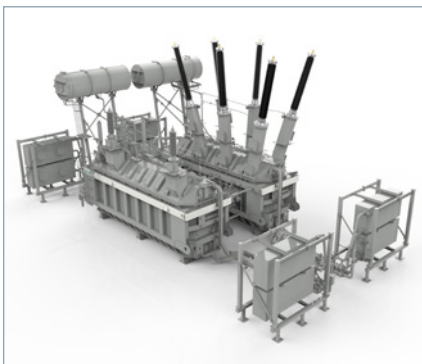


World's first phase-shifting transformer with ester insulation liquid

Siemens introduces the next level of eco-friendly transformer technology, in this way underpinning its status as the most innovative supplier of power transformers.

Phase shifters are special transformers that enable cost-effective load flow management and grid asset optimization in complex grids. With generation dispatch and transmission grid load becoming increasingly volatile, the demand for phase shifters continues to grow, as circuit overloads need to be reduced without compromising grid stability and flexibility.

The need for safe and reliable grid operation is especially high in densely populated metropolitan areas for the overall stability of the grid. However, transformers that are to be installed in such areas need to be extremely quiet and have to meet particularly high requirements in terms of reliability and eco-friendliness to protect the envi-



Standard phase-shifting transformer

ronment in the unlikely case of a failure.

No surprise, then, that Siemens, the supplier with most references worldwide in terms of alternative insulation liquids for power transformers, has now received the order for the world's first phase shifter that is filled with ester oil instead of mineral oil. The organic-based, nontoxic insulating liquid is biodegradable with an extremely high flash point.

This enables the cost-efficient installation of the phase shifter in the direct vicinity of residential and commercial buildings.

The 138/138-kV phase shifter now being manufactured by Siemens will be installed in a metropolitan area on the East Coast of the US to help the local utility control the power flow and rapidly adjust to changes in the power demand in the system. The 60 Hz 300-MVA unit will feature a ± 25 -degrees phase angle and will have two active parts in one tank. The entire design ensures a high overload rating for safe and reliable operation, and a maximum sound pressure level of only 50.3 dBA at 300 MVA including the noise of the windings and pumps, which is the noise level of a standard dishwasher, enables operation in residential neighborhoods.

The phase-shifting transformer will be delivered to the US in the fall, and can be installed in record time thanks

to its innovative plug-in bushings – a result of Siemens' modular transformer concept called Pretact®. This unique concept comprises numerous features that help customers save considerable time and money during the installation and operation of Siemens transformers, among them motor-operated valves to shut off the radiator banks in case of an emergency, flexi-components in the mechanical installation, and plug-in wiring connections. These advantages will also tremendously increase health and safety standards.

The new, eco-friendly phase shifter that boasts all advantages of the Pretact® concept emphasizes Siemens' expertise and experience in designing and building outstandingly efficient and reliable transformers. "One of our core aims is to provide versatile solutions that help our customers minimize their efforts in operating sustainable and eco-friendly solutions," says Christian Ettl, project manager at Siemens.

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