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SOLID STATE POWER AND KEY UTILITY PARTNER SUCCESSFULLY TEST FULL SCALE PROTOTYPE OF SOLID-STATE MEDIUM-VOLTAGE TRANSFORMER

DALLAS, Texas. Solid State Power LLC (“SSP”), together with a major US utility partner, have successfully tested a full-scale prototype of their commercial grade solid-state medium-voltage distribution transformer.

SSP’s first generation prototype was built to prove the viability and scalability of its patented technology and is based on hardware representative of conventional units operating on the grid today. The 25kVA rating is the most commonly deployed spec on the distribution grid while the primary input of 7.2kV 60Hz and output of 2x120VAC represent a typical single-phase distribution transformer use case.

The three-day joint testing program focused on the verification of the performance parameters fixed in the initial specification. Three basic types of power loads were deployed including 90kW resistive load bank, a 750 μ F capacitive load bank and 2 x 24,000 BTU inverterless A/C systems.

The prototype demonstrated clean and consistent power conversion operation across the entire range of load types and power levels while keeping excellent thermal performance with max temperature rise staying below 20°C. Despite it being a first generation model, the prototype was smaller and weighed 50% less than a conventional unit.

The strong test performance of the architecture and technology allowed the joint team to extend further the testing program with several additional use cases:

1. Automatic voltage regulation of +/- 10% input voltage sags and spikes while delivering constant secondary voltage output
2. Continuous normal operation at power factor levels approaching zero
3. Overcurrent stress operation at over 150% of power rating

The prototype successfully passed all tests and demonstrated in practice the viability as well as the scalability potential of SSP’s patented technology. Additionally, the testing program enabled the joint team to gather valuable data and define the areas for optimization in the preproduction model which will result in a significantly smaller, lighter and highly capable commercial product.

About Solid State Power

Founded in 2020 in Dallas, Texas, Solid State Power is developing the world’s first commercial-grade, medium voltage, all solid-state transformer in partnership with major grid operators. The company and its partners have successfully tested a full-scale prototype based on SSP’s patented technology and are in the process of developing and building a pre-production unit.

For further details please visit: www.solidstatepower.net or contact Plamen Jordanoff, CEO/Co-Founder at p.jordanoff@solidstatepower.net