



Reducing Human Exposure in Shipping Operations

10th Annual Maritime Risk Symposium
(MRS 2019)

James Scalli

Manager Maritime Assurance
Shell Shipping & Maritime Americas



Cautionary Note

The companies in which Royal Dutch Shell plc directly and indirectly owns investments are separate legal entities. In this press release “Shell”, “Shell group” and “Royal Dutch Shell” are sometimes used for convenience where references are made to Royal Dutch Shell plc and its subsidiaries in general. Likewise, the words “we”, “us” and “our” are also used to refer to Royal Dutch Shell plc and subsidiaries in general or to those who work for them. These terms are also used where no useful purpose is served by identifying the particular entity or entities.

“Subsidiaries”, “Shell subsidiaries” and “Shell companies” as used in this press release refer to entities over which Royal Dutch Shell plc either directly or indirectly has control. Entities and unincorporated arrangements over which Shell has joint control are generally referred to as “joint ventures” and “joint operations”, respectively. Entities over which Shell has significant influence but neither control nor joint control are referred to as “associates”. The term “Shell interest” is used for convenience to indicate the direct and/or indirect ownership interest held by Shell in an entity or unincorporated joint arrangement, after exclusion of all third-party interest.

This press release contains forward-looking statements (within the meaning of the U.S. Private Securities Litigation Reform Act of 1995) concerning the financial condition, results of operations and businesses of Royal Dutch Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future expectations that are based on management’s current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forward-looking statements include, among other things, statements concerning the potential exposure of Royal Dutch Shell to market risks and statements expressing management’s expectations, beliefs, estimates, forecasts, projections and assumptions. These forward-looking statements are identified by their use of terms and phrases such as “aim”, “ambition”, “anticipate”, “believe”, “could”, “estimate”, “expect”, “goals”, “intend”, “may”, “objectives”, “outlook”, “plan”, “probably”, “project”, “risks”, “schedule”, “seek”, “should”, “target”, “will” and similar terms and phrases. There are a number of factors that could affect the future operations of Royal Dutch Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this press release, including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell’s products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; and (m) changes in trading conditions. No assurance is provided that future dividend payments will match or exceed previous dividend payments. All forward-looking statements contained in this press release are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Additional risk factors that may affect future results are contained in Royal Dutch Shell’s 20-F for the year ended December 31, 2018 (available at www.shell.com/investor and www.sec.gov). These risk factors also expressly qualify all forward looking statements contained in this press release and should be considered by the reader. Each forward-looking statement speaks only as of the date of this presentation 13 Nov 2019. Neither Royal Dutch Shell plc nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this press release.

Agenda

- Overview of Shell Shipping & Maritime
- Risk Areas:
 - Vessel Mooring
 - Confined Space Entry
 - Diving Operations
 - Personnel Transfer/Working in areas without fall protection
- Maritime Partners in Safety

SHELL TRADING AND SUPPLY

Our global Trading and Supply business is one of the largest energy trading operations in the world. Our largest trading hubs are in London, Houston, Singapore, Dubai and Rotterdam, trading in crude oil, natural gas, LNG, electrical power, refined products, chemical feedstocks and environmental products.

Trading, combined with an integrated network of supply and distribution activities and industry-leading shipping and maritime capabilities, adds value for Shell across its Upstream, Downstream and Integrated Gas businesses.



Maritime assurance of:

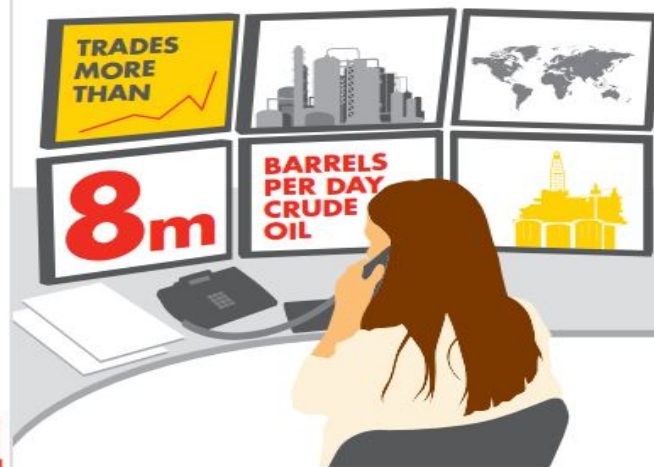
Ships and barges carrying oil, refined products and LNG*



Offshore support vessels



"Trader in the middle"



