

# SERVICE PROBLEMS OF FRESH AIR FAN OF FOSSIL FUEL POWER PLANT - PART I CASE STUDY OF PRIMARY STAGE AIR FAN FAILURE

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## ABSTRACT

It is generally accepted that the efficient period of exploitation of a fossil fuel power plant is about 30 years, or, perhaps, even longer. However, the practice has shown that the availability of this type of plants is often less than the expected one due to the unforeseen outages resulting from a multitude of causes. The most frequently cited causes are due to mounting and service flaws. However, according to our experience the design and technological flaws play a very important role particularly in those outages that generate considerable and often catastrophic damages. The technological flaws are primarily due to the quality of the built-in material. In the presence of this type of flaws and despite the monitoring of the vital system/components and the technical ability of the fossil fuel plant crew, neither the outages nor the ensuing consequences could be predicted. In this work an analysis of the outage of a vital fossil fuel plant component, fresh air fan, was investigated. Despite the presence and functioning of the monitoring equipment, the outage occurred suddenly and caused considerable and costly damage not only because of the total destruction of the fan but also a long time required to replace it. In order to determine the causes that provoked the outage detailed material testing of the fresh air fan parts was carried out and the analysis of possible causes as well as means of preventing similar occurrence in the future was presented. Based on the results obtained it was concluded that a multitude of technological and design causes were responsible for the outage.