The generator rotor air outlet changes color

What causes a generator rotor to degrade?
One component of the generator that is typically refurbished,upgraded or uprated is the generator rotor (field). Degradation of the generator field can be caused by a number of factors,including a breakdown in insulation due to time and tem-perature and mechanical wear.

What factors affect a generator rotor?
There are a number of other concerns that also affect generator rotors. Thermal sensitivityis the term used to describe an excessive vibration of the generator rotor,induced by the heating effect of the field cur-rent. As field current flows in the winding,the copper heats up. Two things happen as a con-sequence:

How does a generator rotor and stator work?
The generator rotor and stator incorporated inlet and outlet sections along their axial lengths to achieve uniform coolingalong the length of the generator field. This uniform cooling elim-inated axial hotspots and allowed the ratings of the generators to be increased.

Can a generator rotor be changed?
Many options are available to the user in which the rotor can be restored to the original condition, modified to present day design condition or replaced with a new, upgraded design. Modifying or replacing the generator rotors also gives the user the possibility of uprating the generator. Q. What is the typical lifespan of a genera-tor rotor?

What are the components of a generator rotor?
the size and life of generator rotors are temperature, mechanical force and electrical insulation. typical generator field. Note the major components: rework or modifications is also discussed. This There are, of course, variations on this configuration. For example, while the illustrated design uses radial fans, other designs use axial fans.

What causes a generator rotor insulation breakdown?
What are the most common causes of a generator rotor insulation breakdown? A. The degradation in insulationis caused and/or operating incidents. A breakdown in the insulation will cause shorted turns between conductors or a the field forging or retaining ring.

This project covers certain types of rotor generator vibrational problem, including both conventionally-cooled (indirect copper cooling) windings and direct. cooled copper windings as ...

stalled air-gap flux probes is a well-established technology to de-termine the presence of shorted turns in a turbine generator rotor winding. Flux measurements are normally performed using ...

the extremities of the rotor. The air flows axially through the rotor-stator air gap before entering the stator ventilation channels. In the case of radial cooling, the rotor is also used as a radial fan. ...

The outer diameter of the rotor is 8.64 m and the height of it is 1.8 m. The rotor possesses 32 poles. The air gap between the rotor and the stator is 25 mm and the rotation speed of the ...

Worn rotor shaft bearing. If you observe noise and terminal voltage instability, it could indicate excessive wear on the rotor shaft bearing, leading to changes in the air gap between the stator and rotor windings. The ...

Hribernik et al. [4] carried out an investigation into the malfunction of a 10 MW hydro-generator"s air-cooling system. Mayle et al. [5] studied about rotating flow in an air gap ...

Integrated Generator Rotor and Stator Winding Condition Monitoring Middle East Rotating Machinery Technology & Innovation Conference C. Chan M. Sasic G.C. Stone ... a stator ...

One of the most important parameters of powerful hydro generators (HG) is the air gap between the rotor and the stator, and its deviation from the set norms is a defect that can lead to serious...

Page 5 of 25 first cell distance. This is based on a speed of 6000rpm which is equivalent to the local Reynolds number, Re? of 5.96e 5 calculated by (1): (1) . Where ? is the rotor angular ...

When a generator trips and rotor speed decreases, the centrifugal forces that hold the end turns in a compact package decrease dramatically. At low speed, gaps between the copper winding ...

The symmetrical design of the generator ensures that the rotor poles extend over equal arcs and that the magnetic flux density distribution is similar across all stator windings. Magnetic poles ...

dynamics of the rotor. Identification of the air gap, which is described in the article, is based on defining and measuring the shape of stator, and the rotor within the stator, in order to ...

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