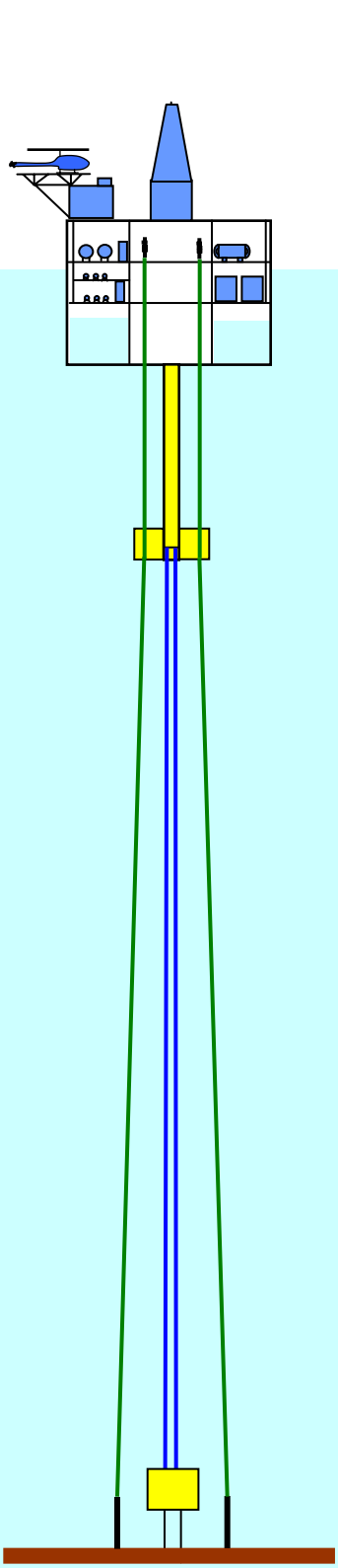
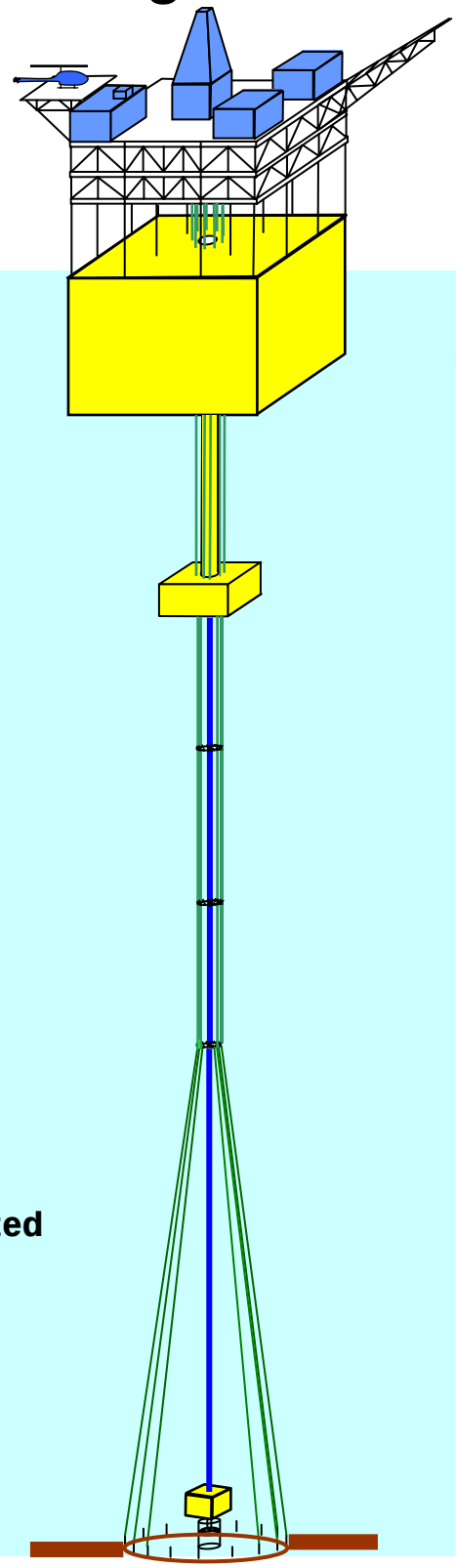
The Ocean Fortress™ Tension Leg Counter Weight Platform (TLCWP™)





