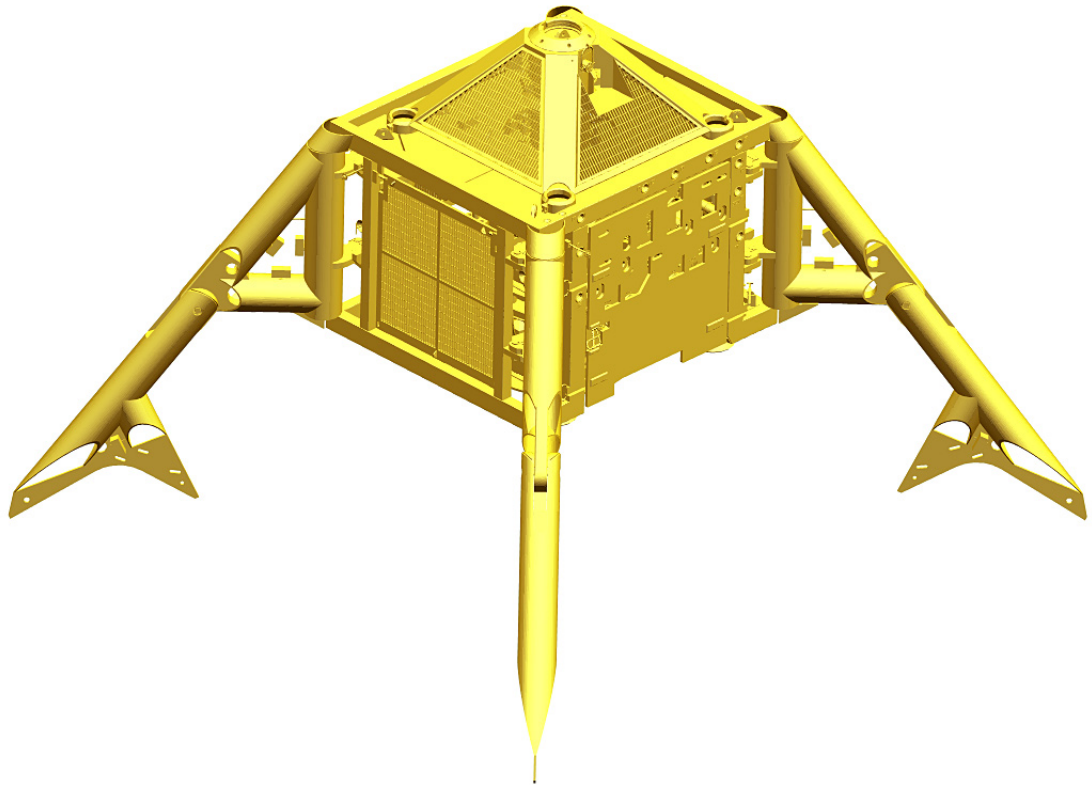


# CNR UK Frame Agreement

U.K. Blocks Banff, Thelma, Columba



## Landmark: First FMC Frame Agreement in UK Sector

### Project Overview

Contract Award: 2004  
Sales: Aberdeen, U.K.  
Fabrication: Dunfermline, U.K.  
Service Base: Aberdeen, U.K.  
Host Type: Platform  
Contract Type: Frame Agreement

### Project Characteristics

No. Trees: 4  
Water Depth: 107 - 137 m  
(350 - 450 ft)  
Tree Type: EHXT  
Tree Pressure: 10,000 psi  
Tree Bore Size: 5"x2"  
Hydrocarbon: Oil

### Project Ownership

CNR International 100%

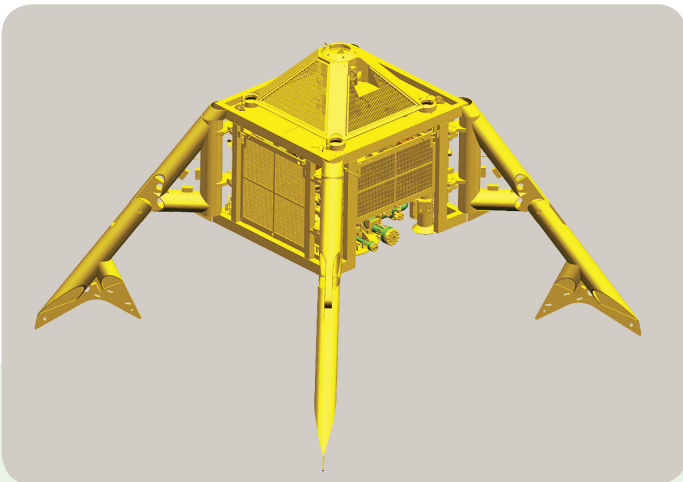
## Scope of Work

- ▶ Four (4) 5" X 2" 10,000 psi WP maximum function enhanced horizontal trees
- ▶ Concentric all metal sealing tubing hanger
- ▶ Bi-directional metal sealing wire line plugs
- ▶ Integral fishing friendly structure approved by the Scottish Fishing Federation
- ▶ Production and gas lift chokes
- ▶ Tree mounted direct hydraulic controls
- ▶ API swivel flange flow line connection
- ▶ Standard UWD-15 wellhead systems
- ▶ System integration, testing, installation assistance, service and maintenance

## Comments

The maximum function enhanced horizontal tree is designed to be installed in any of the CNR fields in the central North Sea. The tree mounted direct hydraulic controls allow the tree to be interfaced with different types and suppliers of control systems based on a "plug and play" system using hydraulic and electrical jumper umbilicals with the appropriate connectors that interface with tree mounted controls. This system allows the tree design to be standardized and provide the flexibility to be installed in Brown and Green Fields.

The integral fishing friendly structure (FFS) is the only protective structure approved by the Scottish Fisheries Federation and allows the tree assembly to be installed through a standard moon pool 36 m<sup>2</sup> (361 ft) eliminating the need for a special installation vessels.



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