# Generator blades are prone to damage



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In this article, we"ll explore the causes of turbine blade damage, its impact on performance, and the steps utilities can take to inspect, repair, and restore blades to keep their turbines running smoothly.

Initial investigation pointed out that three blades were fractured and several others were cracked just about 11 hours after resuming operation following the last major overhaul, causing extensive damage ...

Problem: Many generator components are susceptible to fatigue stresses that can initiate cracking. To illustrate: Low-cycle fatigue cracking caused by cyclic operation can occur in rotor-forging tooth tops ...

Fractures in gas turbine cooling fan blades occurred within the first 100 hours of operation. Analysis revealed high cycle fatigue as the primary cause of blade fractures. Resonance conditions can lead ...

This behavior is called contact fatigue which results component A fatigued contact loading component experiences in the presence micro-slip of in increased ultimately tensile and non-friction a damage ...

The potential failure of generator rotor fan vanes and blower blades ...

Foreign object damage occurs when debris enters the gas path during operation. Small particles create microscopic impacts on the blade surface. These impacts accumulate over time, leading to ...

Hence, the main objective of this paper is to present the major causes of Kaplan turbine failures to prevent excessive damage to the equipment and provide practical solutions for them. In general, ...

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The potential failure of generator rotor fan vanes and blower blades has been identified as an area for detailed risk assessment in the electric power generation industry.

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Several cases relating the damage mechanisms associated with blades failures, e.g., corrosion-erosion, carbides precipitation, oxidation, coating degradation, high and low cycle fatigue, ...

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