



# ConocoPhillips FLNG

*Status and Plans*

Jim Harris

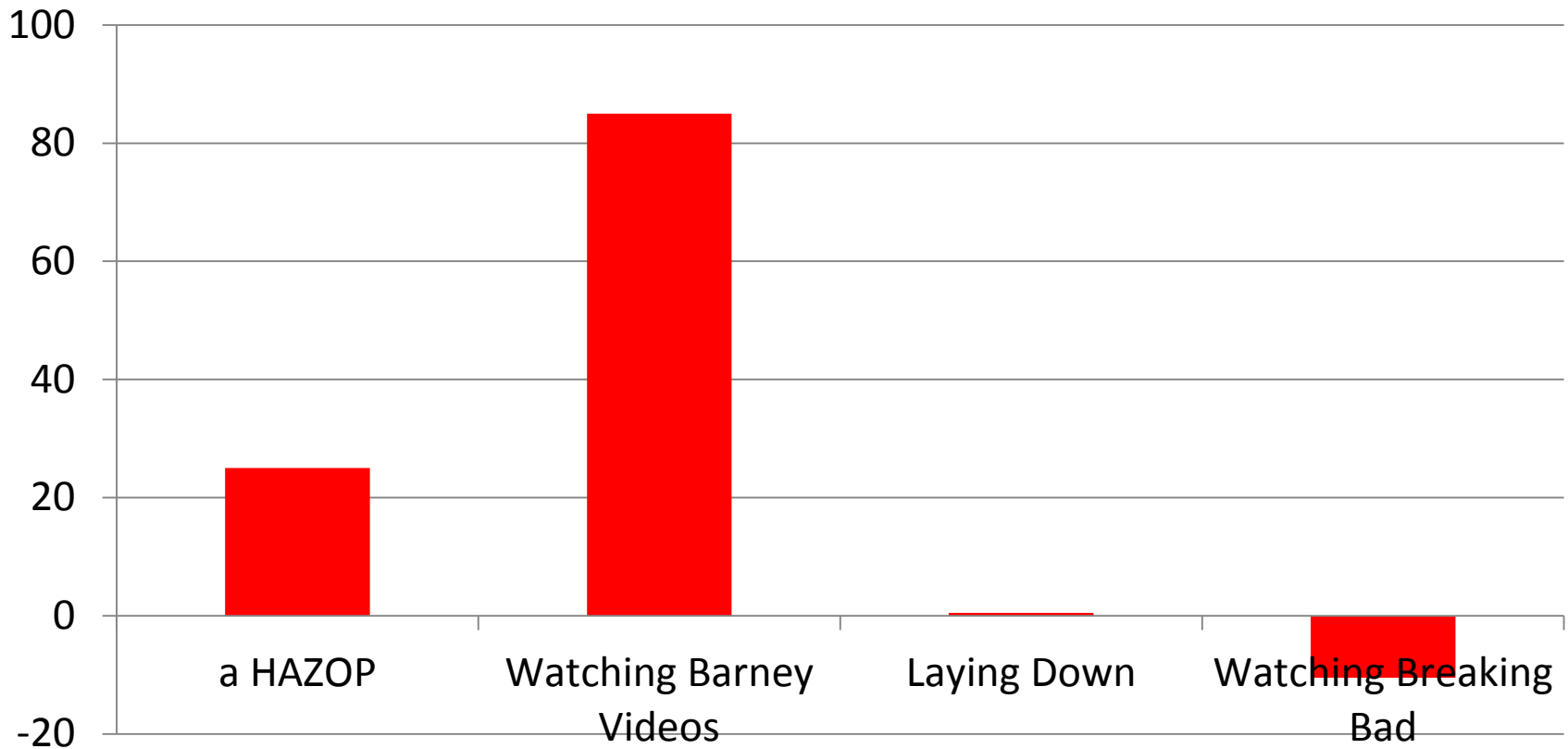
LNG Process Engineering

Feb 6 , 2014



# Chemical Engineers Safety Moment: Catalyzing Events

**Most Likely To Release Melatonin from your Pineal Gland based on a Poll of 100 Chemical Engineers (this is medical terminology for put you to sleep)**





## Cautionary Statement

The following presentation includes forward-looking statements. These statements relate to future events, such as anticipated revenues, earnings, business strategies, competitive position or other aspects of our operations or operating results. Actual outcomes and results may differ materially from what is expressed or forecast in such forward-looking statements. These statements are not guarantees of future performance and involve certain risks, uncertainties and assumptions that are difficult to predict such as oil and gas prices; operational hazards and drilling risks; potential failure to achieve, and potential delays in achieving expected reserves or production levels from existing and future oil and gas development projects; unsuccessful exploratory activities; unexpected cost increases or technical difficulties in constructing, maintaining or modifying company facilities; international monetary conditions and exchange controls; potential liability for remedial actions under existing or future environmental regulations or from pending or future litigation; limited access to capital or significantly higher cost of capital related to illiquidity or uncertainty in the domestic or international financial markets; general domestic and international economic and political conditions, as well as changes in tax, environmental and other laws applicable to ConocoPhillips' business and other economic, business, competitive and/or regulatory factors affecting ConocoPhillips' business generally as set forth in ConocoPhillips' filings with the Securities and Exchange Commission (SEC).

