



VJIKKS ENGG POWER (M) SDN BHD, Malaysia
A One Stop Engineering Solutions Provider (Since 2010)

Gas Turbine Major Overhaul

Introduction

Gas turbines are preferred by almost all the private power producers worldwide due to shorter time to complete engineering and procurement, shorter erection and commissioning period, faster start up and shutdown time.

With all these positive and advantageous factors which contribute for quick recovery of investment, another factor which the private power producers look for is longer availability of their gas turbine plants.

Longer availability is achieved by proper maintenance.

The team of engineering professionals who form **VJIKKS ENGG POWER (M) SDN BHD, Malaysia** are the one who were part and parcel of the team which achieved a World Record in a gas turbine major overhaul.

There are simple and minute factors which are to be looked at while planning and executing major overhaul and such factors are highlighted here in this paper.

Planning

Planning for gas turbine major overhauls typically must start with a minimum one year in advance. If such preparation is not taken up by the power producer, then we can straight away conclude that it is almost impossible to achieve a smooth and shorter period of major overhaul.

Team

While we say planning is important, automatically the next question comes up is who should do the planning. Basically in every power plant there must be four major departments namely operation, mechanical maintenance, electrical maintenance and controls and instrumentation maintenance. These departments work mostly independently and in case to case, work together depending upon the nature of the corrective and routine preventive maintenance task. However, in the case of a major overhaul, all must closely work together from the beginning until the end.

Coordinator

Having stated about Planning and Team, we can not proceed further if we do not mention the Coordinator.



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Who is this Coordinator? He is the person who will be the main link pin between OEM and the end user ie. maintenance departments of the identified power station where major overhaul has to be carried out.

All the maintenance departments can not be allowed to contact OEM independently or it will be a chaos.

Information from OEM

After the internal planning, once the OEM is informed about the intention and planning about the major overhaul and an enquiry is made to them, then they will come out with their offer of price, technical terms and conditions, recommended spare parts and a project schedule.

Scheduling

Once a planning is finalized, the next step is to prepare a detailed scheduling. When we say detailed scheduling, it must list down every small activity and the time scheduled.

Such a detailed scheduling can not be obtained from OEM. It must be done by the team of maintenance personnel. Detailed scheduling must include activities such as the arrival of fork lift and time of arrival of low loader etc.

Such detail will only lead to the achievement of shortest and smooth major overhaul.

Normal practice of Power Plant Operators

Most power plant operators just follow the schedule of OEM without going into detail of every task and splitting into multitasking. If such an exercise is not done, then achieving a shortest possible major overhaul would be impossible.

Start of Execution

After planning, scheduling, completion of procurement actions, when it comes to actual execution, one of the major and most important hurdle will be making the work front available with all the accessibility to OEM for carrying out the major overhaul.

When it comes to making the work front available and accessible, it is the responsibility of operators who only know and control the machine.

If there is delay in making the work front available to OEM, then the entire major overhaul schedule will have to be shifted and that will incur a loss of money and other resources.

Completion of Execution



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Once the major overhaul is nearing completion, it will be down to power plant operator to commission and start up the plant. Every hour or every one day delay will incur loss of money.

Minute details

When it comes to making the work front available to start the execution of major overhaul and also to start the commissioning of the plant after the completion of major overhaul, the minute details of the activity plays major role.

We, the team of **VJIKKS ENGG POWER (M) SDN BHD**, having experienced several major overhauls, from longest to shortest achieved major overhauls, have done one of our few innovative changes in three gas turbines in Sohar power plant, Oman and helped the power plant operator to achieve their goal of a shorter major overhaul.

We can be contacted and discussed to hire our expertise to help operators to achieve the shortest possible major overhauls and gain more out of it.