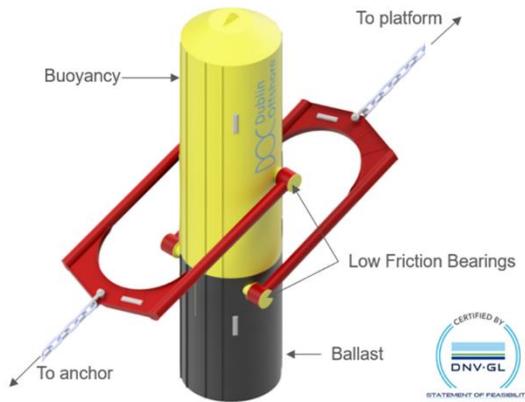


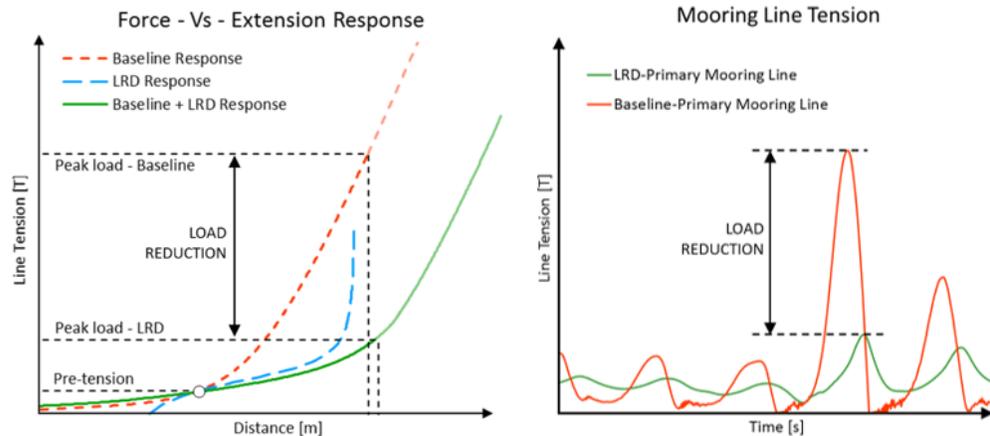
HOW IT WORKS

LOAD REDUCTION DEVICE (LRD)

The LRD is a subsea component of an offshore mooring system targeted at the floating wind market. It is fully scalable and tuneable to deliver the customer's specific mooring response requirement. The LRD is manufactured using basic low-cost materials such as steel and concrete which have a demonstrated track record in the marine environment.



HOW IT WORKS



The LRD comprises a rigid shaft with a buoyant end and a weighted end, and two attachment arms to connect the device within an existing mooring line. In the nominal, unloaded state the device maintains a vertical orientation and subsequently rotates in response to movement of the floating platform and increased mooring line loads. Rotation of the device provides extension of the mooring line overall length and the combination of weight and buoyancy creates a restoring force to return the device to the nominal vertical position. The result is a bespoke non-linear mooring response.



REDUCED
MOORING
LOADS



REDUCED
FATIGUE
CYCLES



STORM
PROTECTION



TAILORED
RESPONSE



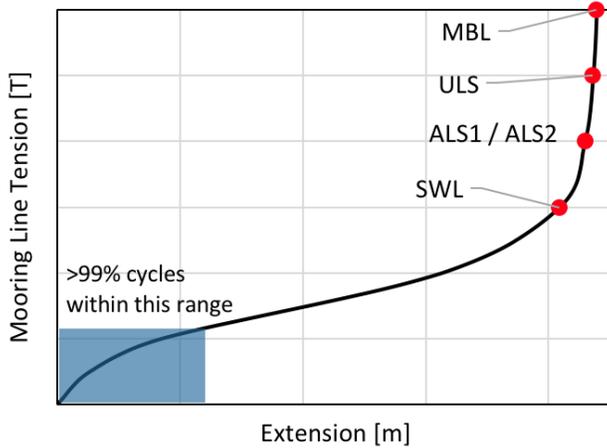
REDUCED LCOE



>20 YEAR
DESIGN LIFE

DESIGN LOADING

The LRD response is designed to operate in a specific site and metocean conditions, and can easily be tuned by varying



the mass, buoyancy or dimensions to achieve a very specific response curve. Due to the simple construction the performance of the device after 25 years will be exactly as it was on installation.

The **Safe Working Load (SWL)** is the maximum allowable tension for the LRD in normal operational. It shall be not less than the Serviceability Limit State. Typically this represents the 50-year return period, characteristic load for the mooring line. By ensuring the SWL occurs within the second phase of the force extension curve the LRD delivers load reduction in all

environmental conditions over the platform lifetime.

The **Minimum Breaking Load (MBL)** is the maximum tension the LRD can sustain without loss of integrity of the mooring line. The **Ultimate Limit State and Accidental Limit States** are dependent on the platform design philosophy and consequence class and will not exceed 95% of the MBL.

UNIQUE SELLING POINT (USP)

- Eliminates shock loads
- Reduces fatigue
- Greater storm protection
- Passive operation
- Cost Reduction
- Simple construction
- Tailored mooring response
- 30-year design life
- **Fail Safe**

WANT TO KNOW MORE?



www.dublinoffshore.ie



57 Fitzwilliam Square

Dublin 2,

Ireland



hello@dublinoffshore.ie