



LNG in the Ports of Stockholm Henrik Cars

April 17, 2013



It started with **Viking Grace**



Length 218 meters, gross tonnage 57.565, 2800 passengers



The route and schedule



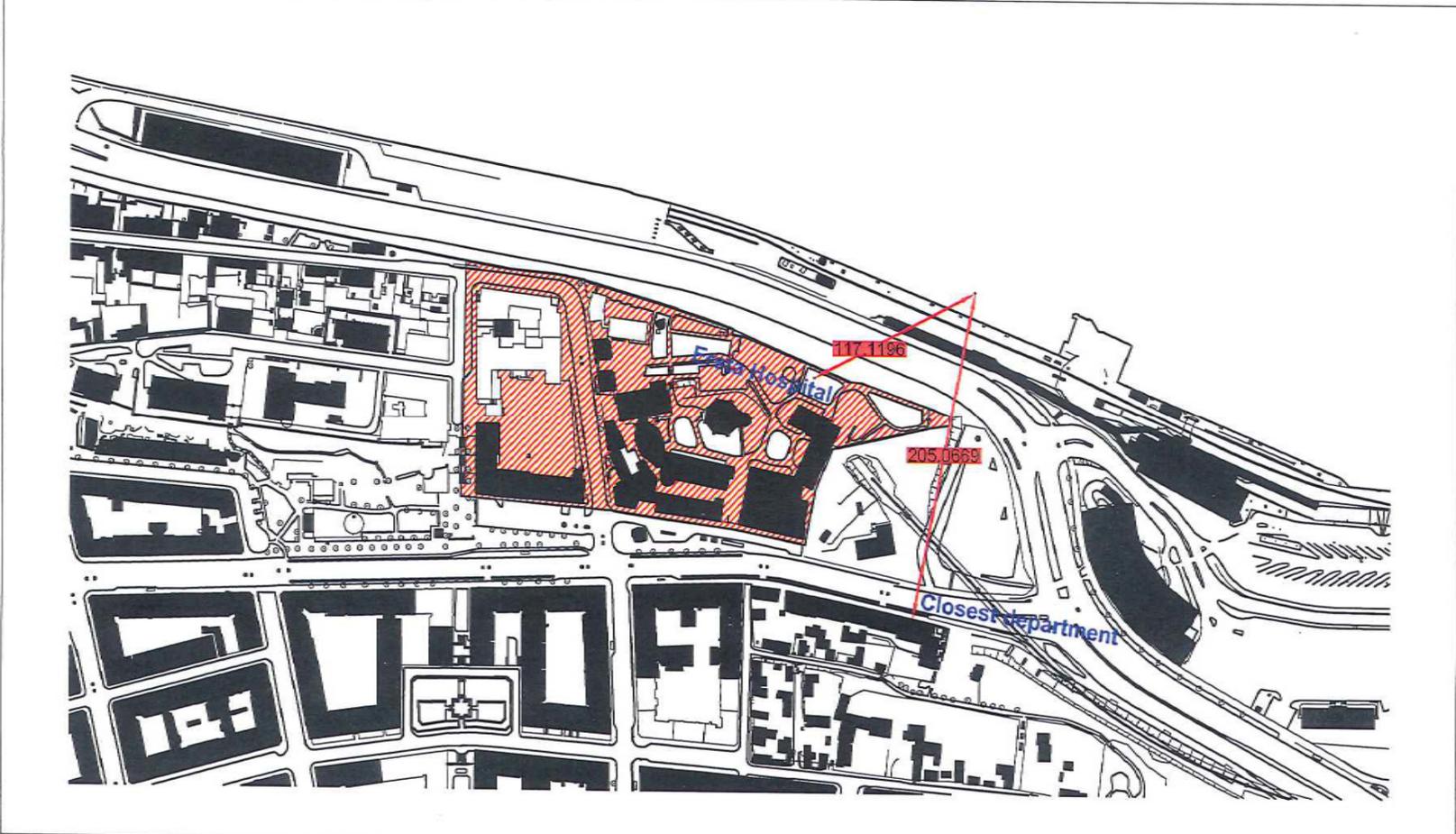
7 trips per week between Sweden and Finland
Arrival in Stockholm 06:30 and departure 07:35



