Operations and Maintenance Effectiveness In Power Industry
(Manpower Productivity Improvement at Thermal Power Plant)

Case Study
India

About Client

Base in India, client is one of the largest private power producers in the country. Client is supplying over 50% of the country’s imported coal needs.

Client has an installed capacity of more than 10000 MW and aims to move towards its ambitious target of 20000 MW by 2020 with the help of a world class team of Operations and Maintenance and an expert team by investing in cleaner and greener technologies along with top priorities in personnel safety and quality of operations.
Analysis

In discussion with the client, following analysis were made and following were found

- Huge difference between manpower on data and on field was different
- Manpower productivity was low
- Room for improvement via method study
- High Non-value adding activities
- Scope for improvement in effective employee classification
- Project review and monitoring mechanism
- Lack of proper safety measures

Approach

Project Initiation

- Conducted the Gemba Walk in order to finalize the scope of the exercise
- Defining type of study applicable for various activities and employees
- Conducted time and motion study for the ongoing process and activities
- Considered all the factors such as environmental conditions, difficulties encountered, nature of task, as per the ILO standards
- Studied Non value adding activity
- Applied lean tools to eliminate waste
- Identified Kaizens to reduce manual intervention, efforts and work content

Objectives

- Improve manpower productivity
- Reduce the labor costs
- Eliminate non-value adding activities
- Reduce operator fatigue
- Improve material flow
- Optimize manpower requirement
Project Implementation

Team Faber Infinite, conducted the time and motion study at the operations & maintenance function, coal handling plant, ash handling plant, plant housekeeping & other admin activities.

Time and Motion study

- Selected the operation of various departments to be studied.
- Carried out the process and listed all work elements.
- Broke all elements in sub elements.
- Calculated the cycle time by applying performance and allowance factors.

Work study

- List of activities along with their cycle times obtained from respective departments for identified positions.
- Initial utilization percentages calculated for verification.
- Reported activities with higher cycle times were further studied and verified.
- New utilization figures with revised cycles times were calculated.

Work study & benchmarking and Process Effectiveness

- Organization structure was analyzed.
- List of standard work and ad-hoc work prepared along with their cycle times and frequencies respectively.
- Utilization percentages were calculated.
- Industry benchmarks applied to positions and restructuring carried out.
- Safety measures to be implemented.

Results Delivered

Proposed ~12% workforce optimization as part of process effectiveness.

More than 25 Kaizens identified & recommended for productivity improvement.

More than 25 Kaizens identified & recommended for safety and ease of work.

Recommended reduction in the man hours through process optimization & low-cost improvements.

Sustenance

Implemented results shall be sustained over a period using Systematic Audit & Improvement Loop (SAIL) & Daily Work Management (DWM).

Visit Faber at www.faberinfinite.com for more information and a complete list of regional contacts or send us e-mail: consulting@faberinfinite.com