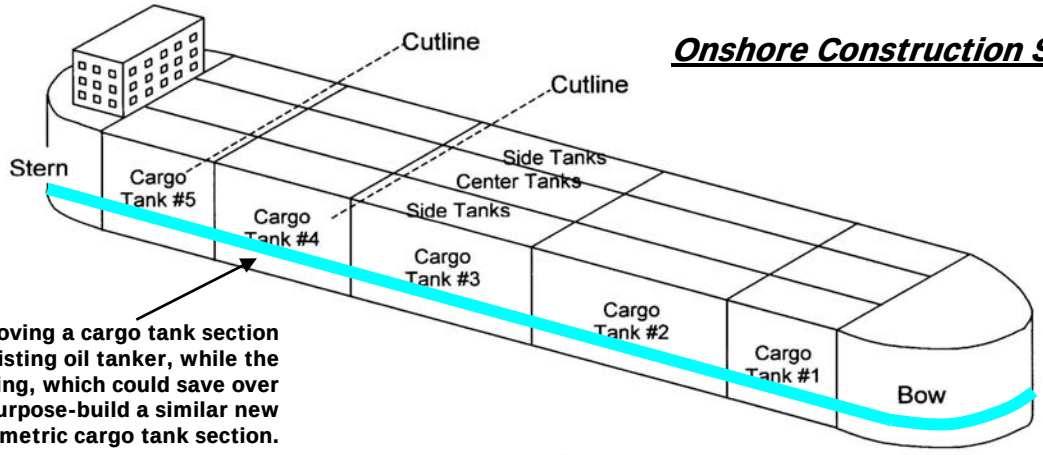
Simple
Robust
Low Cost
Low Risk
Re-Useable

By
Offshore Islands Limited
Patents Pending

Construction

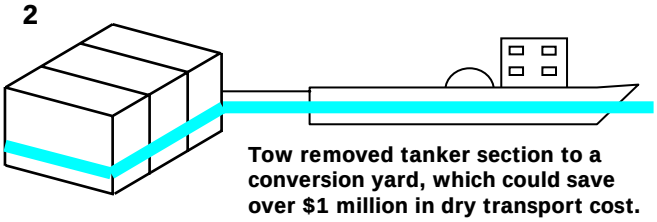
Onshore Construction Steps

1



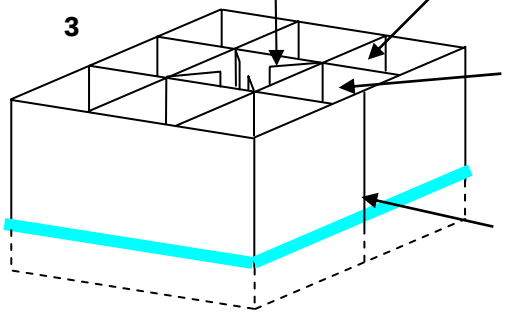
Start by removing a cargo tank section from an existing oil tanker, while the tanker is floating, which could save over $20 million. Or purpose-build a similar new symmetric cargo tank section.

2



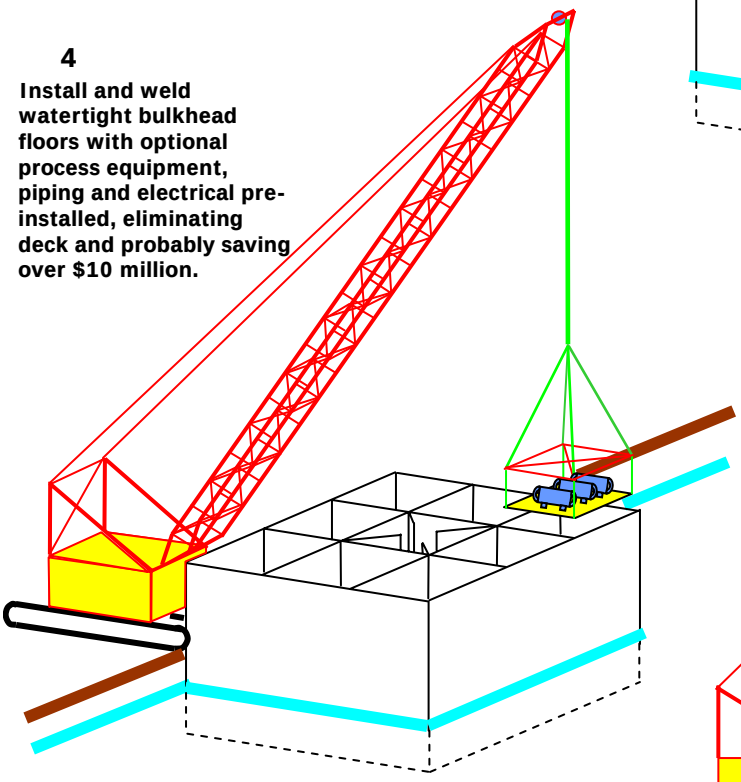
Tow removed tanker section to a conversion yard, which could save over $1 million in dry transport cost.

