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NGK Insulators' Advanced Sodium-Sulfur Battery Technology Powers Major Japanese Project, Pilot Program Begins in the U.S.

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NGK Insulators, a leading Japanese manufacturer of advanced ceramic technologies, today announced a significant advancement in the deployment of its proprietary sodium-sulfur (NAS) battery technology. A large-scale energy storage project utilizing NGK's NAS batteries has commenced operations in Japan, while a pilot program featuring the same technology is now underway in the United States. This dual development highlights the growing global recognition and adoption of NAS batteries for grid-scale energy storage solutions.

The NAS battery stands out as one of the most commercially mature non-lithium electrochemical technologies available for utility-scale applications. NGK positions its NAS batteries as an ideal solution for **medium-to-long-duration energy storage (LDES)**, capable of providing up to approximately seven hours of continuous discharge. This characteristic makes them particularly well-suited for applications such as stabilizing renewable energy grids, managing peak loads, and providing emergency power.

In Japan, the recently activated project is the **Tsu Storage Battery Plant** in Mie Prefecture, developed by Toho Gas. This substantial installation boasts an 11.4MW output and a 69.6MWh storage capacity, capable of discharging for approximately six hours at full rated power. Located at the former site of a liquid natural gas (LNG) terminal, the project will leverage the NAS batteries to charge during off-peak hours or when renewable energy generation is abundant, then discharge during periods of high demand. This strategic deployment will enable Toho Gas to optimize its supply and demand balance and participate in emerging electricity market opportunities, supported in part by Japanese government subsidies aimed at promoting energy storage adoption.

Concurrently, NGK's NAS technology is making inroads into the U.S. market through a pilot deployment with **Duke Energy**, a major American utility. Duke Energy's Emerging Technology Assessment team selected NAS batteries after evaluating over 80 different energy storage options, recognizing the technology's advantages, including the abundance and low cost of its primary materials, sodium and sulfur, as well as its high energy density. The test project, a 5MW, 8-hour duration (~40MWh) system, will be installed at Duke's Suwannee River Power Plant in Florida. This pilot aims to evaluate the feasibility of sodium-sulfur as a viable alternative to traditional lithium-ion battery energy storage systems (BESS). Findings from this project will be shared with key industry organizations, including the US Electric Power Research Institute (EPRI), contributing to broader industry knowledge and potential wider adoption.

With over 720MW/5,000MWh of NAS battery systems deployed across more than 250 locations worldwide over the past two decades, NGK Insulators' technology has a proven track record of reliability and performance. The latest iteration of the NAS battery system, **MODEL L24**, launched in April of last year, offers enhanced efficiency and a reduced degradation rate, further solidifying its position as a robust solution for the evolving energy landscape. These simultaneous developments in Japan and the U.S. underscore the growing global momentum behind non-lithium energy storage solutions and NGK's pivotal role in this critical sector.