“A New Build Minimal Cost FSO Monohull Design”
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Why Build a New FSO?

- Long field or service life, typically 35 year plus
- Purpose design, no conversion problems found with converted tankers
- Safer layouts
- No surprises, purpose designed for FSO work
- Better integration with turrets
- Easy equipment layout and access
- Better heading controls (if turret moored)
- Improved IMR (Inspection, Maintenance and Repair)
- Capable of staying on station for a long duration
FSO Typical Field Arrangement

Example FSO Arrangement

- Shuttle Tanker Offtake
- Bow Mounted Turret (harsh environment)
- Catenary Moored
- Chain Moorings (shallow water)
- Flexible ‘S’ Risers
- Drag Anchors
- PLEM
- Import Flow Lines from Production Facility

Optimised Solution
Replacement FSO Example

Minimal Cost and Zero Production Downtime Solution

No Production Downtime!
Production Platform & FSO Arrangement Example

FSO Supporting a Production Facility

- New Build FSO
- 155,000,000 bbls Storage
- Class - ABS

Arrangement Can Support Most Production Facilities Requiring Storage
Project Interface Boundaries Example

Example Responsibilities Overview

<table>
<thead>
<tr>
<th>PLATFORM Operator (Client)</th>
<th>Subsea Contractor</th>
<th>Turret/Moorings &amp; Risers Contractor</th>
<th>FSO Shipyard Contractor</th>
<th>Offloading System Contractor</th>
</tr>
</thead>
</table>

Clarifies Responsibilities to All Parties
FSO General Arrangement
Deck Details
Main Particulars
Transverse Section Configuration
Midship Section
Cargo Oil Cleaning System
P&ID Deck Drain System
Turret / Mooring Set-up
Stern Offloading System Arrangement
Crude Oil Loading, Transfer & Offloading System
Crude Oil Loading, Transfer & Offloading System
Segregated Ballast System
P&ID Ballast System
Bilge System
P&ID Compressed Air System
One Line Diagram
P&ID Crude Oil Heating System
P&ID Fire Water System
P& ID Fuel OIL System
P&ID FW Cooling System
Potable Water System
Sanitary Drain System
P&ID SW System
P&ID Inert Gas System
Central Control Room
“A New Build Minimal Cost FSO Monohull Design”

Thank You
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