Teesside GasPort

A New Way To Deliver Regasified LNG

Presented to

IP Week

by

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Summary

- Energy Bridge™ Regasification Technology
- Teesside GasPort

Energy Bridge™ Regasification Vessels
Provide Natural Gas Delivery in Three Ways

Energy Bridge™ was primarily designed to access markets unreachable by conventional means…

Energy Bridge™
Deepwater Port

Excelerate
GasPort™

Conventional
Land-Based Terminal

…however, its economics are competitive with a conventional, land-based LNG terminal – with added flexibility benefits

Energy Bridge™ Regasification Vessels

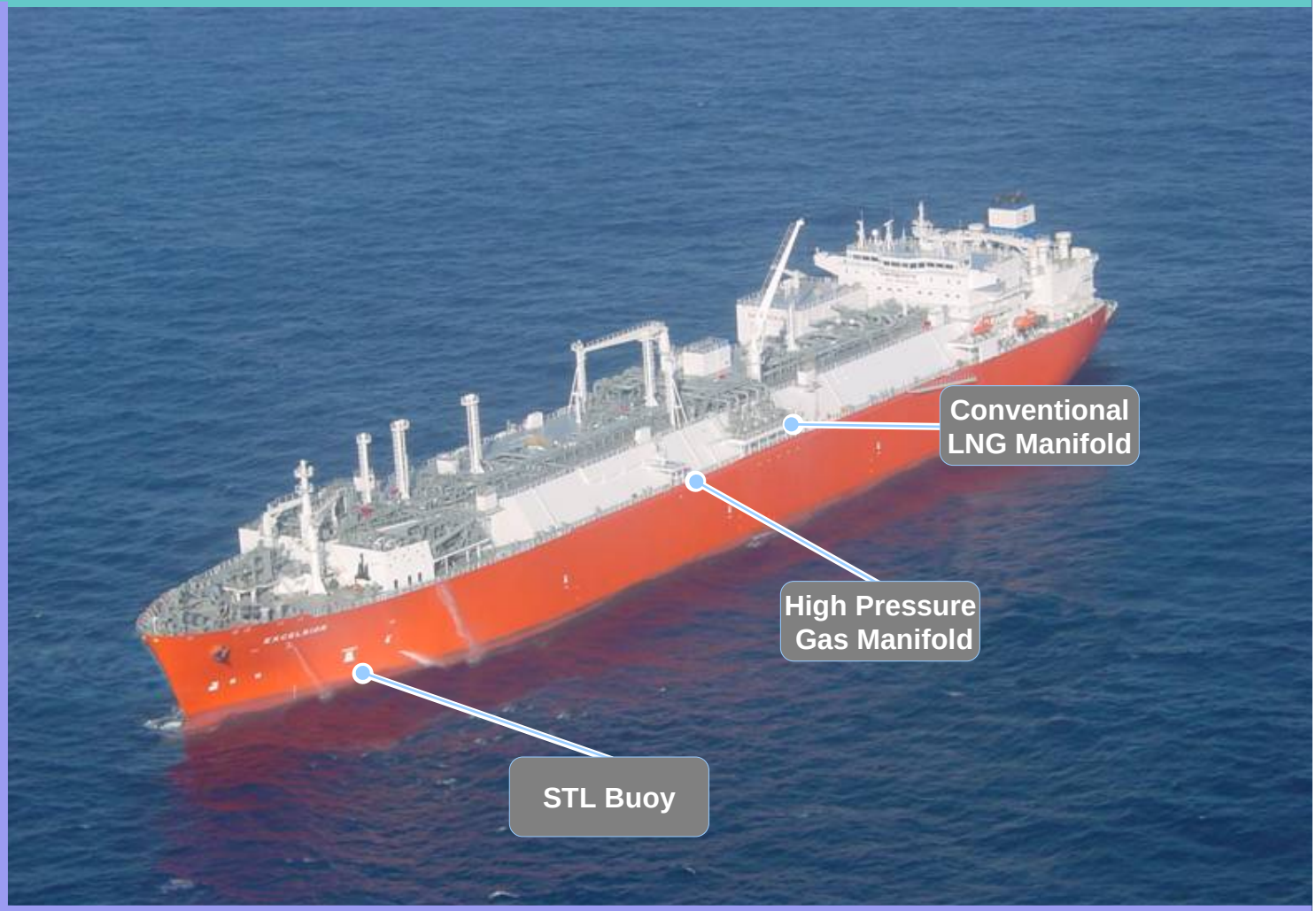
Location of the Three Discharge Points

Each EBRV can discharge cargo in three distinct ways

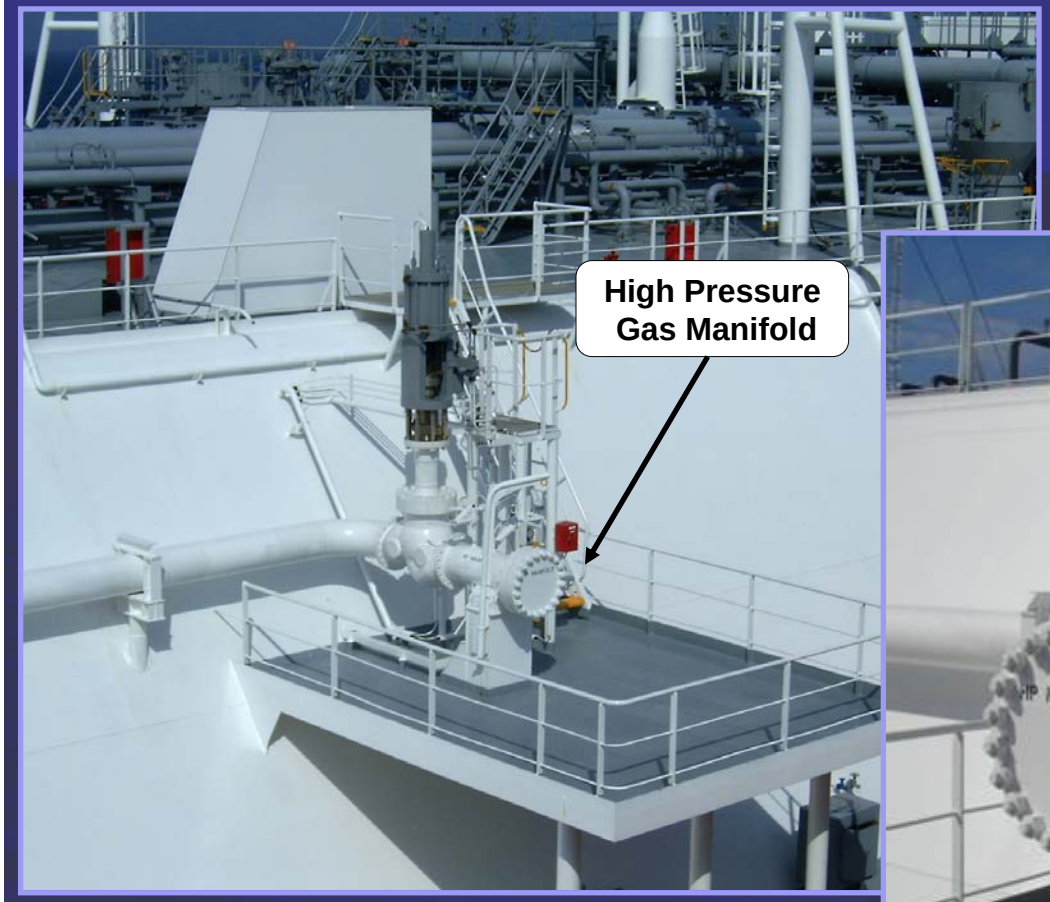
Deepwater Port
As vaporous natural gas through an STL Buoy

