Steam turbine generator stator wind zone partition

Why do turbine generator stator end windings vibrate?
Turbine generator stator end windings vibrate due to electromagnetic forcesgenerated during normal operation or under fault conditions. In normal operation,electromagnetic vibration of a stator core and the electromagnetic forces created by current flowing in stator bars excite the end windings at twice the power frequency (100 or 120 Hz).

How to measure change in current in a steam turbine generator?
The change in current was measured while increasing the AC voltage to 14.4 kV,which is 1.25 times the phase voltage (11.5 kV),for phases A,B,and C,by separating the neutral point of the steam turbine generator stator windingas shown in Fig. 1.

Do off-line generator stator windings have insulation degradation?
Insulation diagnostic tests are being conducted to evaluate the insulation degradation of off-line generator stator windings.

What factors affect the vibration characteristics of a generator stator end?
Some more complex factors such as preload,damping,electromagnetic,temperature,frame,and rotorcan be added to the model,and the influence of multiple factors on the vibration characteristics of the generator stator end can be considered comprehensively.

What are GE steam turbine controls?
Thecornerstone of GE steam tur-bine controls is the SPEEDTRONIC Mark V digi- talcontrol system, nowbeing offered asstandard equipment on all new steam turbine u its. Figure 34. Modularized binecontrols.

Where do windings go in a generator?
windings through full-length subslotsandis dis-charged along the length of the rotor body thegenerator. On most designs they are shrunk on to the end of the generator b dy,as shown in through radial slots,machined or punched,in the copper conductors. The hydrogen passes from Figure 26.

Design of Conductor-Cooled Steam TurbineGenerators and Application to Modern Power Systems N. H. Jones, Member IEEE M. Temnoshok, Senior Member IEEE Abstract: Principles which influence the design, application, and ...

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.

Insulation abrading or failure by copper fatigue can result if left for an extended period of time. IEC 60034-32

and IEEE 1129 describe methods to monitor endwinding vibration on-line with fiber ...

Erosion in low pressure turbine stages is due to the high rate of expansion and the presence of wet steam. Water droplets after condensation deposit mainly on the trailing edges of the stator ...

Turbine - Steam, Technology, History: The first device that can be classified as a reaction steam turbine is the aeolipile proposed by Hero of Alexandria, during the 1st century ce. In this device, steam was supplied through a hollow rotating ...

The stator ventilation duct is the main path for fluid flowing to cool the stator bar and the core. Considering the complexity of the ventilation system, the investigation on the ...

Turbines are used all over the world for the production of electricity. The use of turbines is increasing day by day. There are multiple types of turbines that are designed according to the ...

1 INTRODUCTION. Wind energy has the advantages of being abundant, pollution free, widely distributed and renewable. According to a Global Wind Energy Council (GWEC) report [], the globally installed wind power ...

The windings of the turbine generator were mainly used for power generation, and the failure of the winding caused much damage to the stator. In this paper, fault tree analysis (FTA) was ...

The second boundary condition is given by information from thermocouple in stator part. For equal rotor and stator thermal conductivity one can expect the same temperature in appropriate rotor ...

2Generator Division, Mitsubishi Hitachi Power Systems, Ltd., 1-1, Saiwai-cho, 3-chome, Hitachi-shi, Ibaraki, Japan E-mail: yoshihiko.iga.hu@hitachi Abstract: In this study, the authors ...

Learn about the generator stator winding diagram, including its components and how it plays a crucial role in the generation of electrical power. ... (AC) voltage that is used to power various electrical devices. The stator winding is located ...

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