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ABSTRACT

By 2029, more than 21 GW of wind power capacity will be added in Brazil. The intermittency of this source and the capacity factor of wind farms are not being considered in the specification and design of the generator step-up (GSU) transformers collector. The use of high temperature insulation materials, mainly natural ester insulating liquid, allied with the consideration of a realistic loading profile, can help the optimization of the transformer size, allowing savings in the total losses in annual operating cycles, as well as savings in the initial transformer investment costs. The paper will present a proposal of new characteristics for the specification of GSU transformers for wind farms application.