News Release

TOSHIBA

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Toshiba Energy Systems and Solutions Corporation

Toshiba to Increase Production of Polymer Housed Surge Arresters

-Contribution to Robust Power Grid to Achieve Carbon Neutral-

KAWASAKI, Japan—Toshiba Energy Systems & Solutions Corporation (hereinafter "Toshiba ESS") today announced that its current product capacity of polymer housed surge arresters (*1) will be nearly tripled by April 2022. Toshiba ESS is manufacturing a surge arrester which can protect power transmission/distribution facilities and equipment, such as power plants, substations and transmission lines, from overvoltage caused by lightning, as well as carrying out the operation of circuit breakers for Hamakawasaki Operations in Japan.

In recent years, demand for renewable energy has increased in order to achieve carbon neutral, and thus, ensuring the reliability of the power grid has become more important. In addition, there is a need to improve the resilience of transmission and substation equipment for large-scale lightning strikes, so the need for surge arresters, which are protective equipment, is expected to increase more and more. Furthermore, the global market size of surge arresters is expected to increase from 120 billion yen in 2020 to 150 billion yen (*2) in 2025.

Polymer housed surge arresters are widely applied all over the world, since they provide superior advantages, such as durability, anti-pollution performance for outdoor use, light weight and high anti-seismic performance, compared to the former porcelain-type surge arresters. Toshiba ESS's polymer housed surge arresters are smaller, lighter and higher reliability than other products by using the world's highest-level technology of in-house developed and manufactured zinc oxide elements, which have high lightning energy absorption capability, as well as high-voltage gradient ZnO elements (*3). Toshiba launched polymer housed surge arresters in 2001, and since then, the company has more than 50,000 supply records for power transmission lines and substations all over the world. Furthermore, in 2018, Toshiba supplied a product that improves lightning impulse-withstanding capability by 1.7 times compared to the previous one.

Mr. Koji Saito, Director and Vice President of the Grid Aggregation Division at Toshiba ESS, said, "To provide more polymer housed surge arresters all over the world, Toshiba ESS has decided to increase the product capacity. While introducing manufacturing equipment, such as injection molding machines, the company is also improving produc-

tivity through efficient investments. The company will contribute to strengthening infrastructure to move toward achieving carbon neutral through this arrester business expansion domestically and overseas."

Note 1: An insulator is placed around the circumference of zinc oxide elements having non-linear resistance characteristics and integrally molded with silicone rubber to maintain mechanical strength.
Note 2: Source: GLOBAL LIGHTNING ARRESTER SALES MARKET REPORT 2020
Note 3: The number of applicable zinc oxide elements can be reduced by increasing the voltage gradient per unit length.

Toshiba ESS's polymer housed surge arresters (3kV-550kV system)

About Toshiba Energy Systems & Solutions Corporation

Toshiba Energy Systems & Solutions Corporation is a leading supplier of integrated energy solutions. With its long experience and expertise in wide range of power generating and transmitting systems and energy management technology, the company delivers innovative, reliable and efficient energy solutions across the globe. Split off from Toshiba Corporation (TOKYO: 6502) in October 2017.
https://www.toshiba-energy.com/en/index.htm