



25th world gas conference
"Gas: Sustaining Future Global Growth"

Enhancing LNG Facilities Compatibility

CS9.1: PGCD

Richard Lammons, Chevron

5 June 2012

Kuala Lumpur Convention Centre, Plenary Theatre



Patron



Host



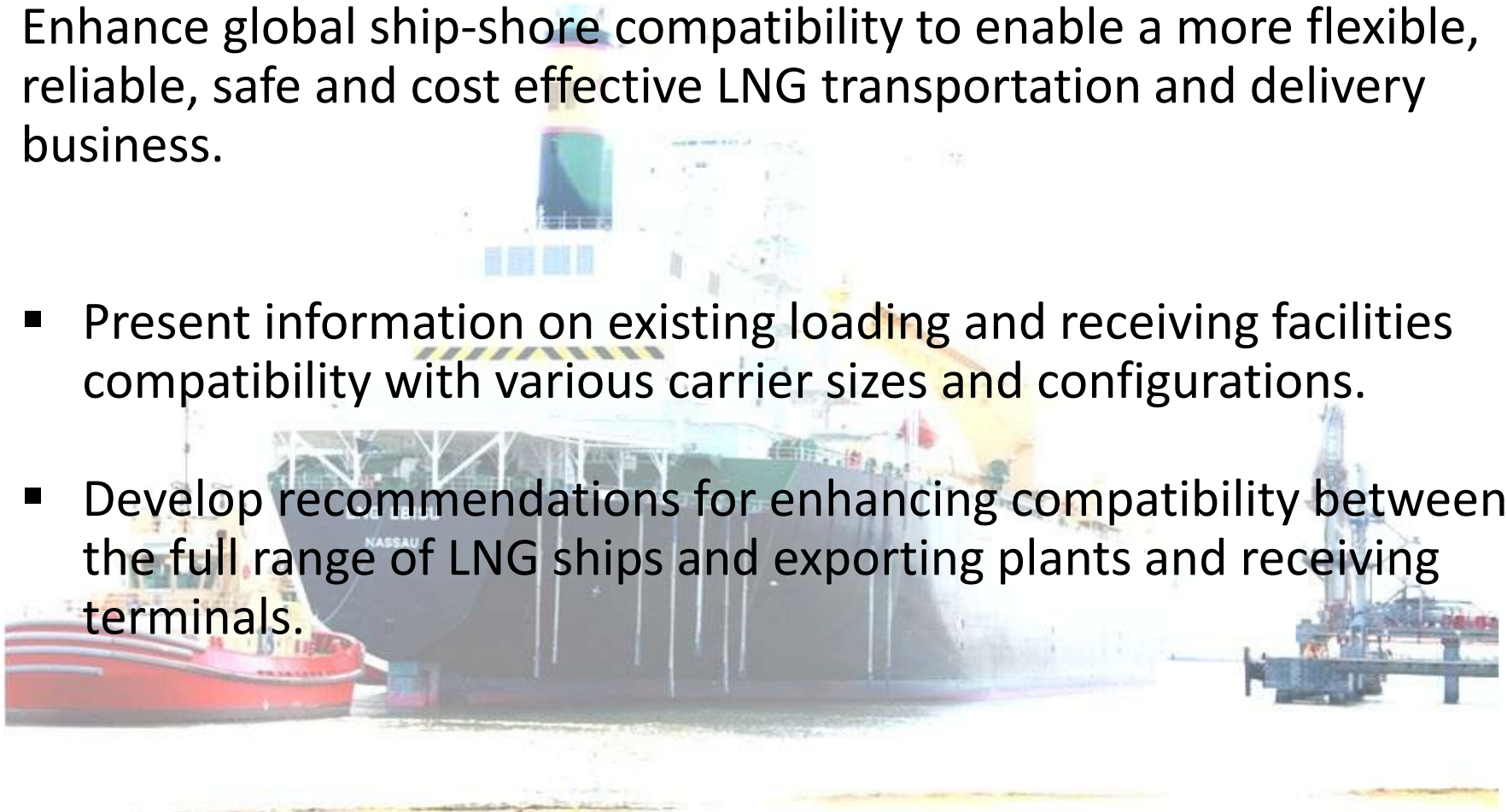
Host Sponsor



Objective

Enhance global ship-shore compatibility to enable a more flexible, reliable, safe and cost effective LNG transportation and delivery business.

