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Sumitomo Electric Industries, Ltd

## **Sumitomo Electric Delivers 115kV XLPE Triplex Cable and Completes Cable System Retrofit Replacement Project in San Francisco**

**Sumitomo Electric Industries, Ltd. and its subsidiary, Sumitomo Electric U.S.A., Inc., are pleased to announce the successful completion of the pipe type cable to XLPE cable system retrofit replacement project in San Francisco, California. The project was completed on May 16, 2020 after the cable system had passed all the construction tests.**

The project known as San Bruno Interchange Project, developed by Pacific Gas and Electric Company (PG&E), included the replacement of one existing pipe-type cable system (high pressure gas filled type) with a new solid dielectric cable system, while maximizing the reutilization of existing infrastructure, maintaining current transmission capacity of the circuit, minimizing construction civil works, and minimizing potential maintenance costs and operational costs.

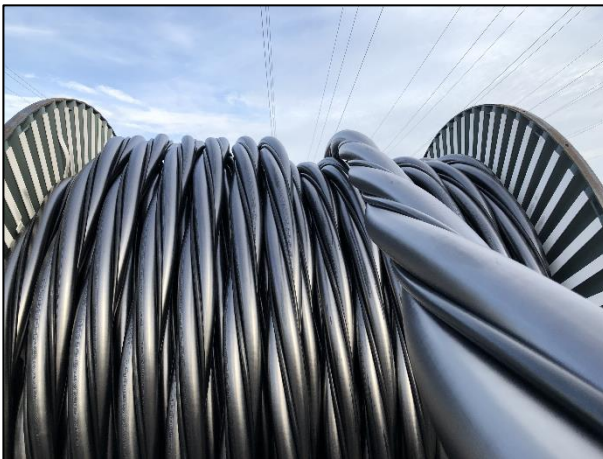
The project consisted in installing a new AC 115 kV cross-linked polyethylene (XLPE) insulated underground power cables into an existing 8" steel pipe, to feed into the existing substations between San Bruno and South San Francisco, CA, connecting the San Mateo to overhead lines. The circuit route that connects the two substations between the interchange section is approximately 1,200 feet (365 meters) in length. For this project, there was a requirement for the power cables to be replaced while keeping the existing 8-inch-diameter (about 20.3 cm) steel pipes intact.

The project also included the installation of air-blown fiber optic cable, distributed temperature sensing (DTS) system and related equipment, jointing work at manhole and terminating work at sub-station terminals, field testing and commissioning testing. Cable installation work was completed without incidents within budget and ahead of schedule. Cable installation and testing were completed on March 15<sup>th</sup>, 2020, followed by energization of the circuit by PG&E on May 16, 2020.

For this project, Sumitomo Electric designed, supplied and installed its new high-voltage cross-linked polyethylene (XLPE) triplex cable and accessories using its US- and Japan-patented technology. The XLPE triplex cables were manufactured by Sumitomo Electric in Japan, and supplied by Sumitomo Electric U.S.A., Inc.

Sumitomo Electric's leading edge triplex cable consists of uniquely designed three stranded single-core XLPE-insulated cables that provides high current capacity with a largest conductor of 2500 kcmil, while mitigating the thermal-mechanical behavior inherent to power cables and reducing the workload and spaces required for installation compared with single-core cables.

Sumitomo Electric has developed its innovative XLPE triplex cable technology through its own research and development initiative and by consultation with its customers. Sumitomo Electric has proposed its triplex cable as an alternative solution to challenges and concerns with existing pipe-type cables. This technology allows to maximize the use of existing infrastructure, while maintaining the current transmission capacity of circuits and minimizing construction costs and time. Sumitomo Electric's triplex cables meet the AEIC industry standards for cable insulation thickness for electrical stress, and have been in commercial operation in the U.S. since 2018.



(left) Sumitomo Electric's 115kV XLPE triplex cable on drum

(right) installed in 8-inch steel pipe.

The result of this significant project successfully met the goals set by Pacific Gas and Electric Company, and it was delivered by a team of experts including Black & Veatch Construction Inc., a Black & Veatch company, as the EPC Prime Contractor, and Sumitomo Electric as the cable system design and manufacturer in association with New River Electrical Corp as the installation subcontractor.

## **About Sumitomo Electric Industries, Ltd.**

Sumitomo Electric Industries, Ltd. was established in 1897. With the history in electric wire and cable manufacturing, Sumitomo Electric has invested heavily in research and development to expand and establish new businesses. These efforts have allowed us to create new products and new technologies, as well as diversify our business fields. Currently, we operate our businesses on a global basis in five segments: Automotive; Infocommunications; Electronics; Environment & Energy; and Industrial Materials. We continue to contribute to society through environmental friendly and fair business activities.

## Reference:

The Leading Company for High Voltage Cable and Overhead Conductor

<https://global-sei.com/power-cable-business/>

Sumitomo Electric's Website

<https://sumitomoelectric.com/>

Press release May 11, 2020

Sumitomo Electric secures >€500M "Corridor A-Nord" High Voltage DC Underground Cable Project in Germany which sets new innovative benchmarks in the HVDC Industry  
<https://global-sei.com/company/press/2020/prs043.pdf>