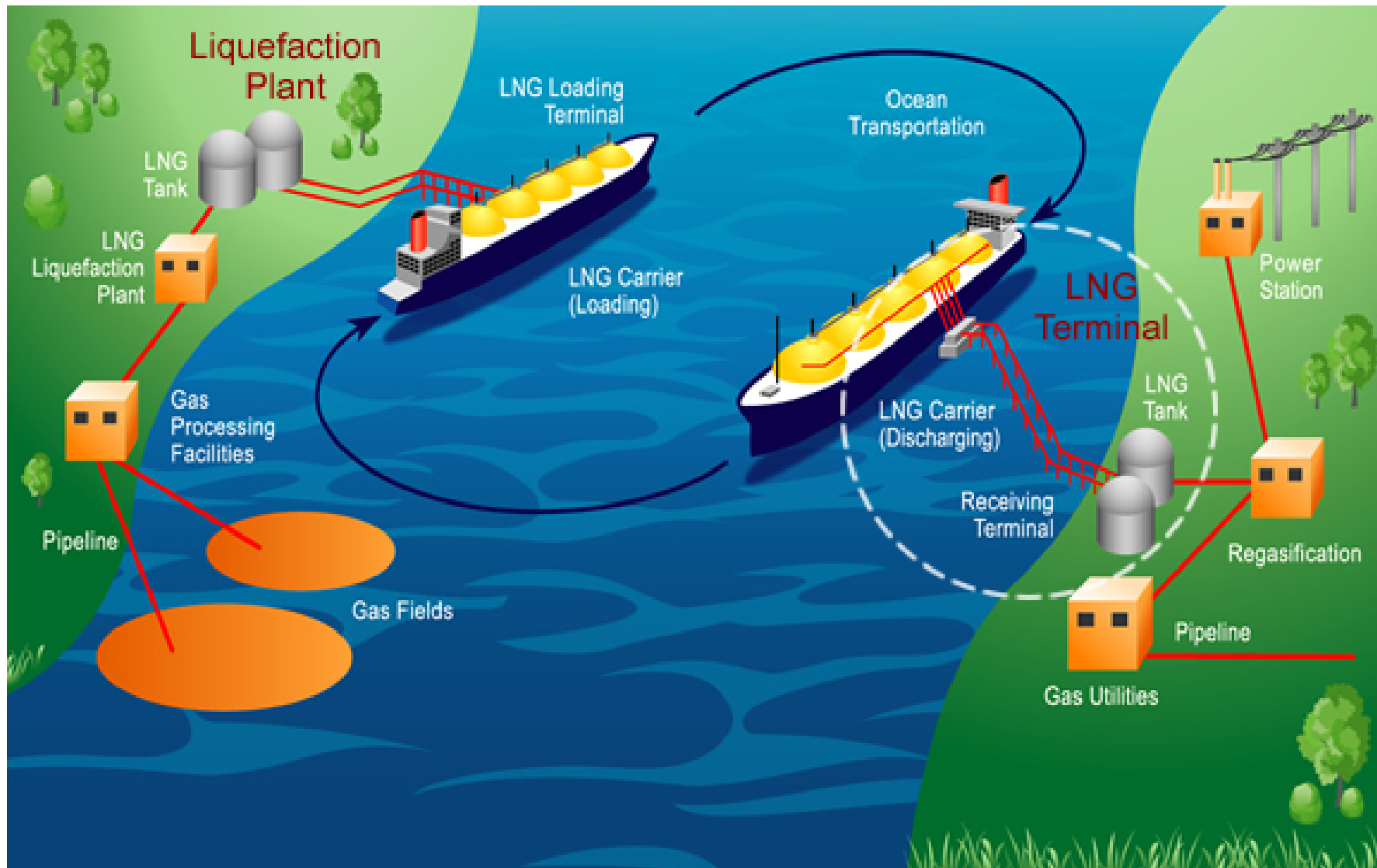
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# Presentation Outline

- LNG 101
- ConocoPhillips' FLNG Program Summary
- Video Tour of ConocoPhillips' 3.9 MTPA FLNG Facility
- Technology Development Phase Highlights
- ConocoPhillips' Potential FLNG Opportunities
- Current FLNG Path Forward Plans

NOTE: "ConocoPhillips" refers to ConocoPhillips Company. Optimized Cascade® is a registered trademark of ConocoPhillips Company in the United States and certain other countries.

