Aasta Hansteen
Pioneer in Norwegian deep waters
MCE Deepwater Development 2014 Madrid
Aasta Hansteen – first deepwater platform development in the Norwegian Sea

- Reserves: 47 billion Sm$^3$
- Process capacity: 23 million Sm$^3$/day
- Seven production wells
- Production start: 2017

**Partners**
- Statoil 75% (Operator)
- OMV 15%
- ConocoPhillips 10%
Greater Aasta Hansteen area – growth potential

Luva

- Medium size
  - Estimated to 47 GSm³ gas (incl. Haklang og Snefrid S)
- High GOR
- Low CO₂/H₂S content

Prospective area

- Asterix discovered in 2009
- Promising prospects in the area
Development challenges

- Water depth 1300 m
- Sub-zero temperature at depth
- Harsh wave and current environment
- Long distance from shore

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- Outside design envelope of “standard” equipment
- Shorter installation windows – but longer durations
- Logistics
Selected development concept

- Spar FPSO
  - 23 MSm³/d
  - On-board power generation
  - Storage
  - Steel catenary risers

- Subsea system
  - 2 x 4-slots templates + 1 satellite

- Gas export through Polarled pipeline

- Margins included to serve as future hub
Polarled pipeline

- Tie-in of Aasta Hansteen, Linnorm, Zidane and future fields
- 480 km pipeline, 36” pipeline dimension
- Modifications at Nyhamna
  - accommodate extra gas processing
  - study export capacity up 84 MSm³/d
- Statoil development operator - Gassco from start operation
Spar FPSO

Topside
• Dry weight 23,000 tonnes
• Conventional gas processing plant
• Gas turbine power generation
• Produced water treatment and disposal to sea
• LQ 100 beds

Substructure
• Total length 198 m
• Spar deck freeboard 21 m
• Hard tank diameter 50 m
• Displacement 146,000 tonnes
• Condensate storage 25,000 Sm3
• Steel catenary risers - 12 riser and 4 umbilical slots
• 17 point polyester taut line mooring system
Harsh environmental condition – increased fatigue loading

Aasta Hansteen
Hs: 1~14 m
Tp: 3~20 s

GoM
Hs: 1~6 m
Tp: 1~10 s
...and reduced operability

- Installations across three seasons
- Limit installation weight to some 250 tonnes to maintain 400 tonnes crane vessel segment
- Critical operations - pull-in of steel catenary risers after spar installation
- And diligent planning...
Subsea concept

- New deep-water 4-slot template
- Monopile template foundation
- No trawl protection
- Guide-wire less X-mas tree installation
- Work Over System technology qualifications
Aasta Hansteen – project status

- Project sanction (DG3) December 2012
- Start construction April 2014
- Start production Q3 2017
Main contracts

- **Topside EPCH**
  - *Hyundai Heavy Industries*

- **Substructure EPC**
  - *Technip/Hyundai*

- **Subsea system**
  - *Aker Solutions*

- **Tow to field/mooring installation**
  - *Pipelines and marine operations* *Subsea7*

- **Template Installation**
  - *Emas*

- **Umbilicals EPC**
  - *Aker Solutions*

- **Fibreoptic cable**
  - *DeepOcean*
Aasta Hansteen in summary

Beyond 2030

- An enabler for realization of the area
- First harsh environment deep-water development
- Support regional industrial development
There’s never been a better time for good ideas

Presentation title: Aasta Hansteen – pioneer in Norwegian deep waters

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