GasPort
As vaporous natural gas through the High Pressure Gas Manifold

Conventional
As LNG through standard liquid loading arms



Energy Bridge™ Technology
Makes GasPort Possible



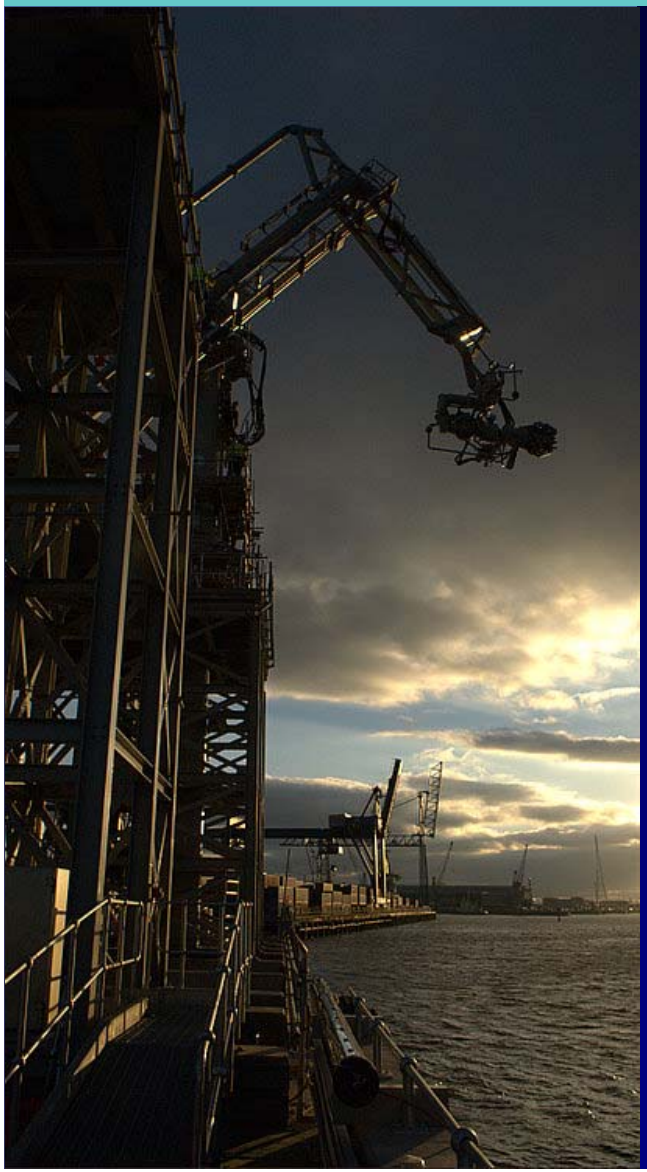
EBRVs come with a high pressure gas manifold as standard equipment

Allows delivery of regasified LNG directly into a gas pipeline installed on the jetty

