Remote Vibration Monitoring System (RVMS)
Rotary Machine Vibration Analysis
Anywhere Anytime 24X7, 365 days
Power plants 20 years ago used to shutdown more frequently for maintenance. But now it has become the need to monitor the plant and increase the plant uptime to 95%. Power plants are divided according to the criticality. The most critical machines are turbines, compressors if any, which depends on the secondary critical machines like ID fans, FD fans, PA fans, BFP, CWP, CEP, Mill Motors, etc. Looking at today’s scenario it is important to monitor these critical machines for increasing the efficiency and thereby reliability of the plant machines. And hence real time vibration monitoring is the key to reduce the frequent failures of the machines in plants.

Many industries that are not aware of the criticality of vibration monitoring, practice periodic maintenance. For such sites, it is necessary to create awareness about the importance of predictive maintenance and go for a 24x7 monitoring solution to prevent the breakdown of expensive machines and hence reduce the cost of maintenance.

**Is it sufficient to monitor data for machines weekly or monthly?**

Currently, in many plants, the technical know-how of Vibration Monitoring is limited, which calls for specialized support and timely guidance to avoid emergency shutdown. **Forbes Marshall** provides the most economical solution for Advanced Remote Vibration Monitoring through the Vibro-Sense analysis software.

All the data related to vibration and process values of the machines are captured 24x7 at intervals as required by the user. So whenever we request for any data of any time, we will be able to get it. This will give the information of when the alarm had occurred, what was the fault i.e. abnormality in the machine.
With over 210 large power plant & 500 captive power plant VMS installations, Forbes Marshall is leading VMS supplier in India. In our vibration monitoring system product range, in addition to the present vibration monitoring transducers and monitoring systems, we have developed a new predictive maintenance tool ‘VibroSense’ which is an online machinery analysis system. This is specially designed for rotating machinery like turbines, compressors, fans, blowers, motors and pumps. It can collect and store all the data required for monitoring and further analysis. VibroSense is a valuable tool to analyse rotating machinery and gives more in-depth knowledge of machine behavior.

Why Forbes Marshall?

Features:

- High speed data acquisition during startup/shutdown and steady state
- Wide range of analysis and display functions (machine trains, trend graph, spectrum, shaft center line position, bode/polar plot, orbit display, vector plot, alarm status, etc.
- Browser based GUI with web connectivity.
- Real time display of various parameters.
- Alarm module with indications of any abnormal condition and data saving at that instant for future analysis
- Auto and manual back-up of data which can be viewed later at any time.
- Export vibration data including waveform and spectrum, in CSV format if user requires further analysis.

VibroSense handles data for steady state and transient (startup and shutdown) state in a different manner. It considers the fact that the transient state requires much more attention. In the transient state, waveform data gets stored quite frequently and the plot like bode is displayed which reveals the machinery characteristics in a better manner.

Local viewing of GUI is possible by directly connecting a monitor to the industrial analyser. It can be viewed from any location on LAN and/or internet. The client-server architecture allows simultaneously connecting the system and viewing independent data for any number of users without the requirement of any additional license. GUI allows taking screen shots and even all the data of trend and waveform can be stored in .csv format for any further analysis.
Project Management & Reports

All monitoring, analysis, reporting and action calls are done by Vibration institute approved analysts – category –II. Detail analysis reports with recommended action is submitted weekly/monthly/yearly, based on requirement.

Sample Reports of Vibration Analysis
Benefits of this concept:

- Remote Monitoring through Vibrosense is effective for Old & new power plants – starting from 1MW to 1000MW.

- User can monitor and analyze the vibration of his rotating machinery very well, which will result in better maintenance of the machinery.

- Dynamics of machinery like critical speeds, behavior of machinery in transient conditions like startup and shutdown will be better understood to pin point any abnormal condition.

- Analysis and display functions i.e. machine trains, trend graph, spectrum, shaft center line position, bode/polar plot, orbit display, vector plot, alarm status, etc. user can avert any possible failures by taking corrective action.

- This will eventually increase equipment availability and reliability and reduce costs.

- Internet explorer via web connectivity can be used to see details anywhere globally on any PC or Mobile.

- It is used on any machine for any vibration analysis function need.

- It gives advance information to customers on machine issues to avoid shut down. Experts use know how of multiple plants to guide plant O&M team.