Physically delivers around 4 million barrels of refined products per day to customers (directly or via Shell's marketing business)



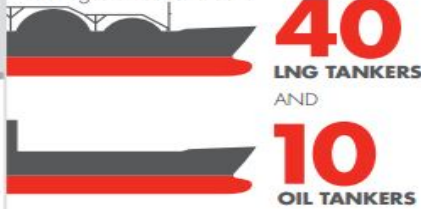
World's LNG fleet operated by Shell



Manages more than



Manages a fleet of around



Time charters more than



Daily manages more than 3,000 trucks that lift fuel from 110 Shell depots and some 770 outside supply points in around 25 countries, delivering quality products to a majority of the ~43,000 Shell retail stations



43,000 SHELL RETAIL STATIONS



*This includes vessels that have come to a terminal to lift cargo sold by Shell; the cargo is associated with Shell, but not necessarily owned by Shell.

ADDING VALUE FOR SHELL

Inherent hazards of Vessel Mooring



[Home](#) > [Marine Accident Investigation Branch reports](#)

Failure of mooring line on board LNG carrier Zarga with 1 person injured

South Hook LNG terminal, Milford Haven, Wales.



Search...

[Organisation](#) [News](#) [Programmes](#) [Publications](#) [OCIMF Events](#) [MEG4](#) [IMO, IOPC & EU](#) [Links](#) [Contact Us](#)

[Home](#) > [Publications](#) > [Books](#)

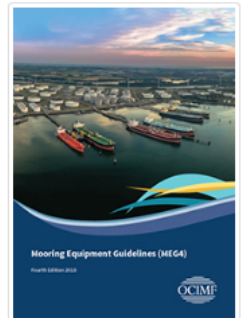
Mooring Equipment Guidelines (MEG4)

Fourth Edition 2018

Mooring a ship to a berth is a common function for the maritime industry, however incidents that harm ship and terminal personnel still occur. This publication establishes recommended minimum requirements that will help ship designers, terminal designers, ship operators and mooring line manufacturers improve the design, performance and safety of mooring systems.

For more information on Mooring Equipment Guidelines (MEG4) please visit:

<https://ocimf.org/meg4>



Alternative Mooring Methods

Vacuum Mooring Systems:

- Improved Safety:
 - Reduces reliance on personnel for mooring operations.
 - Reduced risk of mooring accidents for personnel.
 - Real time monitoring of the mooring process & forces while alongside.
 - EX rated for use with hazardous cargoes
- Efficiency/Operational Cost:
 - Reduced mooring (30 secs)/unmooring time (10 secs)
 - Increased berth utilization (quicker vessel turnarounds)
 - Does not require vessel modification.
- Reduced Environmental Impact:
 - Reduced mooring time, equals less idling and running of vessel engine alongside

Alternative Mooring Methods

Magnetic Mooring Systems:

- Improved Safety:
 - Eliminates reliance on personnel for mooring operations.
 - Real time monitoring of the mooring process & forces.
 - EX rated for use with hazardous cargoes
- Efficiency/Operational Cost:
 - Reduced mooring (<1 min)/unmooring time (20 secs)
 - Increased berth utilization (quicker vessel turnarounds)
 - No equipment deterioration from UV, moisture, and heat.
 - Can be installed on a berth or on a vessel.
- Reduced Environmental Impact:
 - Reduced mooring time, equals less idling and running of vessel engine alongside

Usage of Unmanned Aerial Vehicles (Drones) for Confined Space Entry

Safety:

- Reduces/eliminates confined space entry for personnel.

Efficiency:

- Time for inspection greatly reduced.
- Set up/break down time significantly reduced.

Cost:

- Scaffolding not required to reach elevated locations.

Added Value:

- Up close HD video/photos remotely analyzed by software.
- Improved visual inspection of remote inaccessible locations.
- Allows for more frequent inspection due to time required.
- More frequent and detailed data captured for improved trending analysis.

Remote Operated Vehicle (ROV) Deployment for Vessel/Terminal Inspection

Safety:

- Reduces/eliminates need for divers to enter the water.

Efficiency:

- Can be launched from dockside or from a small boat.
- Can be moved with a small davit or 2 by people.

Cost:

- Dive team and associated equipment not required for operation.

Added Value:

- Sidescan & Imaging Sonar
- Scanning Laser (LiDAR)
- Ability to add probe and grab tools as required.

Inland Barge Engineering Barriers – Prototype Trials



Maritime Partners In Safety