Teesside GasPort
World's 1st Dockside Regasified LNG Receiving Facility

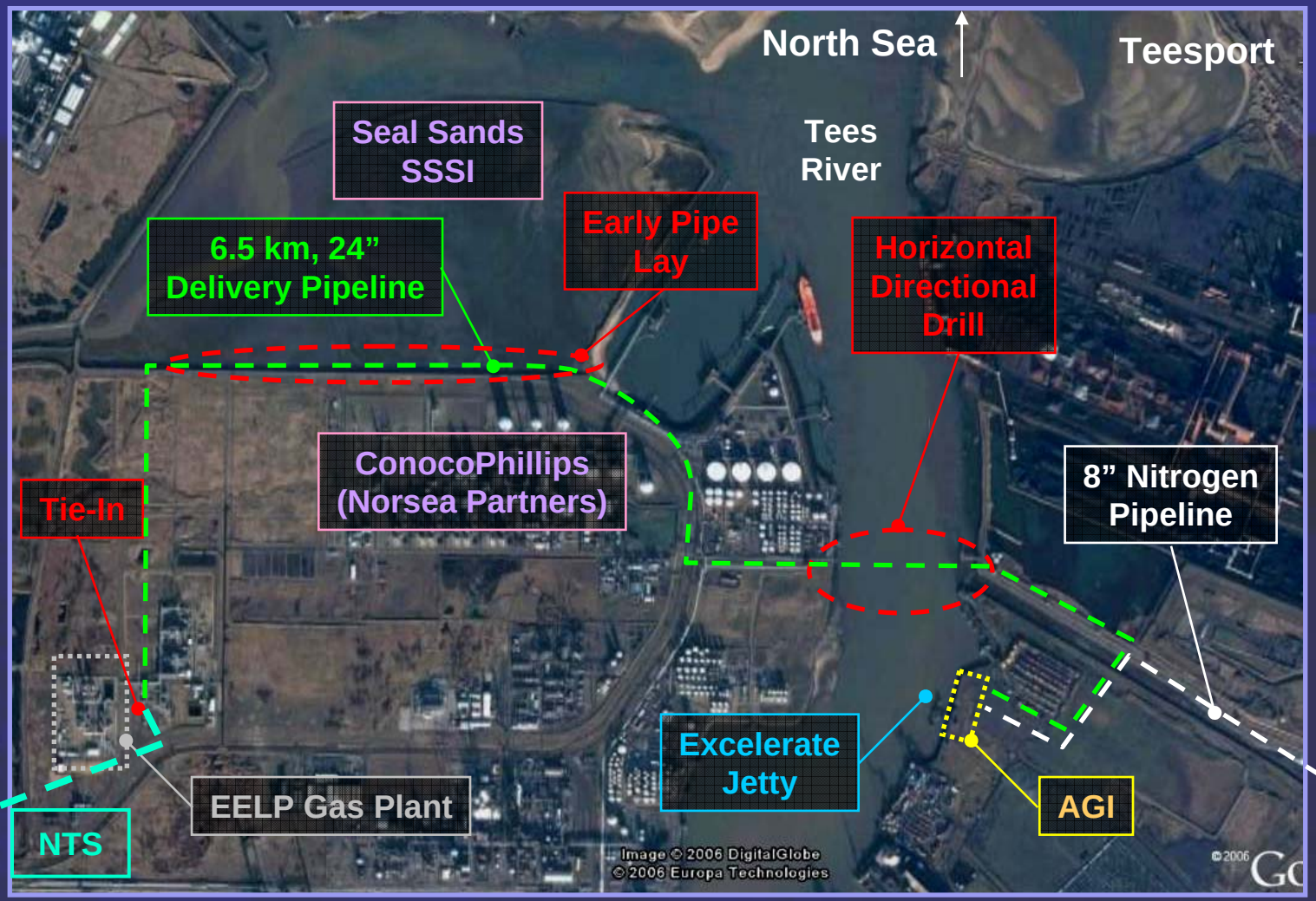
- Second operational LNG receiving facility in the UK
- Site selection to in-service date in 12 months
- Low capital cost, high flexibility asset for LNG imports

Development Timeline
Chronology of Teesside GasPort



July 2005	• Global price differentials for upcoming winters reveal a market opportunity • Excelerate teams with Gas Strategies to identify best sites in UK for GasPort
December 2005	• Teesport identified as an ideal location – discussion on possible locations ensues
February 2006	• Agreement reached with PD Teesport to locate on a disused crude jetty – the Excelerate Jetty is born • MouchelParkman engaged to commence design work – planning applications filed
June 2006	• EPIC contract executed with Murphy Pipelines Ltd. – construction commences
August 2006	• Planning permissions received – investment to date over £10 million • Detailed risk assessments performed with close regulatory coordination • px Holdings Ltd. selected as facility operator
February 2007	• First cargo arrival and discharge!

Teesside GasPort
Project Layout



GasPort Design Basis
Component Summary

Sub-Terminal South Bank

- Onshore offloading arm
- Gas blending/heating system
- Pressure control and associated protection systems

24” (600 mm) Pipeline

Sub-Terminal North Bank

- Gas quality monitoring and pipeline Grid entry (fiscal) metering system
- Sub terminal pressure/flow control

Grid Entry North Bank

Teesside GasPort
Key Project Challenges

- Looking back, it probably should not have been possible to go from this

to this

in 5 months

- But now we have, it will be much easier next time round….

