

## عنوان مقاله:

Application of Hot Spotting Method for the Straightening of a Large Turbine Rotor

## محل انتشار:

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## نویسندگان:

E Poursaeidi - Department of Mechanical Engineering, University of Zanjan, Zanjan, Iran

M Kamalzadeh Yazdi - Moharrek Mechanism Sanati Arya Co. (MECASA), Tehran, Iran

## خلاصه مقاله:

Different problems may cause distortion of the rotor, and hence vibration, which is the most severe damage of the turbine rotors. Different techniques have been developed for the straightening of bent rotors. The method for straightening can be selected according to initial information from preliminary inspections and tests such as nondestructive tests, chemical analysis, run out tests and also a knowledge of the shaft material. HIP turbine rotors operate in a specific temperature range. Among many problems that occur during the service life of rotor few important issues are temper embrittlement, creep, thermal fatigue, corrosion, and local distortions. According to test results, hot spot straightening method was studied. Experimental studies were carried out at 16 stages. The experimental results showed that selecting a large hot spot area will not lead to the required straightness, but by reducing the heating area, the heating time decreased, and the straightening process achieved a satisfactory amount of reverse deflection. Heating the overlapped areas produces undesirable effects, such as local residual stress and/or hardness and cracks; moreover, it is not effective in straightening. Use of the finite element method before practical hot spotting is recommended to achieve satisfactory results.

## کلمات کلیدی:

,Hot Spotting, Rotor straightening, Experiments, Annealing, Distortion

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