
Fugro Structural Monitoring

WIND TURBINE MONITORING SYSTEM



By the year 2010 the UK government has set a target of generating 10% of the UK electricity needs by renewable energy methods. A great deal of this will be through Wind Energy with just under 600MW being forecast by the end of 2002. This is just a fraction of the potential renewable energy resource (Scotland alone has a

potential renewable energy of 60GW) and the commitment to harness these resources is ever increasing.

Fugro Structural Monitoring are now offering their 25 year plus knowledge of remote monitoring systems in to the Wind Energy market; giving manufacturers and end users

of wind turbines automated solutions to their structural, operational and performance problems. Our Wind Turbine Monitoring System (WTMS) is a flexible and cost effective monitoring system, which can be configured for a wide range of applications

APPLICATION

- **Structural Monitoring**
- **Performance Monitoring**
- **Problem Identification**
- **Design Verification**
- **Fatigue and Loading Assessment**

ADVANTAGES

- **Cost effective**
 - **Fully automated**
 - **Bespoke to client**
 - **Minimum disruption to client**
 - **Flexible applications**
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TECHNICAL APPLICATION

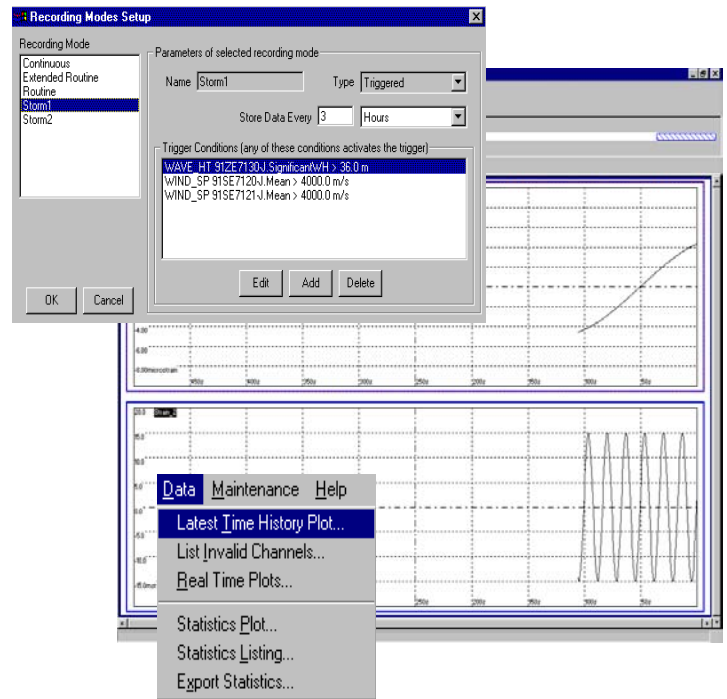
The WTMS can be configured for a wide range of applications. Through discussion FSM can produce a system to suit the specific requirements of the client.

The appropriate array of sensors would then be attached to data capturing hardware, either an embedded PC or datalogger (whatever is deemed more suitable for the task). This will take in to account the location, ease of access etc.

The WTMS runs a specially configured version of FSM proprietary software SiMS-NT. This is a Windows NT based data acquisition software package. This package has been used in many similar untended monitoring projects in the past.

SiMS-NT allows for easy filtering and manipulation of information to provide the client with the useful information that they require i.e. :

- acceleration, displacement, strain
- load, fatigue, wind speed, direction,
- performance parameters.



DATA RETRIEVAL

The WTMS system will be linked to a site PC by telephone modem, RF modem etc. The user will be able to download the data through a PC with serial interface. Downloaded data is saved in a format suitable for import into MS-EXCEL or other standard spreadsheet software.

The WTMS can also be set up with an alarm system, which will send a message to the site computer in the event of exceedence of a preset threshold.

The user can configure the WTMS from the remote PC. Configurable parameters include sample rate, data collection period, and alarm settings.

The Fugro Group is an international organisation with over seven thousand staff in over fifty countries
Our major disciplines are Geotechnics, Environmental Services and Survey.

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