News Release

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Nissin Electric Co., Ltd.

Nissin Electric Achieves Cumulative Total Delivery of 25,000 GIS Units in 50 Years since Release

— Endeavoring to improve performance and pursuing reduction in size and higher reliability —

Nissin Electric Co., Ltd. has achieved a cumulative total delivery of 25,000 gas insulated switchgear (GIS) units in the 50 years since their release in 1970.

GIS is used as substation equipment and power receiving equipment. It protects power grids by switching the electric current and contributes to the safe and stable supply of electric power. Nissin Electric has established a production system between Maebashi Works (in Maebashi City, Gunma Prefecture) and its production bases in Asia through speedy cooperation, won the trust of customers, and delivered many products over the years. With production bases in the Asian region centered on Nissin Electric's group companies Beijing Hongda Nissin Electric Co., Ltd. (China) and Nissin Allis Electric Co., Ltd. (Taiwan), we are continuously working on quality. Such efforts have led to the achievement of this delivery milestone.

Achievement of cumulative total delivery of 25,000 GIS units

[Brief history of main products]

1. Reduction in size of GIS

Nissin Electric embarked on the development of GIS in the latter half of the 1960s. Compared to conventional air-insulated open-type substations, GIS-type substations have a significantly reduced footprint and improved environmental resistance performance because all the components, including the charging bus and components, can be stored in a metallic enclosure. Thus, GIS became the mainstream product of Nissin Electric.

1972: Delivered the first isolated-phase 72/84 kV GIS unit.
→The charging unit was arranged in an insulating gas, and the three-phase conductors were stored in separately grounded metallic enclosures.

1976: Developed three-phase-in-one-enclosure-type GIS.
→ This GIS unit featured a three-phase-in-one-enclosure structure.

1982: Developed C-GIS (cubicle type gas insulated switchgear) with an all-in-one structure.
→ This GIS became the forerunner of the current C-GIS, which collectively stores components, such as circuit breaker and disconnector, in a rectangular enclosure.

1985: Developed compact GIS.
→The size was reduced to about 50% of that of three-phase-in-one-enclosure type GIS thanks to advancement in integration, operation method, and arc-extinguishing technology.

2003: Developed XAE7, an ultra-compact GIS unit to meet private sector demand.
→ The size was reduced to less than 10% of early isolated-phase GIS. The footprint was halved compared to Nissin Electric's conventional products for the private sector at that time. Nissin Electric's technology innovation for its proprietary circuit breakers and disconnectors made it possible to store two circuit breakers in a single unit by reducing the size of the circuit breakers. An ordinary unit consisted of one circuit breaker.

2. Expansion of the voltage rating and global deployment

At first, the mainstream products were in the 72/84 kV voltage class. To meet the various customers' needs, such as reduction in size, maintenance-free products, and environmental friendliness, Nissin Electric expanded the rating and promoted improvement and technology development. It commercialized GIS units with a rating between 7.2 kV and 252 kV. Demand for GIS also increased in overseas markets. In the latter half of the 1990s, Nissin Electric started to offer GIS units with a rating between 22 kV and 168 kV in Taiwan. In the first half of the 2000s, Nissin Electric established a production facility in China to deliver GIS units with a rating between 126 kV and 252 kV.

The Nissin Electric Group has contributed to many projects to build global electric power infrastructure, such as delivery of electric power equipment and phase modifying equipment for the UHV (ultra-high voltage) tertiary circuit to State Grid Corporation of China, a power transmission and distribution company in China, at the venues of the 2008 Beijing Olympics, delivery of products to an electric power company in Taiwan, and delivery of environmentally friendly GIS units for public equipment in Japan. Nissin Electric has been highly evaluated for the reliability of its substation systems, including GIS units. Its GIS units have been used by electric power companies, plants, and commercial facilities. In the 72/84 kV class, Nissin Electric has maintained one of the largest market shares in Japan as a leading supplier. Such accomplishment has led to the attainment of a cumulative total delivery of 25,000 units.

Nissin Electric remains committed to reducing the size of switchgear and contributing to further improving the reliability of substation systems with attainment of the SDGs in mind. Nissin Electric will also offer advanced GIS units by combining cutting-edge technologies with its core technologies, which have been refined through many years of operations, to meet the diversifying needs of customers in the current renewable energy market and new markets, including distributed energy resource systems.

The Nissin Electric Group has been stepping up its efforts to promote the SDGs through its business operations. This accomplishment contributes to the following goals among the 17 SDGs.

- 7. Affordable and Clean Energy
- 9. Industry, Innovation and Infrastructure
- 13. Climate Action