Introducing

“ROPU”

Re-locatable Offshore Platform Unit
Main issues for developing shallow small or marginal developments include . . . .

- **Oil prices falling ? - Quick & Maximised ROCE is needed**
  - Rapid deployment & minimal cost recovery solution is the key, get in, get it done & get out!

- **Dependency on heavy lift installation vessels**
  - Busy market, stay flexible with smaller installation vessel support solutions

- **Minimal risk installation & operations for HSE compliance**
  - Utilise best engineering practices with industry recognised contractors

**Good One Off or Outstanding Multiple Reservoir Production Solutions Required!**
What is the solution?

ROPU is a lightweight & re-useable Platform design, offering:

- **“Re-locatable production, supporting marginal developments**
  - Economic puddle reservoir production & scaled up production support capability

- **Fast fabrication**
  - Off the shelf design, economic fabrication, ready to go . . . .

- **No heavy lift installation**
  - No reliance on heavy lift installation vessels / availability / schedule

- **Rapid mobilisation and installation**
  - Easy handling of lightweight jacket sections

- **Options for re-deployment**
  - Rapid re-deployment capability, can be refurbished offshore & reinstalled in one planned operation
  - Back to base refurbishment option for less hurried re-deployment

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**Lease or Buy Potential - Single or Multiple Development Solutions !**
ROPU Re-locatable Offshore Platform Unit

ROPU description continued:

• Basic install and uninstall and re-locate operations
  – Simple mating / joining of jacket sections & simple reverse uninstall procedure

• Versatile topside loadings
  – From basic decks / modules to complete deck designs / floatovers

• Versatile Soils Conditions
  – Wide base spread gives low pile loadings

• Versatile Water Depths
  – Modular design gives a range of options on water depth

• Fully compliant with relevant classification societies
  – Designed with global classification requirements for global re-use in mind

• No field abandonment issues (ready to leave!)
  – Already an abandonment compliant design!

Lease or Buy Potential - Single or Multiple Development Solutions!
ROPU Re-locatable Offshore Platform Unit

ROPU design features:

• **Light weight jacket design**
  – Up to 30% less steel weight than conventional jacket designs
  – Offers lower fabrication costs
  – Quick fabrication, standardised end details
  – Allows lighter weight installation practices (no heavy lifts)
  – Fast install and un-install design (permanent or reusable options)

• **Strong structural design**
  – Allows flexible topsides design weights, min to medium size topside facilities
  – Supports extra facilities such as large accommodation, hellideck etc

• **Environmentally sound design**
  – Strong structural arrangement allowing harsh environment deployment
  – Minimum structure in wave / splash zone

*Desired to Meet the Demanding Economic Needs of Marginal Production*
ROPU Re-locatable Offshore Platform Unit

Installation sequence & description

Installation barge locates at reservoir

**Minimal Installation Support – No Heavy Lift!**
ROPU Re-locatable Offshore Platform Unit

Installation sequence & description

Bottom section lifted by crane and lowered / positioned onto seabed

Minimal Installation Support – No Heavy Lift!
Installation sequence & description

Piles are inserted & driven to design penetration

Minimal Installation Support – No Heavy Lift!
ROPU Re-locatable Offshore Platform Unit

Installation sequence & description

Intermediate section is installed

Minimal Installation Support – No Heavy Lift!
Installation sequence & description

Upper section is installed

Minimal Installation Support – No Heavy Lift!
ROPU Re-locatable Offshore Platform Unit

Installation sequence & description

Minimal Installation Support – No Heavy Lift!

Joints connected using proprietary weight set connectors or bolted flanges

Joint made using Standard Weight Set Connector, alternatively, it can be bolted
Installation sequence & description

Three leg piles are inserted into pile sleeve

Minimal Installation Support – No Heavy Lift!
Installation sequence & description

Install upper leg sections, cut to length for water depth and settlement variations.

Minimal Installation Support – No Heavy Lift!
ROPU Re-locatable Offshore Platform Unit

Installation sequence & description

Floatover topsides & final commissioning

NOTE:
Alternative topsides option is to install a lifted deck together with modularised facilities

Minimal Installation Support – No Heavy Lift!
Installation sequence & description

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Alternative topsides option is to install a lifted deck together with modularised facilities

Minimal Installation Support – No Heavy Lift!
Removal sequence & description – reusable platform option

Floatover removal

Float off barge positions & lifts off topsides

NOTE:
Alternative option is to remove as a lifted deck together with modularised facilities

Options for re-deployment are:
1. For rapid re-deployment – Installation barge equipped for re-installation, equipped as necessary, offshore refurb, new parts etc.
2. For unhurried re-deployment – Barge returns to re-furb yard for planned refurbishment prior to re-deployment.
3. Moth balling – Barge returns to yard for planned clean-up, steel treatment and storage.
Removal sequence & description – reusable platform option

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Options for re-deployment are:
1. For rapid re-deployment – Base section remains in place for cutting later. New base section used at new location
2. For unhurried re-deployment – Barge returns to re-furb yard for planned refurbishment prior to re-deployment.
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Removal sequence & description – reusable platform option

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Installation sequence & description

1. Installation barge locates at reservoir
2. Bottom section connects to crane and lowered / positioned
3. Piles are inserted & driven in
4. Intermediate section is installed
5. Upper section is installed
6. Joints connected via standards weight connectors or bolted
7. Three leg piles are inserted and driven in
8. Install upper leg sections
9. Floatover topsides & final commissioning
10. ROPU completed

**NOTE:**
Alternative topsides option is to install a lifted deck together with modulised facilities

**Minimal Installation Support – No Heavy Lift!**
Uninstall sequence & description – reusable platform option

**Floatover removal**

1. Platform/subsea made ready for uninstall procedure via ROV diver assist tender
2. Float off barge positions & lifts off topsides
3. Barge takes away topsides
4. Crane barge removes upper leg sections
5. Crane barge removes leg piles
6. Unbolt bolted tubular jacket connections
7. Connect lifting frame & lift away upper section, position on barge
8. Connect lifting frame & lift away intermediate section, position on barge
9. Connect lifting frame & lift away bottom section, position on barge
10. Platform fully uninstalled

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Thank You
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