3



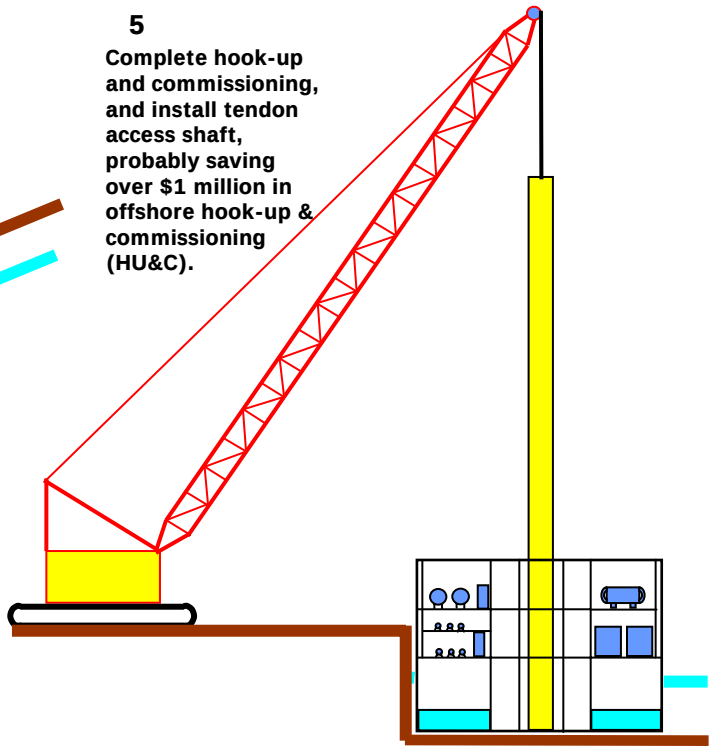
4

Install and weld watertight bulkhead floors with optional process equipment, piping and electrical pre-installed, eliminating deck and probably saving over $10 million.

