



# IRD Mechanalysis® Ltd



ISO9001:2008

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## TSI and Vibration Monitoring Systems - Commissioning Plan

### Key Points:-

1. A project plan has to be jointly prepared at the outset of the order with the Client and IRD in agreement and commitment to the outcome.
2. The **Guide to System Installation and Commissioning of VMS** is given below. This illustrates the main steps in the installation process.
3. Refer to the **Project Plan Spreadsheet** for multiple sites.
4. If IRD has prepared system drawings approved by the Client then these will be the basis for the installation.
5. Sensor mounting pads should be prepared or installed prior to machinery erection. IRD can advise details on this or offer consultancy services on-site to identify optimum points.
6. IRD to undertake installation of systems where possible.
7. IRD Engineers to commission the VMS units at site after (Item4) above is completed.
8. The Client to devise a site schedule and give IRD advance notice (14days) for commissioning of system.
9. Standard Warranty is 12 months from delivery but will be extended to two years if IRD Engineers undertake the commissioning.
10. If IRD Engineers are required to revisit the sites in the event that Instrument Systems are incorrect or not ready, then the Consulting daily rate applies.

**condition management solutions**

## **Guide to System Installation and Commissioning of IRD VMS**

### **PREPARATION**

1. Check that IRD systems delivered to site are in the same condition as left the IRD Works. If damaged it should be returned under an insurance claim. Do not try to 'fix' units, this usually is cause for unreliability in future.
2. Prepare Sensor mounting areas on bearing check points.
3. Mount Sensor Pads either by screwing or welding.
4. If a vibration signature analysis can be undertaken then this will indicate the optimal sensor position and transmission route of the vibration signal.

### **INSTALLATION**

1. Mount Sensors on Pads ensuring sensor cables are secured near the sensor. Terminate cables at site Junction Boxes.
2. Connect bulk multi-core cable from Junction Box to main control room where instrument Panel is located.
3. Erect Instrument Panel after ensuring cut-outs are made if using existing panels.
4. Position main bulk cable to Panel area.
5. Install IRD Monitors and Relay Expander etc in Panel along with cable trunking and independent terminal strips etc.
6. Fit Strip Chart Recorder to Panel (if same site) if applicable.
7. Wire IRD Monitor to Relay Expander and Recorder, using field terminal strips.
8. Connect site Sensors via bulk cable to IRD monitor terminal Strips.
9. Connect Power Cable to Relay Expander and Recorder if applicable; If fan and light is installed to connect these as well.
10. Check if start-up attenuation signal input is required, if so, connect.
11. Advise IRD that site is ready for commissioning (7days notice required).

### **COMMISSIONING**

1. Undertake a Sensor loop check of each measurement channel.
2. Set up individual Channel alarm & trip levels.
3. Test each channel by activating site sensors with a System Tester where practical or by signal injection.
4. Once the Turbine is commissioned and running, check that vibration levels and the Recorder is working satisfactorily.
5. Client to sign off the system when functioning correctly.

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