- Present information on existing loading and receiving facilities compatibility with various carrier sizes and configurations.
- Develop recommendations for enhancing compatibility between the full range of LNG ships and exporting plants and receiving terminals.



LNG Compatibility Report Outline



- Organizations and Their Missions
- LNG Facility to Carrier Compatibility
- Operational Safety LNG Facility and Carriers
- LNG Carriers—Updates and Operations
- New Development in LNG Facilities
- Compatibility—The Future Challenges

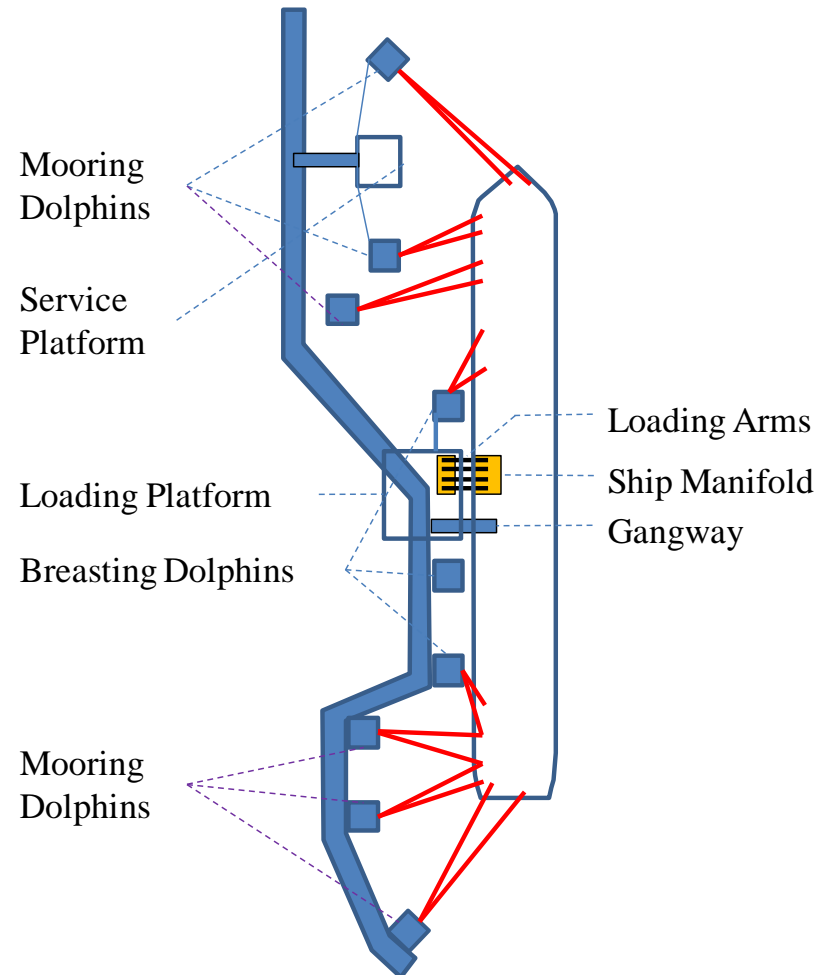
Organisations and Their Missions



- Associations provide a common venue to achieve operational excellence.
- Regulatory agencies allow the LNG industry to function safely, reliably and legally.
- Publications provide the framework for technical accuracy, reliable operations, and best practice applications.
- LNG industry would benefit from streamlining and coordinating access to compatibility data.

LNG Facility to Carrier Compatibility

- Marine Operational Limits
- Waterfront Systems
- LNG Storage Tank Capacity
- LNG Cargo Pumps, Transfer Rates, Vapour Return
- LNG Quality and BTU Management Options



- LNG industry excellent safety record maintenance
 - Safety management systems and compatibility procedures
 - Compliance with International Ship and Port Facility and Security codes
 - Best practices and procedures
- Recommendations
 - Establish industry wide minimum training levels for operating positions
 - Widely disseminate LNG Best practices and procedures
 - Standardize format and develop common, accurate ship and terminal databases

Emergency Shutdown System



Compatibility Challenges

- Approaching the terminal
- Mooring and berthing
- Connecting of the loading arms
- Loading/unloading operations
- Disconnecting
- Departure



New Developments in LNG Facilities

Floating Solutions:

- Floating LNG facilities (FLNG)
- Floating Storage Regas Units (FSRU)
- Floating Storage Unit (FSU)
- LNG Regasification Vessel (LNGRV)
- Floating Regasification Unit (FRU)