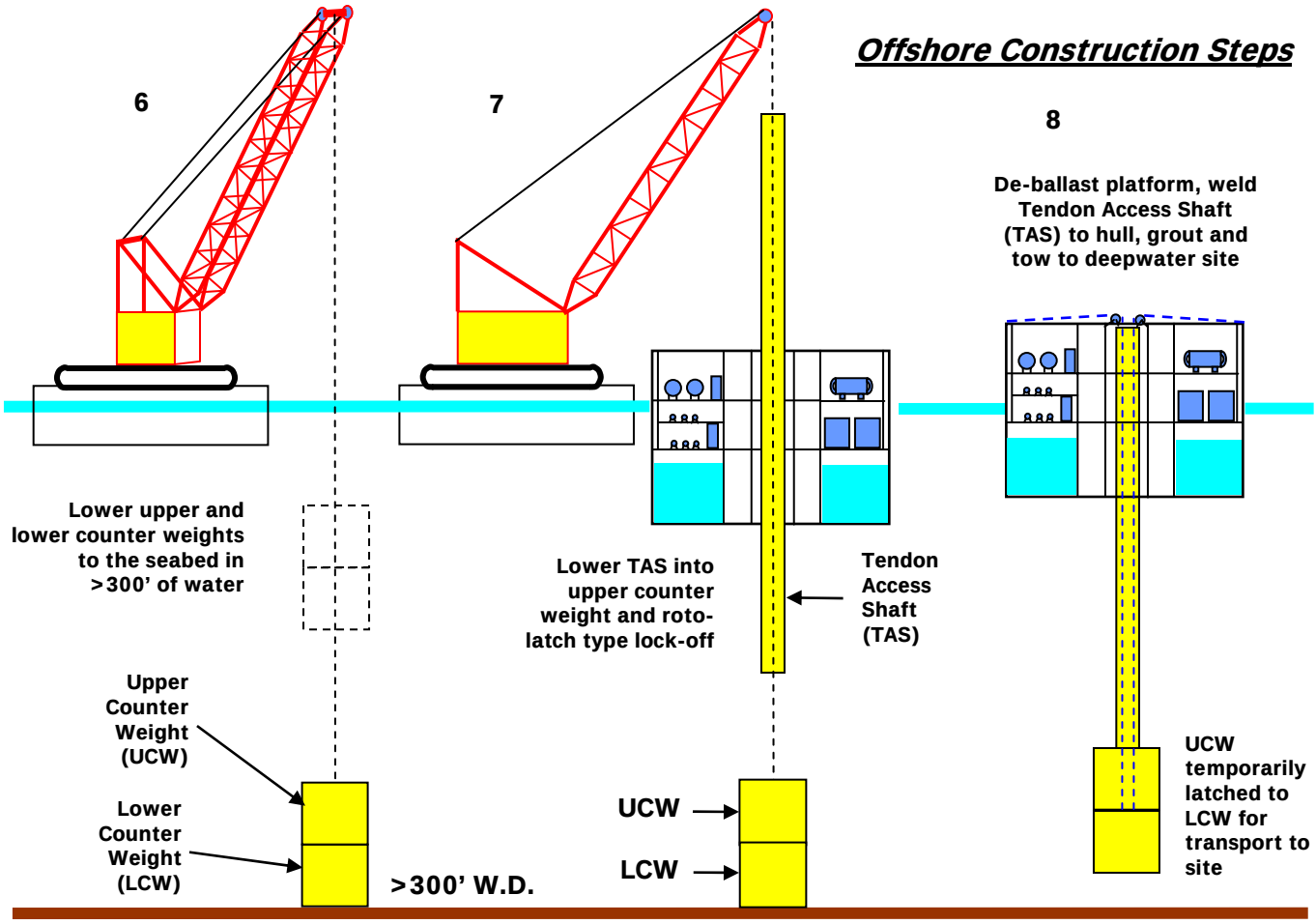


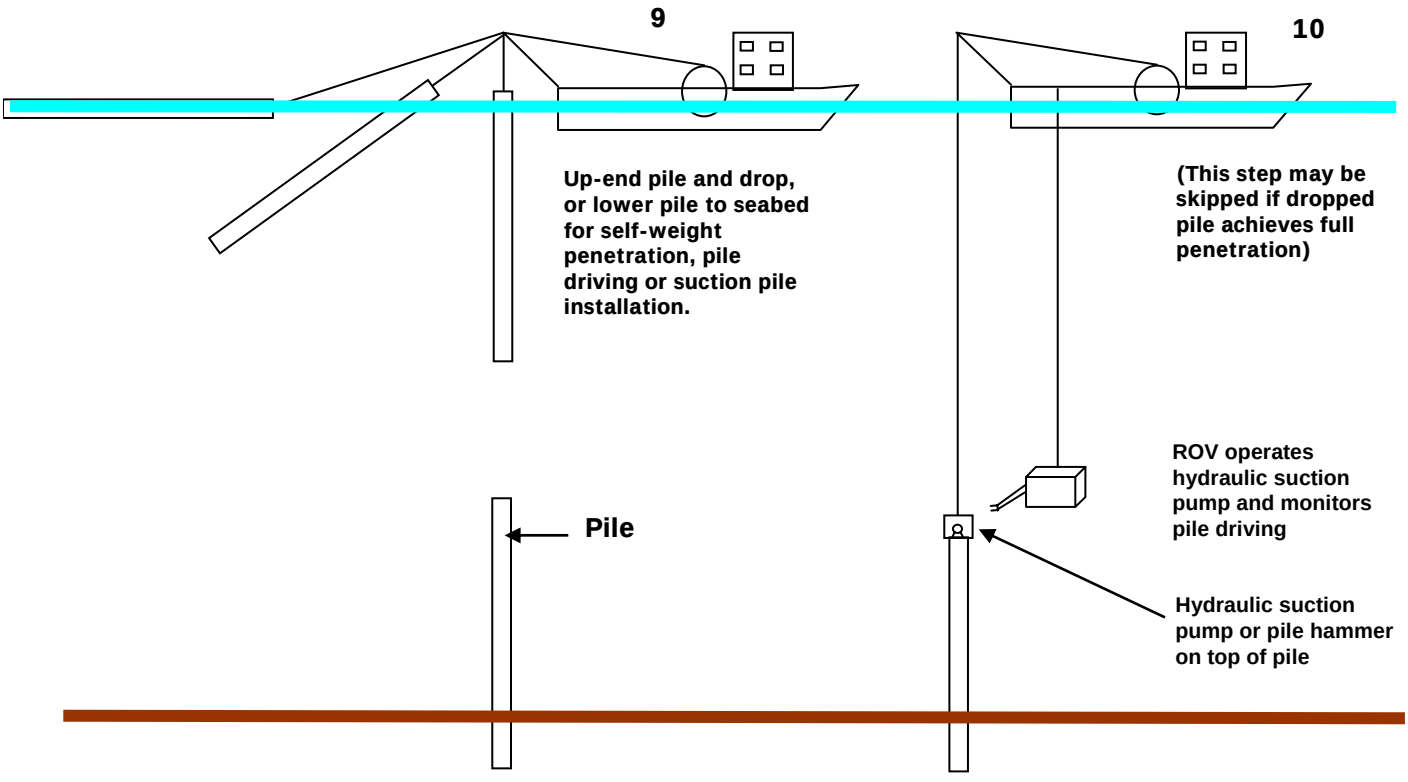
5

Complete hook-up and commissioning, and install tendon access shaft, probably saving over $1 million in offshore hook-up & commissioning (HU&C).