# LNG 101?

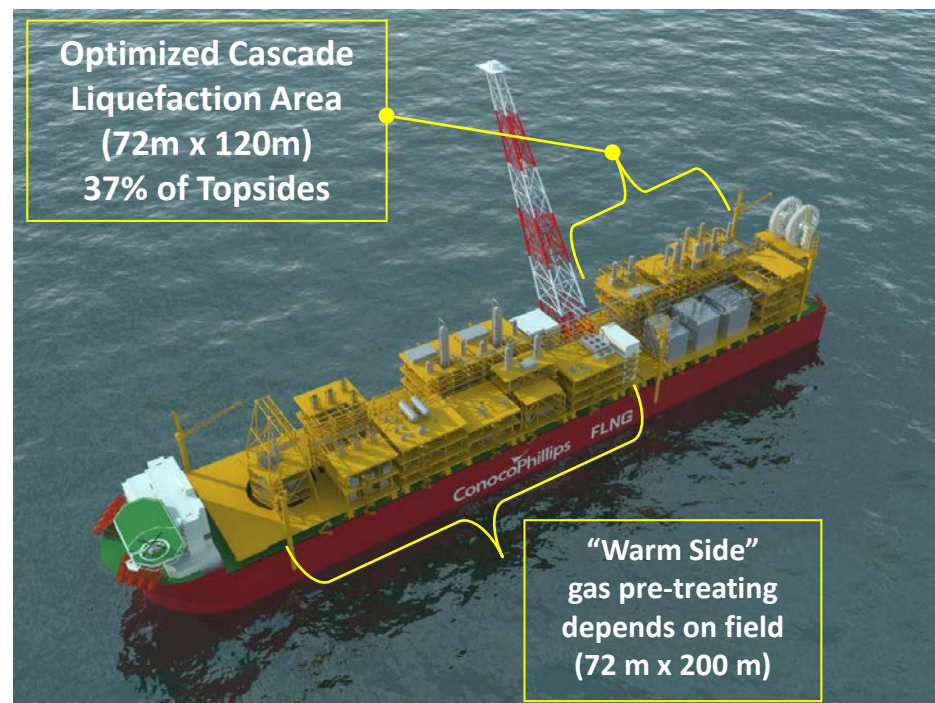




# ConocoPhillips' Floating LNG Program Summary

**OBJECTIVE:** Competitive "Pre-FEED ready"  
Optimized Cascade® FLNG design

- 3.9 MTPA design based on high CO<sub>2</sub> gas stream and harsh metocean conditions
- Develop and test heat exchangers and cold box design for marine environment
- Screen all FLNG technology offerings, shortlist and establish selection criteria
- Perform detailed Quantitative Risk Assessment (QRA) and benchmark results
- Fully risked Pre-FEED level FLNG cost and execution schedule

