CLAIMS

1. Measurement system comprising:

at least one parameter measurement unit, that is arranged for measuring a value of a parameter on a leg guide of a jack-up platform; and

at least one horizontal load measuring unit, arranged onto the leg guide of the jack-up platform, for measuring load exerted by a leg of the jack-up platform in the leg guide.

2. Measurement system according to claim 1 , wherein the system comprises at least one subsystem of at least one parameter, such as load, measuring unit, provided per leg of the jack-up platform.

3. Measurement system according to any of the preceding claims, wherein the system further is arranged to log the horizontal load and/or bending moment exerted by the leg onto the leg guide.

4. Measurement system according to any of the preceding claims, wherein the system is arranged to monitor the value of the said parameter, such as the horizontal load and/or leg bending moment, in relation to one or more predetermined thresholds.

5. Measurement system according to any of the preceding claims, further comprising a control system arranged to receive and/or process output from the at least one parameter, such as load, measuring unit and/or parameter, such as load, measuring subsystem.

6. Measurement system according to claim 5, wherein the control system is arranged to indicate and/or log and/or monitor the value of the said parameter, such as the horizontal load and/or the leg bending moment, of a leg in relation to predetermined thresholds, preferably to alert and/or provide advice to an operator, preferably to intervene in operations.

7. Measurement system according to any of the preceding claims, wherein the parameter measuring unit comprises at least one load sensing element, for

example a load cell, to measure the load in a substantially radial direction of the leg onto the leg guide.

8. Measurement system according to any of the preceding claims, wherein the parameter measuring unit is configured to be mounted to a leg guide of the jack-up platform, in particular to a wear plate of the leg guide, preferably between a wall of the leg opening and the wear plate of the leg guide.

9. Leg guide for mounting on a hull of a jack-up platform, arranged for guiding a leg during movement of the leg with respect to the hull, wherein the leg guide is provided with a measurement system comprising at least one parameter, such as load, measuring unit according to any of the claims 1 - 8 for measuring the said parameter of the leg guide, e.g. by the leg exerted onto the leg guide.

10. Jack-up platform comprising a hull and at least one leg adjustable with respect to the hull, wherein the leg is adjustable through a leg opening in the hull in which leg opening at least one leg guide is provided to guide the leg during adjustment, wherein the leg guide is provided with a measurement system comprising at least one parameter measuring unit according to any of the claims 1 - 8 for measuring the load the leg exerts onto the leg guide.

11. Jack-up platform according to claim 10, wherein the leg opening comprises at least one leg guide at an upper end of the leg opening and/or comprises at least one leg guide at a lower end of the leg opening, wherein the upper leg guide and/or the lower leg guide are provided with a measurement system comprising at least one parameter measuring unit according to any of the claims 1 – 8.

12. Method for monitoring a bending moment in a leg of a jack-up platform, comprising:

- providing a load measuring unit to a leg guide of the jack-up platform;
- measuring the load of the leg onto the load measuring unit;

- determining a bending moment in the leg based on the measured load.

13. Control system for a guide load measurement system according to any of the claims 1 – 8, wherein the control system is configured to receive loads measured by the guide load measurement system of a leg, further is configured to determine a leg bending moment based on the measured loads, further is configured to output the determined leg bending moment of the respective leg to a user interface.