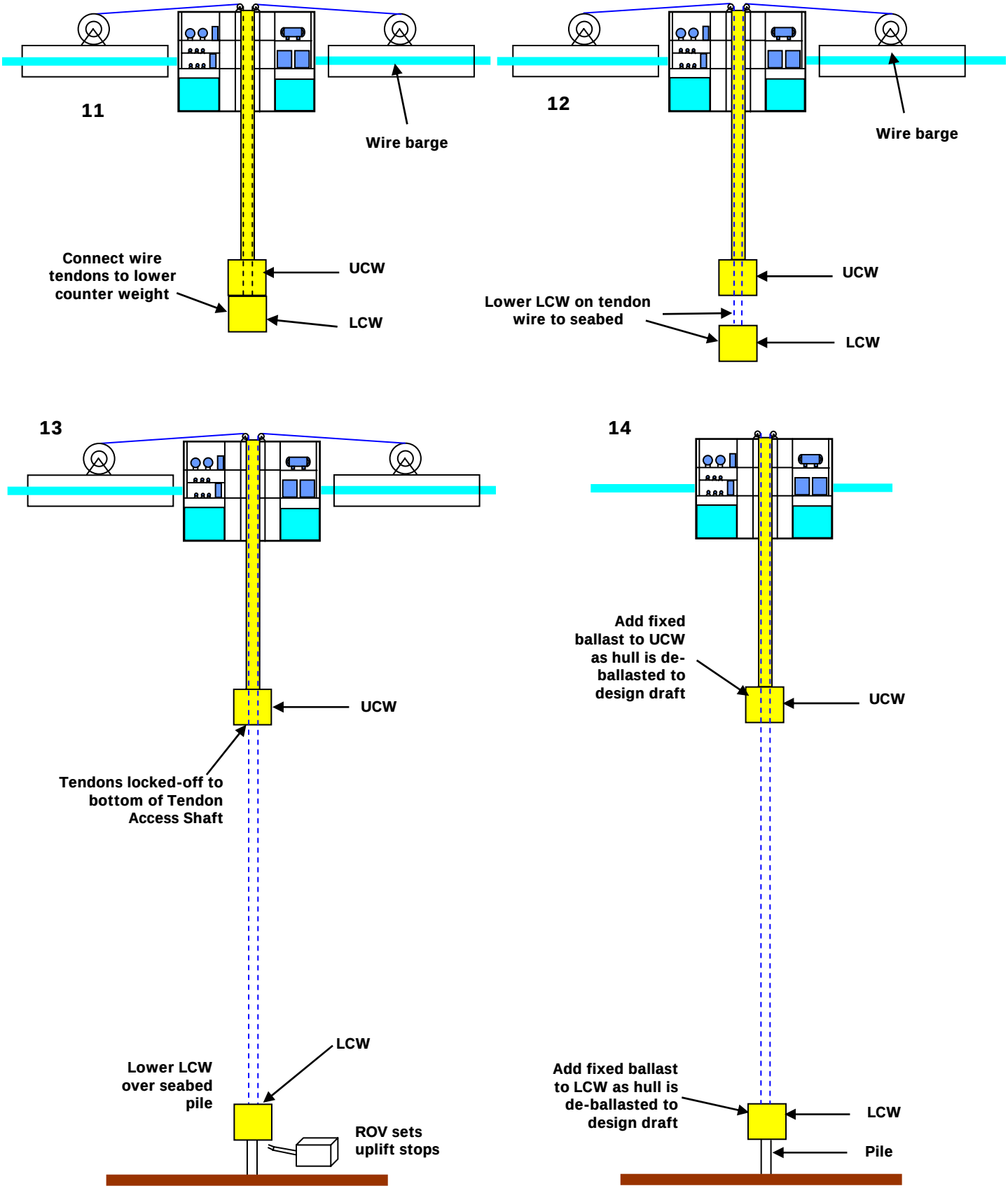
Construction



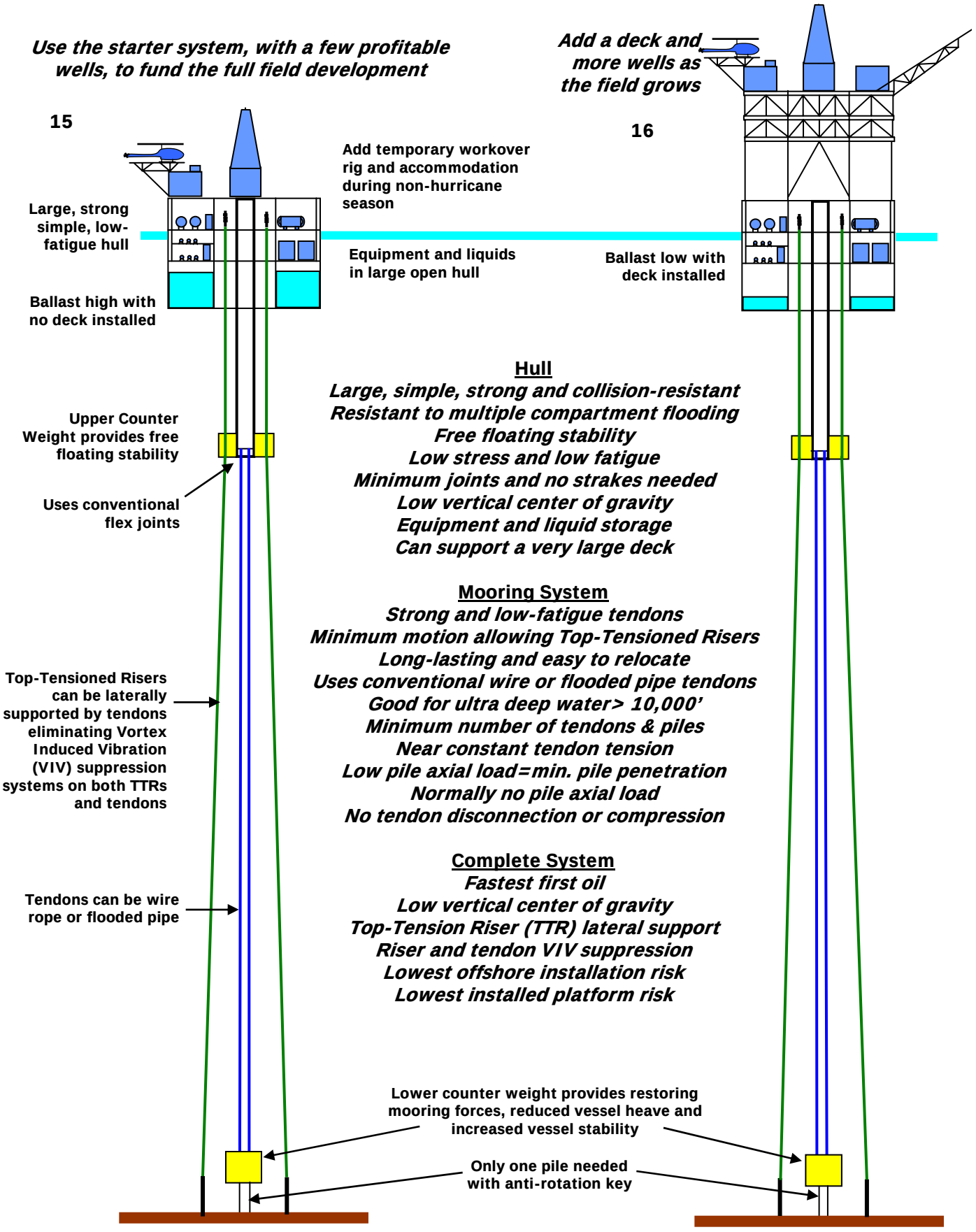


Construction

Offshore Construction Steps



Installed and Operating



Hull

Large, simple, strong and collision-resistant
Resistant to multiple compartment flooding
Free floating stability
Low stress and low fatigue
Minimum joints and no strakes needed
Low vertical center of gravity
Equipment and liquid storage
Can support a very large deck

Mooring System

Strong and low-fatigue tendons
Minimum motion allowing Top-Tensioned Risers
Long-lasting and easy to relocate
