Generator rotor wind zone division standard

Can a generator rotor be converted to a direct cooled winding?
Depending on the design of the rotor,in some casesit is possible to convert to a direct-cooled winding. Converting involves machining subslots in the rotor forging below the coil slots. Because of rotor geometry and size,this modifica-tion is not possible on all rotors. Q. Is there asbestos in generator rotor insulation and blocking materials?

Can rotor speed control be used in variable-speed variablepitch WTGS?
In practice,the pitch angle control (PAC) and the rotor speed control (RSC) methods can be usedfor APC in variable-speed variablepitch WTGs,but the latter using turbine inertia as energy buffer is more attractive due to less pitch activation and higher wind energy production.

What design constraints limit the size and life of generator rotors?
The three design constraints that limit the size and life of generator rotors are temper-ature,mechanical force and electrical insula-tion. Figure 1 shows a basic mechanical outline for a typical generator field. Note the major compo-nents: There are,of course,variations on this configu-ration.

What is a field winding rotor?
To understand the intricacies of the field wind-ing design,it must be remembered that the basic function of the rotor is to produce a mag-netic field of the size and shape necessary to induce the desired output voltage in the stator. The rotor can be visualized as a large rotating electromagnetwith north and south poles.

Can a direct cooled rotor uprate a gas turbine?
The same applies to a direct-cooled con-version or a replacement rotor with perhaps more uprate capability. It has been common to support a gas turbine or steam turbine uprate by taking advantage of the existing generator margin (i.e.,just operate the generator at a higher power factor than origi-nally designed).

What are the components of a rotor system?
1. Rotor system. This includes bladesthat capture energy and a rotor hub that connects the blades to the shaft,along with pitch mechanism that assists in efficient capture of energy. 3. Tower and foundation. These structural elements carry all the forces and moments to the ground 2. Nacelle.

simulations were carried out on both a full wind turbine rotor and on selected aerofoils with the same cross sections as on the wind turbine rotor. 2.1. Rotor simulations The DTU 10 MW wind ...

electricity produced by the wind turbine generators is closely linked to the rotor diameter. The rotor ... Regional Division for Wind Resources . Region A: regions with rich wind resources, ...

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2Gulbarga Electricity Supply Company (GESCOM), Bellary Division, India. Accepted 19 August, 2010 This paper describes the rotor angle stability analysis of a distributed generators ...

to focus on inventing a generator which can be suitable to be used for high-power application as a result use of multiple phase generator came into action. A dual stator induction generator ...

In MW-sized wind turbines, the most widely-used generator is the wound rotor induction machine, with a partially-rated voltage source converter connected to the rotor. This generator is a ...

This study investigates the condition monitoring of wind turbine wound rotor and doubly fed induction generators with rotor electrical asymmetries by analysis of stator current ...

4 Industrial & Off-Line Power Division, ON Semiconductor, 2-1-1 Osaki, Shinagawa-ku, Tokyo 141-6006, Japan ... wind generators, its frequency regulation capability is related to ... The ...

Fig. 2a shows the waveform of the "ABC" and "XYZ" phase current, rotor speed, electromagnetic torque profile under varying wind speed condition (i.e. from 0 to 18 m/s). It can be observed from the figure that the ...

year, and the failure rate of generator rotor is on the rise, among which turn-to-turn short circuit accounts for the largest proportion. The turn-to-turn short circuit fault of the rotor winding that ...

The rotor of a 12 kW direct driven PM generator has previously been redesigned and built with ferrites substituting NdFeB PMs [7]. The generator is to be used with a vertical axis wind ...

The aim of this paper is to control a fixed speed wind turbine driving a three-phase synchronous generator that directly connected to the utility grid at normal and abnormal conditions.

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