by NTT-F for the "Experimental Study of Multi Power Quality Supply System(MPQSS)", implemented by NEDO between 2004 and 2008. The configuration of the microgrid system has changed several times since the NEDO demonstration project.

How effective was the Sendai microgrid after the earthquake?

Despite the extreme devastation, the Sendai Microgrid resumed supplying power and heat to customers after a short interruption, proving its effectiveness. This case study is an analysis of the operations of the Sendai Microgrid in the aftermath of the earthquake and will provide useful lessons for all microgrid operators and users around the world.

What happened to Sendai microgrid in Tohoku?

As described above, the earthquake caused massive damage to the Tohoku district where the Sendai Microgrid is located. When the earthquake occurred, Tohoku EPC stopped supplying powerto the area surrounding the Sendai Microgrid, resulting in a three-day outage.

Why did the Sendai microgrid switch to island mode?

Beginning several tens of seconds after the occurrence of the earthquake at 14:46 on March 11,there were a series of major voltage fluctuations in Tohoku EPC's commercial grid, then a gradual drop in voltage, leading to the outage. Accordingly, the Sendai Microgrid switched over to island mode.

Why did Tohoku EPC stop supplying power to the Sendai microgrid?

When the earthquakeoccurred, Tohoku EPC stopped supplying power to the area surrounding the Sendai Microgrid, resulting in a three-day outage. Nevertheless, the Sendai Microgrid was able to supply power to loads within its service area continuously.

Who is the Electric Power Company in Sendai?

The electric power company in the Sendai area is the Tohoku Electric Power Company(Tohoku EPC). An agreement with the Tohoku EPC permits the Sendai Microgrid to supply power to loads within the area shown in Figure 4 (including the hospital and nursing care facilities located on the campus of Tohoku Fukushi University).

Because the natural disasters severely impacted the main grid, utility power was interrupted for 60% of Sendai''s loads. The Sendai microgrid, created in tandem with a utility, ...

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Photo credit (local microgrid in Sendai, Japan): NTT Facilities, Tokyo Commercial and industrial facilities can provide a positive business case for microgrid adoption, cutting energy costs while ...

The extremely intense vibrations severely damaged electric utility facilities, and the subsequent tsunami washed away many coastal towns and villages. The Sendai Microgrid at Tohoku ...

The case results show that the intelligent distribution network disaster response ability evaluation algorithm based on fuzzy comprehensive evaluation constructed in this paper ...

The author of numerous articles and research studies, Jim is a contributor to the report The Advanced Microgrid, Integration and Interoperability, released by Sandia National Laboratories in March 2014 and co-author of The Sendai ...

This case study describes the Sendai Microgrid, on the located campus of Tohoku Fukushi University in Sendai City in Tohoku the district in Japan, and focusses on its operation in the ...

Sendai Microgrid. Perhaps the most well-known microgrid demonstration on this planet, The Sendai Microgrid Project was one of the four major New Energy and Industrial Technology Development Organization (NEDO) ones carried out in ...





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