The berth in Stockholm



The berth in Stockholm



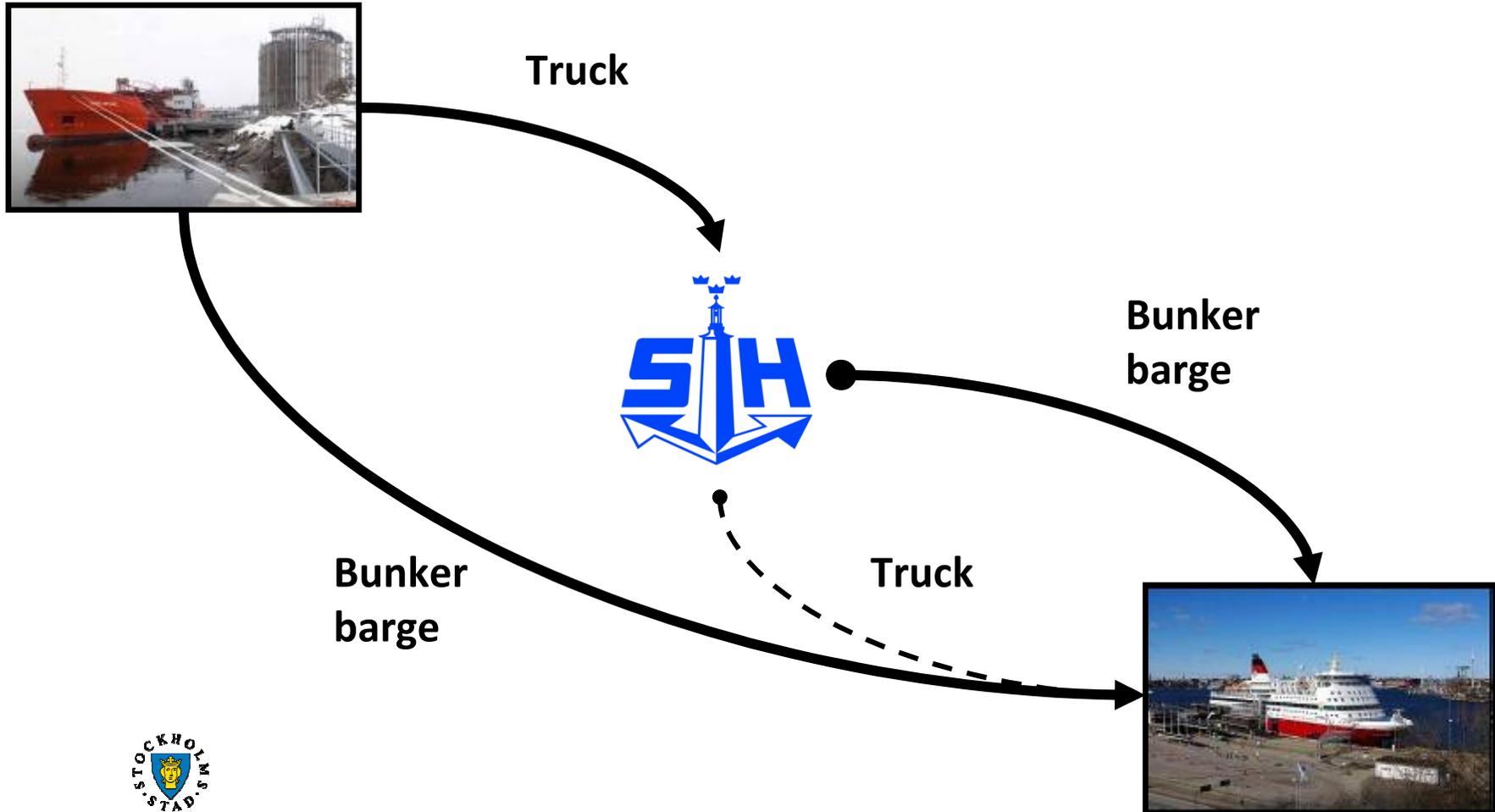
The berth in Stockholm



The LNG plant in Nynäshamn (65 km south of Stockholm) was opened in May 2011



LNG distribution to Stockholm



Bunker from truck



Bunker from shore



Bunker from barge in another location



Bunkering from barge simultaneously as cars and passengers are loaded



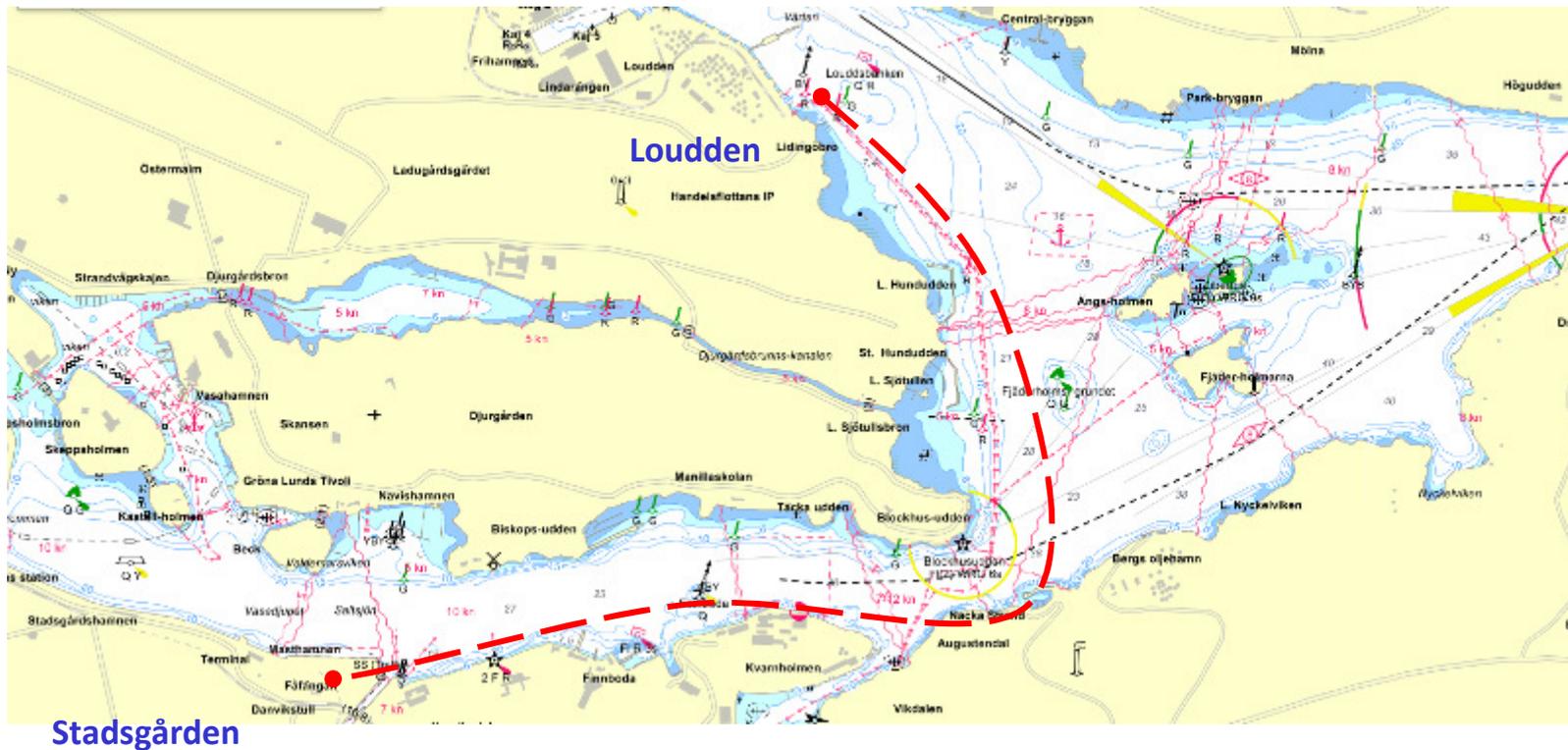
LNG distribution to Stockholm

By truck about 65 km and with ship about 70 NM or 130 km



LNG distribution to Stockholm

From oil harbour Loudden to Stadsgården, about 3.3 NM or 6.1 km



LNG distribution to Stockholm



Truck



Bunker
barge

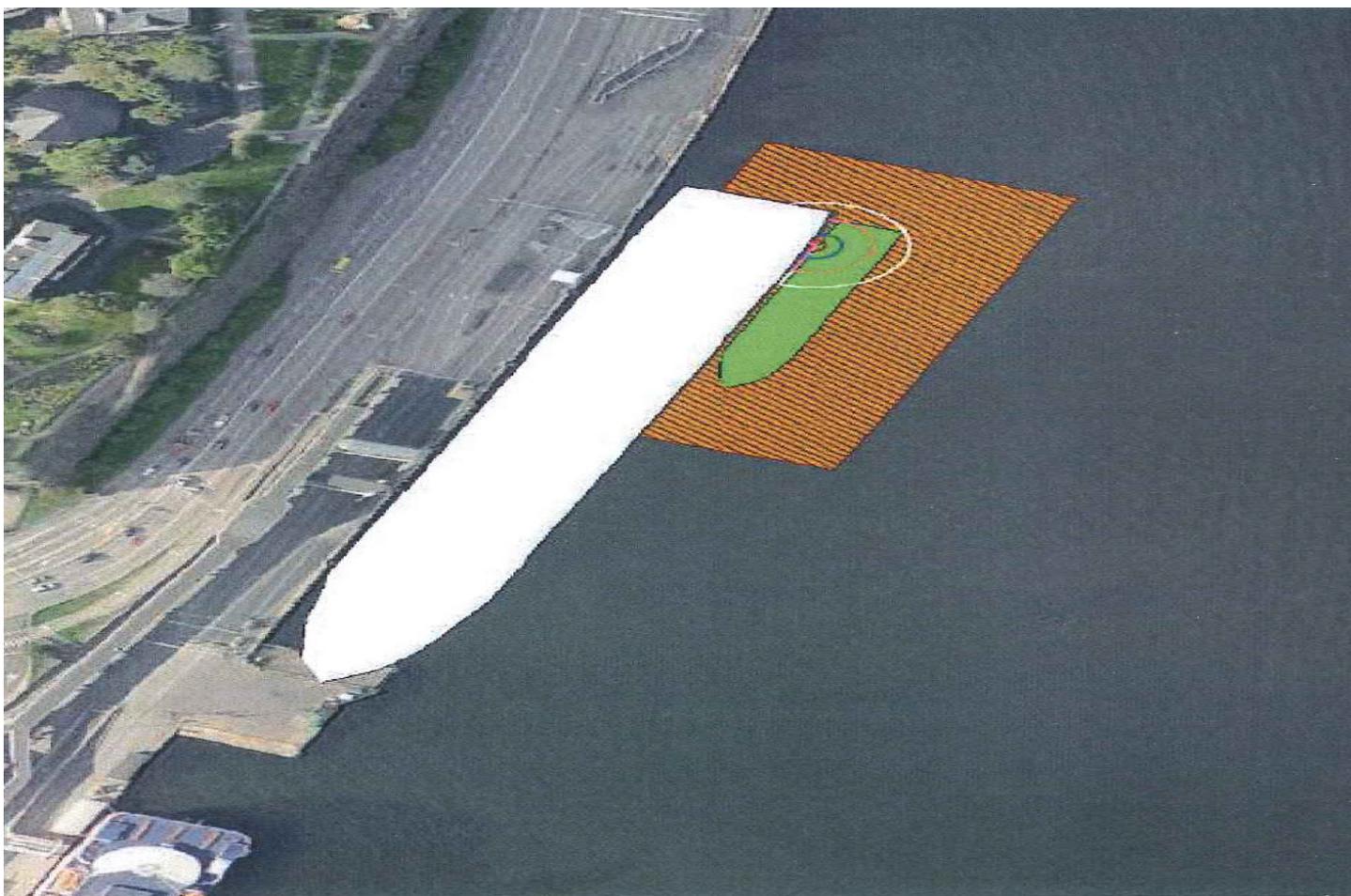


