Energy Charter TTG meeting

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Signe Thomassen
Manager legal affairs, Gassco AS
Issues

- Presentation of Gassco – operator of the Norwegian Gas Infrastructure
- Langeled – an integrated part of the Norwegian Gas Transportation Network
- Access regime on the Norwegian Continental Shelf
Gassco

- A state-owned company created in 2001
- A neutral and independent operator for the integrated gas transport system from the Norwegian continental shelf to European countries
- No ownership interest
- Operates on a “no profit” basis
Gassco - Gassled

The Norwegian State

Gassco
1. Operator
2. System operations
3. Capacity management
4. Infrastructure development

Gassled
ConocoPhillips
Eni
ExxonMobil
Norsk Hydro
Dong
Petoro
Total
Shell
Statoil

Technical Service Providers
ConocoPhillips
Norsk Hydro
Centrica
Total
Statoil
The gas transportation system

- 7800 kilometres of large high pressure pipes
- Platforms
- Processing plants
- Receiving terminals located in four European countries
- An integrated system linked to oil- and gas installations and large distribution systems
- Transport of natural gas during 2006
  - 87 bcm dry gas in pipes
  - 9.7 mill. tons NGL/condensate by ship
High reliability essential

- Regularity is 99.56% to market (despite 931 planned and unplanned shutdowns in 2006)

- Gassco is monitoring physical flows against contractual rights
  - Gassco run continuously checks between nominations, bookings, physical flow, quality, capacity
  - Gassco can instruct corrective actions to shippers and in special circumstances also field operators
  - Gassco can use under-utilized pipeline or field flexibility to maintain overall regularity
Langeled

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Rationale for the new facility

- Development of export solution of a new, major Norwegian gas field, Ormen Lange
- UK gas market prediction at time of project sanction
Technical information

Langeled facilities consist of 4 main elements:

Northern Pipeline:
- Length; 628 km
- Nominal ext. dia; 42”
- Design pressure; 250 barg

Southern Pipeline:
- Length; 543 km
- Nominal ext. dia; 44”
- Design pressure; 157 barg

Sleipner Riser Node:
- Blending facility for Ormen Lange and Sleipner gas
- Flexibility towards landing points

Langeled receiving Facilities, Easington, UK:
- Design capacity; 74 MSm³/d
Langeled flexibility

- Ormen Lange gas may be routed to Easington, or via Sleipner Riser to Zeebrugge and Draupner.
- Sleipner and Kollsnes gas may be routed via Sleipner Riser to Easington.
- Ormen Lange gas needs to be blended with Kollsnes or Sleipner gas to meet the quality specification in Easington.
Main milestones

Project start-up Dec. 2003
Start commercial gas deliveries – southern part 01.10.06
Start commercial gas deliveries – northern part 01.10.07
Access regime NCS

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Access regime on the Norwegian Continental Shelf

- Effective from 1 January 2003 rules for access to upstream pipeline network was included in the Petroleum Regulation Chapter 9 (Royal Decree of 22 December 2002)

- The regulation implements the rules of the Gas Directive regarding access to upstream pipeline network (Gas Directive article 23)

- Access is granted to natural gas undertakings and eligible customers subject to certain conditions:
  - Spare capacity has to be available in the transportation system
  - Shipper must demonstrate a duly substantiated reasonable need for transport
  - Shipper’s gas must comply with certain technical specifications (quality and pressure)
  - Shipper must demonstrate sufficient financial strength or provide a guarantee
Access regime on the Norwegian Continental Shelf

Marketing and booking of capacity (Primary Market and Secondary Market):

➢ Available capacity is launched for long term and medium term booking twice a year - owners have preferential rights up to two times ownership interest.

➢ Short term booking can be made on daily basis. Spare capacity on short term (within day and up to 4-5 weeks ahead) can be booked FCFS 24hrs a day.

➢ Right to use of capacity may be transferred in the secondary market on bilateral basis and through an open market place.

➢ Bids for and offer of capacity can be placed at the market place at any time for all capacity products (within day, short term, medium term long term). Bids/Offers on market place are anonymous.

➢ During 2006 approx 400 deals were closed for the continental exit points on the secondary market place
Access regime on the Norwegian GasViaGassled – all on the same website

- Primary and secondary capacity is found on the same website: GasViaGassled

- Primary market functions

- Secondary market functions
Area D - Balancing

- Shippers nominates each day a balanced area D volume ($\Sigma_{entry} = \Sigma_{exit}$)

- Gassco balances area D through routing of gas based on all shippers nominations.

- Capital tariffs are determined by the Ministry

- Capital tariffs are based on a reasonable return on invested capital
Norwegian gas production is growing

- Since gas production began on the NCS in 1977, more than 1 000 billion cubic metres have been delivered to Europe

- Annual exports are set to exceed 100 billion cubic metres in 2008
Opportunities ahead

**Barents Sea**
A tie-in could be relevant if infrastructure is gradually extended northwards

**Norwegian Sea**
Large new discoveries could provide the basis for new infrastructure

**North Sea**
Troll future development
Gjøa, Camilla, Belinda + Oil fields with gas caps