

NGK INSULATORS, LTD.

TECHNOLOGY

NAS battery consists of sulfur at positive electrode, sodium at negative electrode as active materials, and Beta alumina of sodium ion conductive ceramic which separates both electrodes. During the discharge, sodium ions converted from sodium in a negative electrode pass through solid electrolyte then reach to sulfur in positive electrode. During the charge, the electric power supplied from outside form sodium in negative electrode and sulfur in positive electrode by following the reverse process of the discharge.

COMPETITIVE ADVANTAGE

- High Energy Power: 200MW(1200MWh) more than 6 hours a day rated output multi-megawatt energy storage
- High Energy Density: 3 times energy density of conventional battery (1/3 space footprint)
- Fast Response: Response time is 2 milliseconds



RECORD OF SUCCESS

NAS systems deployed in Japan as well as overseas are over 300MW (at 200 sites), and 34MW NAS system that is largest system in the world was already operated in Rokkasho village in North Japan since 2008. American Electric Power Company has deployed demonstration projects (7MW) in the United States. Enercon, the forth largest wind turbine manufacturer, and Younicos, a provider of P.V power generation system have also initiated demonstration projects in Europe.

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