Asset Management

Operation & Maintenance

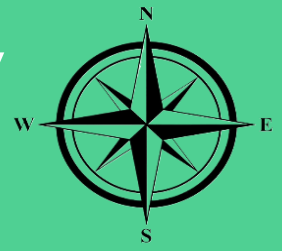
An Overview

TABLE OF CONENTS

O&M Structure

O&M is one of the most important verticals in Organization

The structure of O&M is divided into two regions : North/ West and South



Every Site will have a Site In Charge Manager and Sr. Engineers/ Engineers depending on the population of machines

At sites where we operate and maintain the SS, there will be a Sub Station Engineer

ROLES AND RESPONSIBILITIES OF O&M IN OUR AREA

Generate the Daily Generation Report (DGR)

Calculate the MA, IGA, EGA,PLF

Closely watch the WTGs which are stopped

The immediate corrective action shall be taken up with contractor for speedy restoration

Closely watch the WTGs which are stopped

TABLE OF CONENTS

FACTORS AFFECTING PERFORMANCE

Machine Availability

Internal Grid Availability

Spares Availability

Skilled manpower

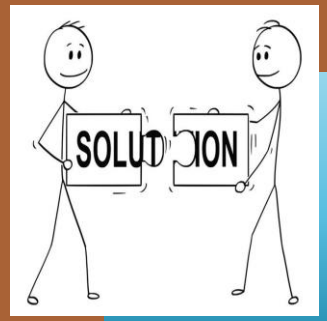
FACTORS AFFECTING PERFORMANCE

Other resources like tools, vehicle, laptop etc.

External Grid Availability

Upgraded software for WTG control

Load shedding



Local Issues

CONTROL CENTRE AND ITS IMPORTANCE

- The Control Centre operates 24×7 with live data from all sites, allowing real-time monitoring of WTGs and prompt action.
- This will reduce downtime; consequently, the machine availability (MA) will improve through real-time interventions from the Control Centre.
- The Control Centre serves as an effective asset management solution, enabling significant cost reduction in Operations and Maintenance (O&M).
- The main objective of the Control Centre is to increase revenue by minimizing WTG downtime and ensuring optimal performance as per the power curves. This is achieved through prompt, round-the-clock response to turbine conditions.

HOW MA AND GA AFFECTS THE OVERALL PERFORMANCE

MA and GA are the major factors in the WTG which will decide the output and performance of the WTG.

MA is purely in the hands of contractor in planning and arranging the resources like

- Spares
- Tools
- Manpower
- Vehicle
- SCADA
- Software

FACTORS AFFECTING GA

- Line Breakdown
- Poor maintenance
- Adverse weather conditions
- Availability of Spares
- Tools availability
- Manpower
- Govt. Decisions to impose load sheddings

ROLES AND RESPONSIBILITIES OF O&M IN OUR AREA

During Comp. O&M, all the replacements, whether major/ minor is to be done by the contractor

After replacement of any major component, detailed analysis of the failure will be done

RCA will be prepared based on the findings

Based on RCA, preventive measures will be taken up to avoid similar failures in the future

These study findings will be applied in the same fleet in our portfolio

HANDLING OF MAJOR FAILURES

During Comp. O&M, all the replacements , whether major/ minor is to be done by the contractor.

After replacement of any major component, detailed analysis of the failure will be done.

RCA will be prepared based on the findings.

Based on RCA, preventive measures will be taken up to avoid similar failures in the future.

These study findings will be applied in the same fleet in our portfolio.

IMPORTANCE OF INSURANCE IN OPERATION & MAINTENANCE

- General insurance – Fire, Theft, Burglary, FM Events
- Machinery Break Down – to cover the sudden stoppages due to break downs
- Public/Third Party Liability – To cover the untoward accidents if any to a third party/ public
- MLOP – Loss of profit due to machinery breakdown
- FLOP – Loss of profit due to fire
- The insurance amount may not be compensating the losses incurred, but it will help us in restoring the asset to the working conditions

CHALLENGES IN POWER MARKETING AND REVENUE REALIZATIONS

- Delay in recording the readings
- Delay in getting the JMR from officials
- Delay in submissions of Invoices
- Funds issue at the DISCOMs

HANDLING OF PERFORMANCE ISSUES OF WTGS WITH CONTRACTOR

Phase 1

- Understanding of contractual terms and conditions
- Review the DGRs and feedback from sites
- Apply the actual correction factors at the site
- Find the variance and take it up with the contractor for necessary corrections

Phase 2

- Down load the WTG data and plot the power curve on a monthly basis
- Find the variance and take it up with the contractor

Phase 3

- Compare the monthly generation with the generation as per the wind mast generation

PERFORMANCE

- Conduct regular review meetings with the contractors
- Performance of WTGs is one of the main topics of the meeting
- Repeated Errors occurring in the WTGs
- Suggestion for Design modifications
- Joint study to improve the performance

BLADE REPAIR WORK

We carry out blade maintenance like cleaning, repairs and any major reworks