Uses conventional wire or flooded pipe tendons
Good for ultra deep water> 10,000'
Minimum number of tendons & piles
Near constant tendon tension
Low pile axial load=min. pile penetration
Normally no pile axial load
No tendon disconnection or compression

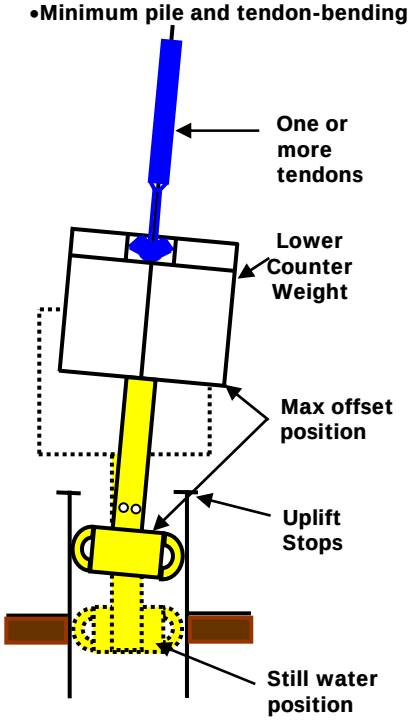
Complete System

Fastest first oil
Low vertical center of gravity
Top-Tension Riser (TTR) lateral support
Riser and tendon VIV suppression
Lowest offshore installation risk
Lowest installed platform risk

The Lower Counter Weight Provides Additional Stability, Vessel Mooring And Vessel Motion Damping

