

BLADE HEALTH MONITORING FOR FAILURE PREVENTION AND OPERATIONS INTELLIGENCE

Kamel-Abdelkader Tayebi,
Abdurrahman Khalidi
GE Power

Bakr Alshehri
Baker Hughes

ABSTRACT

Blade health monitoring systems (BHM) enables gas turbine operators to monitor blade displacement and vibration to detect anomalies that may lead to catastrophic failures. This paper provides insight towards robust commissioning and integrated monitoring of a BHM system installed on a turbine in plant that witnessed failures. We particularly show how BHM can be combined with engine operation information for a better understanding of the impact of operational changes on blade behavior and how it can be used to prevent damage initiation. The end result is higher reliability and the continuous development of site-specific and engine-specific knowledge base that can be used for predictive analysis and decision making.