

August 7, 2020

Sumitomo Electric Industries, Ltd.

Sumitomo Electric awarded for Redox Flow Battery Systems from Hokkaido Electric Power Network

Sumitomo Electric is recently awarded as a prime contractor in charge of EPC and supplier of Redox Battery Systems by Hokkaido Electric Power Network, Inc.*¹ (Head Office: Chuo-ku, Sapporo; President: Hiromi Yabushita; hereinafter, HEPN) for their grid-scale battery system with a capacity of 51 MWh (17 MW for 3 hours). Sumitomo Electric started construction work from July 2020. This work plans to be completed by the end of March 2022.

HEPN is working on expansion of interconnection between the grid and wind power generation, utilizing grid-scale battery systems, for which HEPN launched a solicitation process. Sumitomo Electric is confident that completion of this project and more opportunities in the future will contribute to the implementation of renewable energy and the reduction of greenhouse gas emissions.

HEPN commenced the solicitation process for wind power generation utilizing grid-scale battery systems to interconnect wind power generators, predicated on installation of grid storage batteries and sharing of the incurred construction costs. 15 wind farm projects totaling 162MW are approved for grid interconnection under Phase I scheme. Sumitomo Electric's Redox Flow Battery Systems are adopted as grid-scale battery systems.

Redox Flow Battery Systems charge and discharge using the redox reaction of metal ions in the electrolytes. Our battery systems offer long life, high safety, and many other features, as described below.

(1) Long life

Redox Flow Battery Systems have no limitation in recharging cycles in principle, allowing stable operation for more than 20 years (design life intended by Sumitomo Electric). Also, the electrolytes, which do not deteriorate, can be used semi-permanently and can also be reused.

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(2) High safety

Redox Flow Battery Systems feature an extremely low possibility of fire and high safety because they operate at room temperature and are made of non-combustible and flame-retardant materials. Moreover, it allows for accurate monitoring of the state of charge, enabling stable operation continuously for an extended period of time without being affected by charge/discharge patterns.

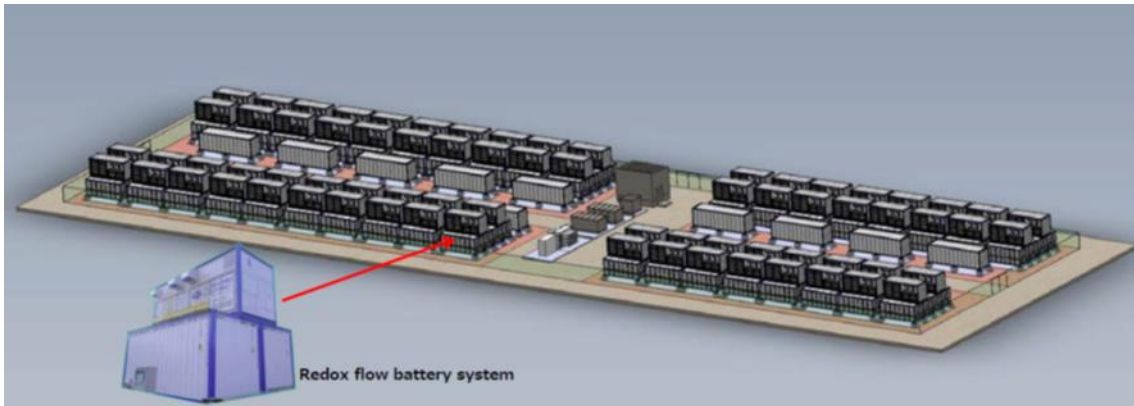
After confirming stable operation through 3-year demonstration program supported by METI (Ministry of Economy, Trade and Industry), since 2019, Hokkaido Electric Power Co.,Inc. has started commercial operation of Redox Flow Battery Systems (power rating: 15,000 kW; capacity: 60,000 kWh) constructed by Sumitomo Electric.

Hideo Hato, Senior Managing Director of Sumitomo Electric said, *“I am truly delighted to be awarded this exciting program and also to be able to contribute to HEPN's business. SUMITOMO Redox Flow Battery Systems have been operated stably and safely with the aim of ensuring grid stabilization. With the long life and high safety, these systems will help boost the use of clean renewable energy sources. As a pioneer of the development of Redox Flow Battery Systems, I will continuously work on performance improvement and cost reduction for even more wide spread use of Redox Flow Battery Systems in Japan and overseas.”*

Overview

Capacity	Power: 17,000 kW; Capacity: 51,000 kWh
Scope	Installation, maintenance, and removal of storage battery equipment
Location	Minami-Hayakita Substation (Abira Town), Hokkaido Electric Power Network
Completion Date	March 31, 2022
Operation period	April 1, 2022 to March 31, 2043
Product shipped	Redox Flow Battery System

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Conceptual drawing

*1. The power transmission and distribution department of Hokkaido Electric Power Company became a spin-off company, incorporated in April 2020.

■ Reference

Demonstration test of a large-scale energy storage system started at Minami-Hayakita Substation (Japanese)

<https://sei.co.jp/company/press/2015/12/prs098.html>

Sumitomo Electric's Website : <https://sumitomelectric.com/>