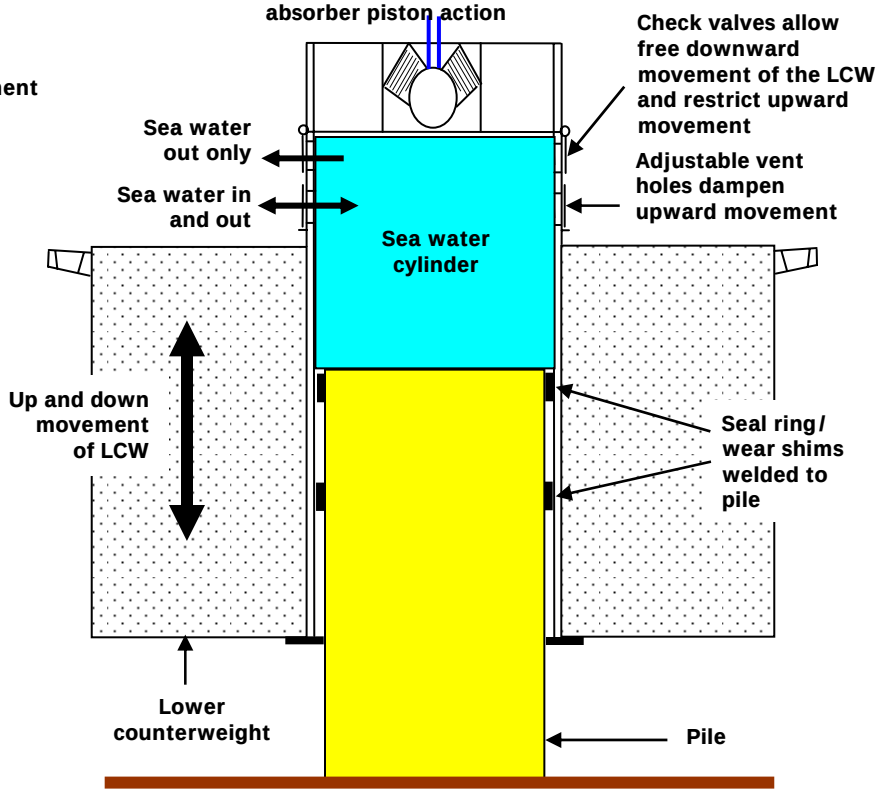
Internal Pile Guide Option

- Uses pile inside surface as guide / wear surface
- Can support numerous tendons
- Has minimum friction damping
- Has significant hydraulic damping
- Minimum pile and tendon-bending moment



External Pile Guide Option

- Hydraulic vessel motion damping through seawater cylinder shock-absorber piston action

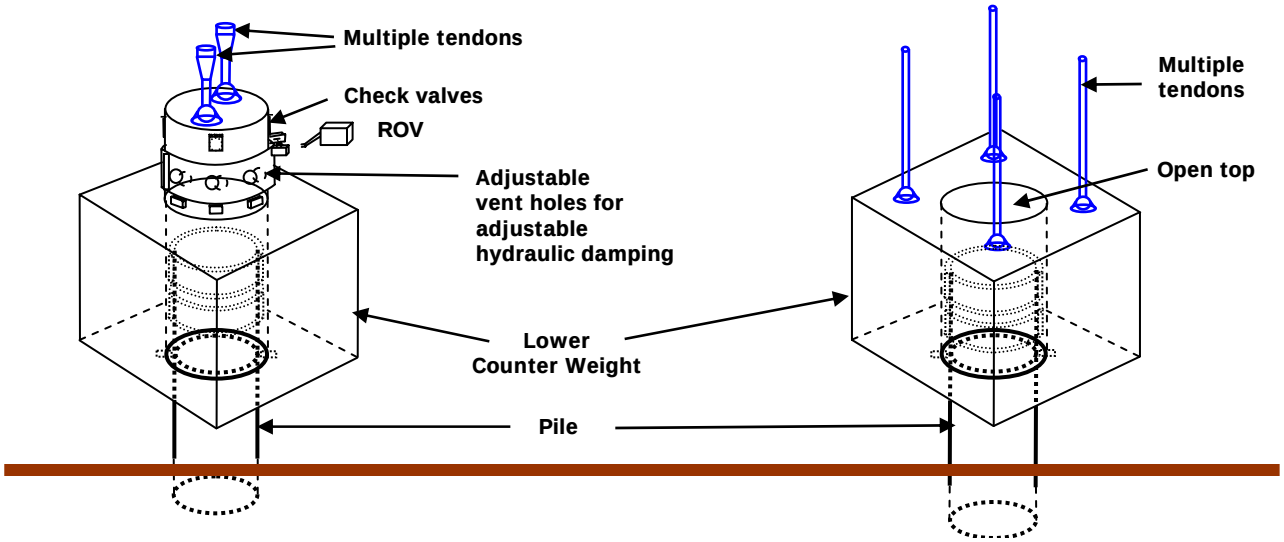


Shock Absorber Counter Weight

- pile outside surface is a guide and wear surface
- Supports one or more tendons
- provides friction damping
- provides significant adjustable hydraulic damping

Non-Shock-Absorber Counter Weight

- Pile outside surface is guide and wear surface
- Supports multiple tendons
- Provides friction damping
- Does not provide hydraulic damping



TLCWP Advantages

The TLCWP is the simplest of all floating offshore structures with the least number of components. The TLCWP's hull is based on the most robust and proven technology. The hull is the fastest to build and has the lowest cost of any floating offshore platform hull, especially if it is made from an existing oil tanker cargo section. The open spaces in the hull are ideal for housing process equipment, eliminating the need for a deck, deck fabrication costs, transport costs and installation costs and lowers the platform's Center of Gravity(CG). A lower platform CG also saves hull and mooring system costs and shortens the fabrication schedule. The TLCWP provides the fastest first oil, highest profit potential and lowest risk.