- Challenges for winter 06/07 operation:
  - Environmental – completion of 2 km of 100 bar pipeline next to SSSI by 1 November
  - Safety – consent of UK HSE and Port Authority
  - Planning – permission for onshore facilities received in 12 weeks
  - Pipeline crossings:
    - Ekofisk oil line (1 million b/d)
    - CATS pipeline (1500 mscfd)
    - Teesside Power Pipeline (1,900 MW CCGT)
    - HDD under the Tees (1 km)
  - Px tie-in
    - Completed in July
  - NTS connection
    - Normally takes 2.5 years
  - Jetty refurbishment
  - Design and build
    - Unloading arm – first of its type
    - Design of onshore facilities
    - Procurement of pipe, valves and other material
    - Construction started on 1 September 06, completed Jan 07

GasPort Offloading Arm
Brings It All Ashore

- High-pressure gas arm capable of accommodating full flows of up to 600 million cubic feet per day (17 mcmd)
- Designed to accommodate a wide range of motions while Energy Bridge Regasification Vessels are moored at the jetty
- Quick connect / quick disconnect coupling allows for rapid separation in an emergency

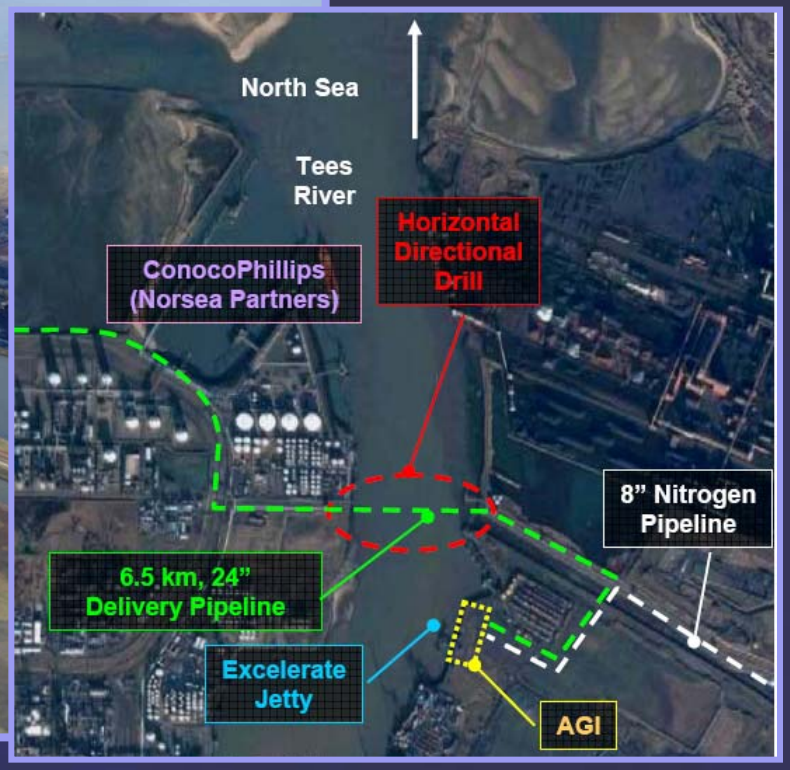
GasPort AGI
Blending, Measurement, and Control

- Nitrogen blending facilities are incorporated into the Teesside GasPort design
  - Reliable supply of nitrogen is available from the nearby BOC Ltd. nitrogen plant
  - Virtually any LNG specification can be stabilized to meet National Transmission System (NTS) specifications
- Gas chromatography and fiscal metering provide accurate measurement of flows and gas composition
- Pressure control systems are in place to ensure proper entry into the NTS

STS Transfer at Scapa Flow
From Conventional Vessel to EBRV

Teesside GasPort
Pulling It All Together Dockside

The Port


North Sea
Tees River
Horizontal Directional Drill
ConocoPhillips (Norsea Partners)
8" Nitrogen Pipeline
6.5 km, 24" Delivery Pipeline
Excelerate Jetty
AGI

The Jetty

The Onshore Facilities

Excelerate Energy's Regasification Solutions Portfolio

- Gulf Gateway deepwater port
  - Commissioned March 2005
  - 500 mmcf/d baseload
  - 690 mmcf/d peak

- Northeast Gateway deepwater port
  - In-service December 2007
  - 400 mmcf/d baseload
  - 600+ mmcf/d peak

- Teesside GasPort™
  - In-service February 2007
  - 400 mmcf/d baseload
  - 600 mmcf/d peak

Excelerate Energy
Bringing Continents of Energy Together

Excelerate Energy's Project Team

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PD PORTS

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