"Status of LNG fuelled IWW vessels"

Power point presentation by Mr. Bas Joormann of Lloyd's Register
Status of LNG fuelled IWW vessels

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Content

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Annual evaluation report ‘Argonon’

- Derogation granted in January 2012
- Obligations in derogation
- Document WP15-AC2-22-inf21
• System failure:
  • None
• Leakage:
  • None
• Bunkering data:
  • By truck, 15 tons LNG in 1.5 hours
  • 81% LNG and 19% gasoil
  • 148 tons LNG and 36 m³ gasoil
  • 1300 running hours
• Pressure data:
  • 3.5 bar average tank pressure
  • 1.0 bar into engine room
• Repairs and modifications:
  • Outlet of safety relief valve changed
• Operations data:
  • Limited sailing time
  • Bunkering services in Rotterdam, Amsterdam and Antwerp
• Survey report:
  • Survey according Lloyd’s Register Rules for Natural Gas fuelled ships
Annual evaluation report ‘Argonon’

• Emission data:
  • 157 tons of CO2 saved
  • NOx 3.4 gr/kWhr (= 50% of CCNR II)
  • PM 0.04 gr/kWhr (< CCNR IV)
  • SOx -80%
  • 2 Capstone microturbines:
    NOx 0.29 gr/kWhr
  • 25% fuel costs saving

• Promotional activities:
  • Often used for promotional activities such as Rotterdam Harbour Days
Status ‘I-Tankers’

- Building started: spring 2012
- First vessel: delivered March 2013
- Second vessel: delivered June 2013

- Scania gas engines tested:
  - CO2 reduction is 25 %
  - NOx 5.4 gr/kWhr
  - No SOx
  - No particulates
Present projects (almost) under construction with Lloyd’s Register

- I-Tankers 3 and 4
- New building dual fuel pushboat
- Conversion of container vessel ‘Eiger’
New building dual fuel pushboat
New building dual fuel pushboat

- General data:
  - Length 40 m
  - Breadth 18 m
  - Depth 2.8 m
  - Draught 1.6 m
  - 4 x Wartsila 6LDF 1060 kW
  - 95% LNG + 5% gasoil
  - 150 m3 LNG tank + 80 m3 gasoil
  - 6 x Europe II type barges (17,000 t)
  - Shipyard Kooiman, The Netherlands
  - Owner Veerhaven Thyssen Krupp
  - Delivery summer 2014
Newbuilding dual fuel pushboat
Conversion of container vessel ‘Eiger’
Conversion of container vessel ‘Eiger’

- General data:
  - L x B x D = 105 × 11.45 × 2.55 m
  - 1960 tons
  - Year of build 2000
  - 2 x Caterpillar DF 750 kW
  - 60 m³ LNG tank
Present projects in engineering stage with Lloyd’s Register

- Dual fuel Type G tanker for LNG transport
  - 86 x 10.5 x 2.6 m
  - 2 x 500 kW dual fuel engines
  - 2250 m³ LNG (1000 tons)
Present projects in engineering stage with Lloyd’s Register

- LNG-electric Type G tanker for LNG + gasoil bunkering services
  - 110 x 13.5 x 6.3 m, 1300 m³ LNG + 1200 m³ gasoil
- LNG-electric dry cargo vessel
  - 135 x 11.45 x 5.1 m, 4000 tons
- 2 x dual fuel Type C tankers
  - 110 x 11.45 x 5.2 m, 3200 tons
- 2 x LNG-electric car/passenger ferry
  - 600 passengers + 70 cars
- Dual fuel car/passenger ferry
  - 1750 passengers + 340 cars
Questions?

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