

## RISER LOAD MONITORING SYSTEM

System that measures load in drilling risers and completion strings

The ICON Riser Load Monitoring System helps prevent overloading a riser string during deployment through its ability to measure the bending moment and tension in the riser string at the drill floor. At any given time, the system can indicate the magnitude and direction of the bending moment via its integrated computer display.

The ICON Riser Load Monitoring System consists of a Load Ring which can be seated into the fully open rotary table of the drill floor and a PLC control cabinet which is normally located in the driller's shack.



**Riser Load Monitoring System – Load Ring**

By observing this indicator while lowering the string the driller can monitor the string bending load due to the swell and ocean currents. The driller can then raise the string if the loading approaches the allowable limit.

The system is designed to be used with both automatic and manual torquing tools. The indicator ring is capable of taking a vertical load of 400 Tonnes, a bending moment of 50 Tonne-meters and torsional load of 16 Tonne-meters.

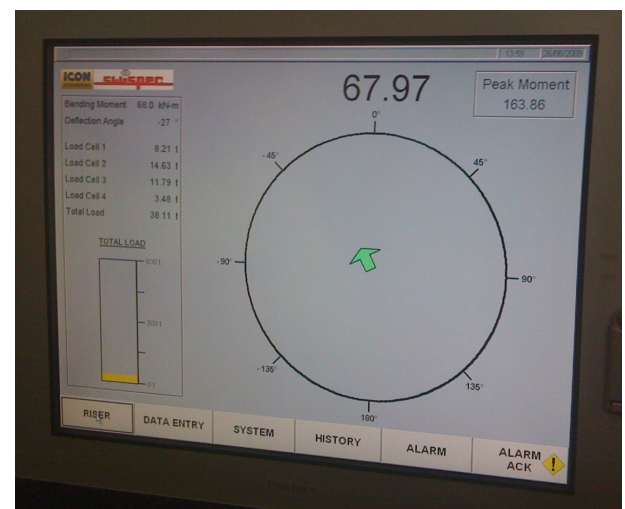
The use of this load indicator system greatly reduces the possibility of overloading a riser string during deployment, thereby eliminating the associated retrieval and repair costs. It also reduces rig weather standby time as it provides real time riser loads rather than relying on predictive analysis data.



**PLC Control Cabinet**

The load ring assembly incorporates four load cells which transmit load data during operation to the PLC control cabinet via a heavy duty electrical cable. The software in the PLC unit converts these load signals into the total vertical load and bending moment in the riser string.

The PLC control cabinet comes with an industrial touch screen PC and provides a "bulls-eye" type indication with a centrally based bending moment vector which increases radially with increasing moment. The orientation of the vector also indicates the orientation of the resultant moment in the riser string.



**Industrial touch screen PC**

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