MOORING SYSTEM ADVANTAGES:

- Most efficient use of piles and tendons
- Pile normally under no axial load
- Minimum pile penetration
- Dropped, driven or suction pile installation
- Near constant tendon tension
- No tendon compression
- No tendon disconnection risk
- Conventional wire, chain or flooded pipe tendons allow mooring in over 10,000 feet of water
- Adjustable vessel motion damping
- Tendons and riser VIV suppression minimized or eliminated

HULL ADVANTAGES:

- Lowest possible hull cost
- Large hull stability allows onshore deck installation and onshore Hook-Up and Commissioning (HU&C)
- Flat hull sides, eliminate hull strakes
- Large hull allows more deck support reducing deck structural weight
- Large open hull can house equipment and store liquids, which lowers CG
- Low compartment flooding risk since counter weight becomes pile supported

COMBINED SYSTEM ADVANTAGES:

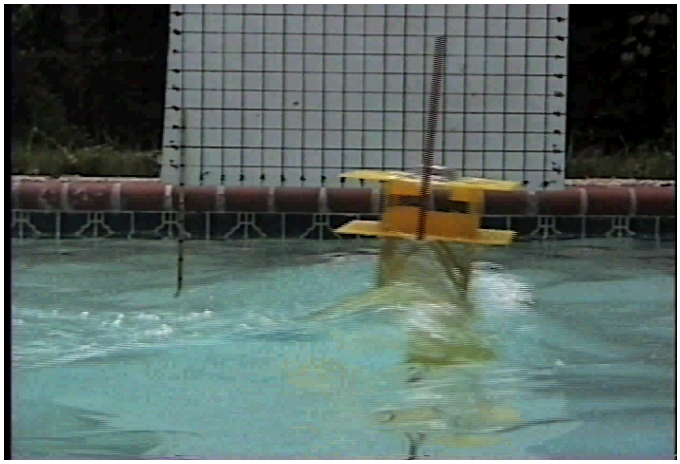
- Only a low spread rate installation barge is needed and very few transport barges
- Short installation period means low weather risks and low installation costs
- Riser guidance and lateral support means fast riser running and few environmental delays
- Fast pile disconnection, intact transport and fast re-installation results in the highest possible platform re-use value
- TLCWP™ relocation can be done almost as fast as a mobile offshore drilling unit can be disconnected
- Allows surface Blow Out Preventors (BOPs)

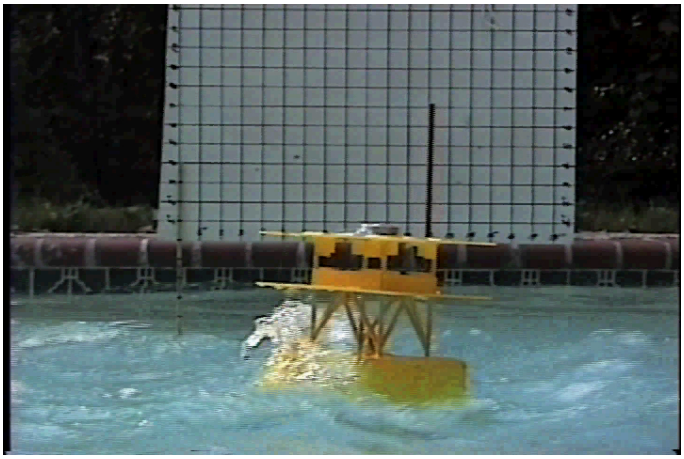
The following is an example of possible cost savings for a mid-range Gulf of Mexico field development with 7 top-tensioned production risers in 3,000' of water, using an existing tanker's cargo tank section and a new three level drilling and production deck:

	Probable Savings
Hull design and hull fabrication from an existing tanker cargo section[1]	$21.6 MM
New three level drilling and production deck structural fabrication	$ 1.0 MM
Tendon and pile fabrication	$18.0 MM
Riser and tendon fairings	$ 3.0 MM
Transport and installation (includes engineering)	$16.0 MM
Offshore hook-up and commissioning	$ 1.0 MM
Hull Fabrication Inspection and Admin	$ 1.0 MM
Miscellaneous: Project Management, etc.	$ 1.5 MM
Total Possible Cost Savings	$63.1 MM

[1] Fabricating a new hull will currently take about 3 years and cost an additional $21.6 MM.

Don Gehring, the inventor of this patent-pending system, helped pioneer the field of floating production platforms by serving in key design and fabrication positions on many leading offshore projects. Those projects include the Hutton TLP, Auger TLP, Mars TLP, Ram Powell TLP, Marlin TLP, Matterhorn TLP, Orxy Spar, as well as numerous FPSOs, FSOs, FPSs, fixed platforms, pipelines and risers projects. Gehring was also involved in the approvals-in-principal of the Modec Moses TLP, the Atlantia Seastar TLP and the Deep Oil Technology Spar. Gehring served as the client's structural representative on the Virgo fixed platform project in 1,130' of water in the Gulf of Mexico (which is the world's fourth deepest fixed offshore platform) and the Matterhorn TLP project in 2,850' of water in the Gulf of Mexico. Gehring also conceived the spring-buoy mooring system used on the GB388 FPS and the Auger TLP projects, which reduced horizontal vessel offset and mooring leg loads. Additional patents are in progress.





These photos are from the successful TLCWP model tests. The top photograph is from the cylindrical mono-hull model test and the lower photograph is from the octagonal mono-hull model test.

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Patents Pending

TLCWP and Ocean Fortress are trademarks of Offshore Islands Limited

Besides providing the TLCWP, Offshore Islands Limited can also help with most aspects of an offshore field development from initial planning to final start-up.

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