Generator blade vibration

What causes a blade to vibrate?

The main sources of blade vibration are the vibration of the shaft and vibration-inducing mechanisms of the flow,such as surge or stall. However,these phenomena are not powerful enough to damage a blade if resonance does not occur. Therefore,blade resonance may be thought of as the common factor underlying most blade fractures.

How rotor blades damage a gas generator?

The rotor blades are directly connected to the hub of the rotor system,and the erosion damageto the rotor blades is closely related to the vibration state of the rotor system of the gas generator,,,.

Why does a gas turbine generator vibrate a lot?

The gas turbine unit vibrates high in the idle 3000 r·min ?¹ and full load. The large vibration of the generator is mainly caused by the following two factors:the imbalance in the overhanging end of the generator rotor and the electrical fault in the generator itself.

Why does my Generator vibrate so much?

The large vibration of the generator is mainly caused by the following two factors:the imbalance in the overhanging end of the generator rotor and the electrical fault in the generator itself. The unbalanced amount of generator overhang was successfully eliminated by dynamic balance test.

There are mainly two input sources of blade vibrations in large steam turbines: The excitation of blade vibrations due to time varying steam forces acting on the rotating turbine blades and the excitation of ...

The large vibration of the generator is mainly caused by the following two factors:the imbalance in the overhanging end of the generator rotor and the electrical fault in the generator itself.

In situ vibration measurements were carried on the bearing housing on steam turbines and the generator of a typical TG set with a problem of the LP turbines stage blades cracking.

By Tom Reid, Vice President of Power Generation Services, ENTRUST Solutions Group In the world of large steam turbine generators, even the smallest imbalances can lead to significant challenges. ...

The instability of rotating shafts, the flutter of turbine blades, the flow induced vibration of pipes and aerodynamically induced motion of bridges are typical examples of the self-excited ...

Blade vibration is defined as the oscillatory motion experienced by turbine blades, which can lead to failures such as high cycle fatigue and corrosion fatigue, emphasizing the need for understanding ...

Hence, these two models cannot stimulate the impact caused by the shroud on the blade during shaft vibration. Therefore, it is necessary to establish a new vibration model for simulating the ...

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Analysis of the cause of abnormal noise from generator blades What causes high vibration in a turbine generator? Data from proximity probes installed on turbine generator system are captured and ...

The vibration characteristics of the rotor system of the gas generator of an aero-turboshaft engine under blade erosion damage are studied innovatively in this paper. The theoretical formula for ...

The umbrella type vibration of the last stage blade disk of the low pressure turbine can be induced by the external excitation which caused by the torsional vibration of the turbine-generator shafts. However, ...

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