Low Cost Installation Method for Deepwater Conductors

NGI Workshop
Geotechnical Input to Well Integrity Management
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Current Practice Downsides

Downsides to Jetting
- Soil disturbance
- Uncertainty with capacity
- Long set-up time
- Shallow flow

Downsides to Using Drilling Vessel
- High dayrates
- Diameter limitations with handling equipment (bigger issue in future?)

Leads to longer conductors
Improving Current Practice

Drilling Vessel → Pre-Installed using light subsea boats

Jetting → Driving
Basic Elements of Pre-Installed Conductors

- One-piece, pre-fabricated, fully welded conductors
- Low cost marine spread
- Time tested pile driving process
Conductor Launch Barge
Conductor Launch

Shuttle Handling System
Underwater Upend
Suction to Stability (STS) Option
Hammer Launch

- Menck 270T
  - Larger and smaller sizes available
- AHV or crane vessel
- Up to 3000m Water Depth
Completed Projects

• Shell BC-10
  - 11 x 36”
  - 4 x 48” Caissons
  - 6000 ft WD

• Petrobras Papa Terra
  - 15 x 36”
  - 30cm accuracy
  - 4000 ft WD

• Shell BC-10 Phase 2
  - 5 x 48” Caissons
  - 5500 ft WD
Pre-Installed Driven Conductor Benefits

• Driving is a better geotechnical solution than jetting:
  - Much less soil disturbance
  - Instant feedback on axial capacity
  - Lower safety factors required
  - Better handle shallow flow situations
  - Eliminate risk of drilling vessel waiting on set-up
• Low cost marine spread compared to drilling vessel
• Accurate tolerances
• One piece construction eliminates connectors