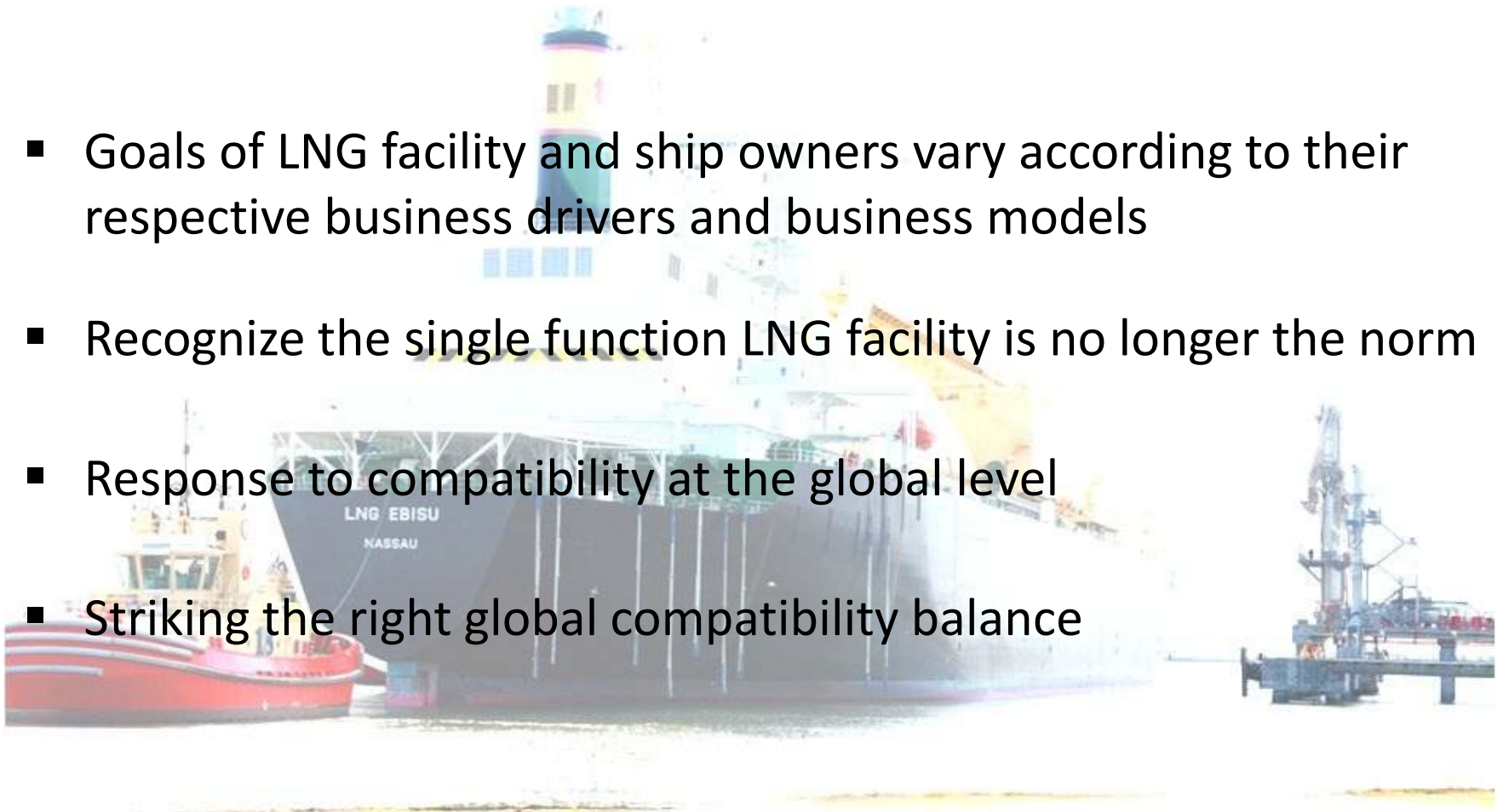
Fixed Offshore Solutions:

- Gravity Based Structure (GBS)



Compatibility—the Future Challenges

- Goals of LNG facility and ship owners vary according to their respective business drivers and business models
- Recognize the single function LNG facility is no longer the norm
- Response to compatibility at the global level
- Striking the right global compatibility balance



Questions?

Study Group D1

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