AGA | Distribution av LNG till Viking Grace











Checklist



MOM WPCI LNG WG, 6-7/12/12

14 december 2012

IAPH WPCI LNG Working group meeting, 6-7/12/12, Stockholm

Participants:

Amsterdam: Peter Alkema; **Antwerp:** Tessa Major; **Bremen:** Bjela König; **Brunsbüttel ports:** Kristen Ziegler **Gothenburg:**, Joel Smith **Hamburg:** Hendrik Hollstein, Wolfgang Becker **Le Havre:** Jean-Paul Raffini **Rotterdam:** Cees Boon; **Stockholm:** Henrik Cars, Ola Joslin; **Zeebrugge:** Paul Schroé

Different checklists for the LNG bunkering have been worked out together with IAPH (International Association of Ports and Harbors).

1. Truck-to-ship checklist
2. Ship-to-Ship checklist
3. Shore-to-Ship checklist

Incident report system

- LNG incident or accident related to the LNG bunkering should be reported to the port.
- All this information is spread from the Port of Stockholm to the different LNG players, i.e. the ferry company, the bunker barge, the gas distributor AGA and the Swedish Transport Agency.





LNG in Ports of Stockholm 2013

- LNG per year 22,500 metric tonnes = 50,000 m³
- Bunkerbarge capacity Grace 77 metric tonnes
- Truck capacity 25 metric tonnes
- Time to discharge a truck 1,5-2 hours
- Trucks per day 3
- Trucks per year 1,095
- Grace consumption 60 metric tonnes LNG or 80 metric tonnes MDO per 24 hour



LNG distribution to Stockholm in the future?



Large bunker barge



Smaller bunker barges



Thank you!





www.stockholmshamnar.se

