

15. The method of claim 13, in which the step of controlling the plurality of electrical tensioners comprises compensating for vessel heave motion in an active heave compensation mode.

16. The method of claim 13, in which the step of controlling the plurality of electrical tensioners comprises reducing resonant conditions in a wire in a vortex-induced vibration (VIV) suppression mode.

17. The method of claim 13, in which the step of controlling the plurality of electrical tensioners comprises dynamic controlling an upper pulling force on the drilling riser in an anti-recoil mode.

18. The method of claim 13, further comprising:
transferring energy from an energy storage device to an electrical tensioner of the plurality of electrical tensioners; and
storing energy from an electrical tensioner of the plurality of electrical tensioners in an energy storage device.

~~19. The method of claim 18, wherein transferring energy from an energy storage device comprises:
rolling out a wire coupled to the electrical tensioner;
transferring energy from the energy storage device onto a common DC power distribution bus;
inverting energy from DC energy on the common DC power distribution bus to AC energy; and
converting electrical energy into potential energy.~~

~~20. The method of claim 18, wherein storing energy from an electrical tensioner of the plurality of electrical tensioners comprises:~~

~~rolling in a wire coupled to the electrical tensioner;~~
~~converting potential energy to alternating current electric energy;~~
~~inverting alternating current energy to direct current energy; and~~
~~storing direct current energy in the energy storage device.~~

~~21. The method of claim 18, further comprising harvesting wave energy by:~~

~~applying a larger tension from the plurality of electrical tensioners when a vessel is~~
~~falling down; and~~
~~applying a smaller tension from the plurality of electrical tensioners when the vessel~~
~~is rising up~~

~~22~~19. The method of claim 18, further comprising managing energy in the energy storage device based on at least one of state of charge, power, voltage, and current.

~~23~~20. The method of claim 13, wherein determining the tension for a plurality of electrical tensioners is further based on at least one of:

the tension delivered by a hydro-pneumatic tensioner;

a total required tension of an entire system;

a total number of hydro-pneumatic tensioners in the system; and

a total number of electrical tensioners in the system.