

Pemantauan unjuk kerja gas turbin untuk prediksi jadwal pemeliharaan berdasarkan kondisi (condition based maintenance) = Gas turbine performance monitoring for maintenance schedule prediction based on condition (condition based maintenance)

Fauzan Fadhilla, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20445736&lokasi=lokal>

Abstrak

Gas turbin engine akan mengalami degradasi sejalan dengan waktu menjadi perhatian utama perusahaan oil dan gas karena akan berpengaruh terhadap engine reliability, availability, dan maintenance cost. Time based maintenance mengabaikan kondisi performance gas turbin apakah dalam kondisi sehat atau rusak, tetap dilakukan overhaul jika telah tercapai TBO Time Between Overhaul antara 25.000 jam. Kerusakan pada gas turbin sebelum TBO sulit terdeteksi.

Performance monitoring mampu mendeteksi degradasi gas turbin sehingga membantu penggunanya untuk beralih dari Time based ke Condition Based Maintenance. Dari pola degradasi gas turbin, dapat ditentukan prediksi sisa umur pakai dengan menggunakan metode regresi dan analisa resiko.

Gas turbine will experience performance degradation align with operation time. The degradation of gas turbine performance will be main focus in oil and gas company since its affecting to the reliability, availability, and maintenance cost. Time based maintenance was ignoring gas turbine performance whether it still can be running or it will be failed, gas turbine overhaul is still carried out when running hours reached Time Between Overhaul TBO at 25.000 hours. Gas turbine failure before overhauling schedule is difficult to predict when time based maintenance strategy applied.

Performance monitoring can detect gas turbine degradation so that assist oil and gas company as the user to change their maintenance program from Time Based to Condition Based Maintenance. Based on gas turbine performance degradation pattern. It can be determined the remaining useful life of gas turbine prior to overhauling by using regression method and carry out risk analysis.