LNG REFIT
“EIGER – NORDWAND”

Ben Maelissa,
ADN, Geneva, August 27 2013
Company profile

- Privately owned company
- Founded in 1982
- Headquarters in Sliedrecht
- Branch offices:
  - Sliedrecht (NL)
  - Antwerp (B)
  - Brussels (B)
  - Basel (CH)
  - Strasbourg (F)
  - Ottmarsheim (F)
  - Lille (F)
- Number of employees: 140
- Danser owned vessels: 5
- Danser chartered vessels: 50
- Transported in 2012: > 1,0 million TEU
Vessel particulars
“Eiger-Nordwand”

Built: 2000
Overall length: 177 meter
Width: 11.45 meter
Draft: 2.56 meter
Tonnage: 5300 tonnes
Capacity (4 layers): 348 TEU
Engines: 2x 900 kW
Project Targets

• Meet customer demand; green transportation
• Meet upcoming legislation by ports and governments
• Meet Danser Group strategy: Frontrunner in clean & safe transportation
• Realisation first LNG refit on Inland vessel
• Emission meeting (expected) CCR4 requirements
• Pilot for LNG refit on 4 more container vessels

How:
• Installation Dual-Fuel propulsion system (Wärtsilä Engine, Tank/ Coldbox)
• Turn-key installation & commissioning
• Increased performance; fully redundant
• Safety leading parameter in overall design
Project planning

- Feb 2012  • Start project, initial discussions
- Jun 2012  • Conceptual design by project team
- July 2012 • Presentation to LRoS
- Dec 2012 • Introduction to Ministry of Infrastructure (IL&T, I&M)
- Feb 2013 • Submission call for TEN-T project
- Mar 2013 • Start detailed design
- Aug 2013 • Presentation at ADN meeting in Geneve
- Sept 2013 • Presentation at CCR meeting in Strassbourg
- Oct 2013 • HAZID study by LROS
- Feb 2014 • Start refit
- Apr 2014 • Tests, commissioning & trials
Actual Arrangement

EXISTING SHIP
REFIT Arrangement

REBUILT SHIP
REFIT Arrangement

- Proven design of all major components, based on multiple years of experience
- Dual-Fuel Engine: automatic switch over to gasoil in case of failure/ alarm
- Dual-Fuel Engine: designed for LNG as main fuel
- Dual-Fuel Engine with a/o double wall piping; gas safe Machinery Room
- Gas detection and auto shut down of main LNG valve
- Double redundant ventilation
- Bunkering at starboard side
- Trained crew & management
REFIT Detailed design
Reduction of Emissions

Wärtsilä DF 6L20

Gasoil backup capability
DF engines suitable for mechanical drive

Dual-Fuel engine in gas mode
-20%

Diesel engine
-80%

-99%

-99%

CO₂
NOₓ
SOₓ
Particulates

Emission values [%]
100
90
80
70
60
50
40
30
20
10
0

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ADN and CCR approval requested to realise this LNG refit project

THANK YOU

QUESTIONS?

www.danser.nl