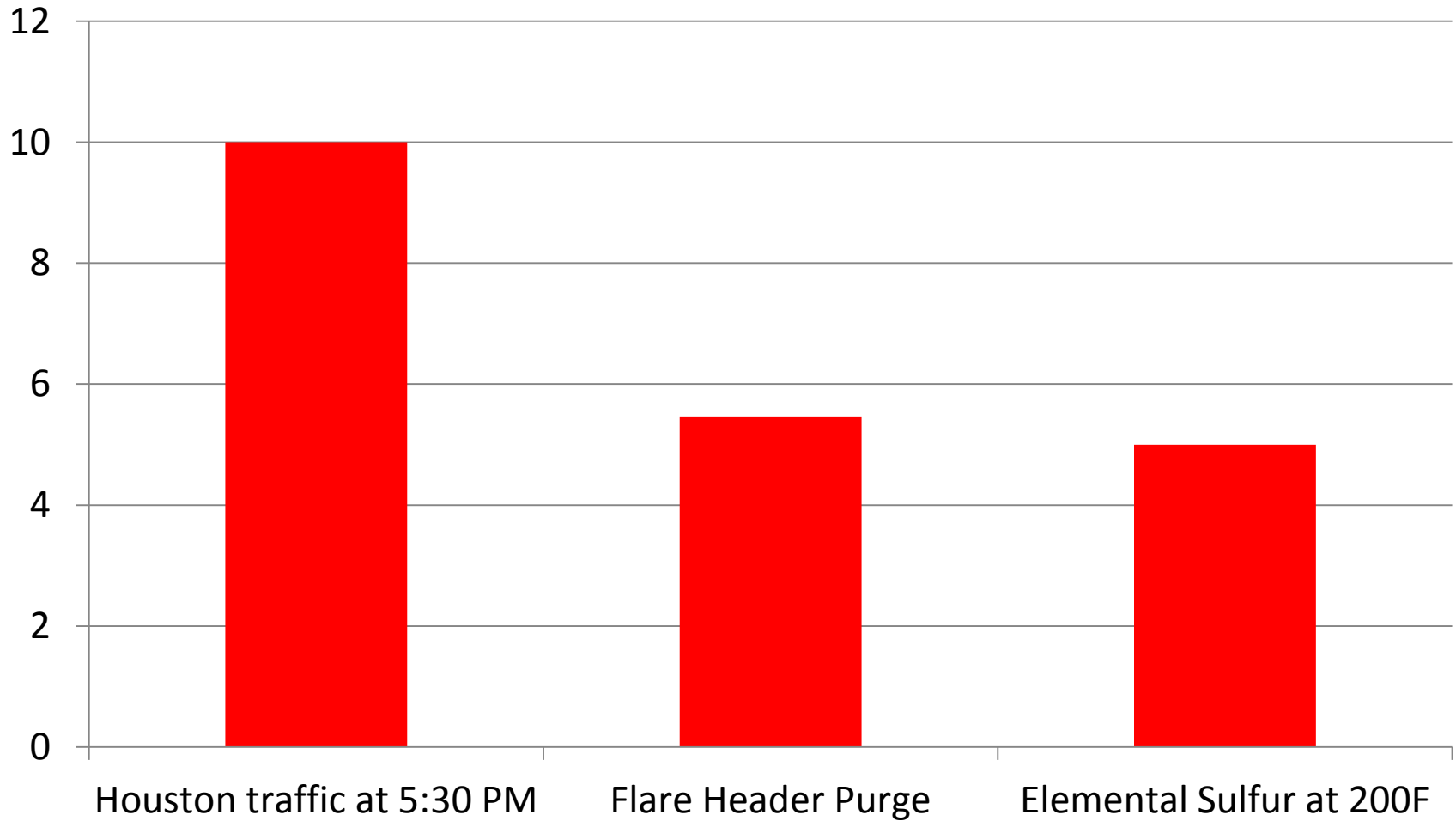


Source: ConocoPhillips

Three year Technology Development Phase completed in 2013

# Chemical Engineers Safety Moment: Response Time

Time to move 100 Meters (min)



# Marinisation of the Optimized Cascade® Process

## ► Design Highlights

- Double containment of refrigerant inventories inside blast resistant Cold Boxes (including propane)
- Capable of operating in moderate to severe metocean conditions
- Overall liquefaction system topside weight, footprint and cost are competitive
- Like onshore, process efficiency and operating flexibility compares favorably to others

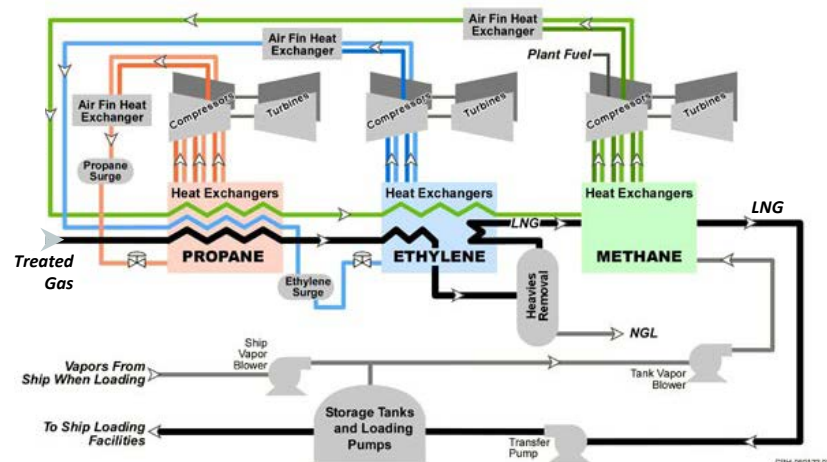
## ► Pilot testing of new heat exchangers and cold box designs

- Demonstrating performance and proving computer models for full scale design
- Working closely with key vendors to develop detailed designs and specifications

## Optimized Cascade® Plants



## Optimized Cascade® Process

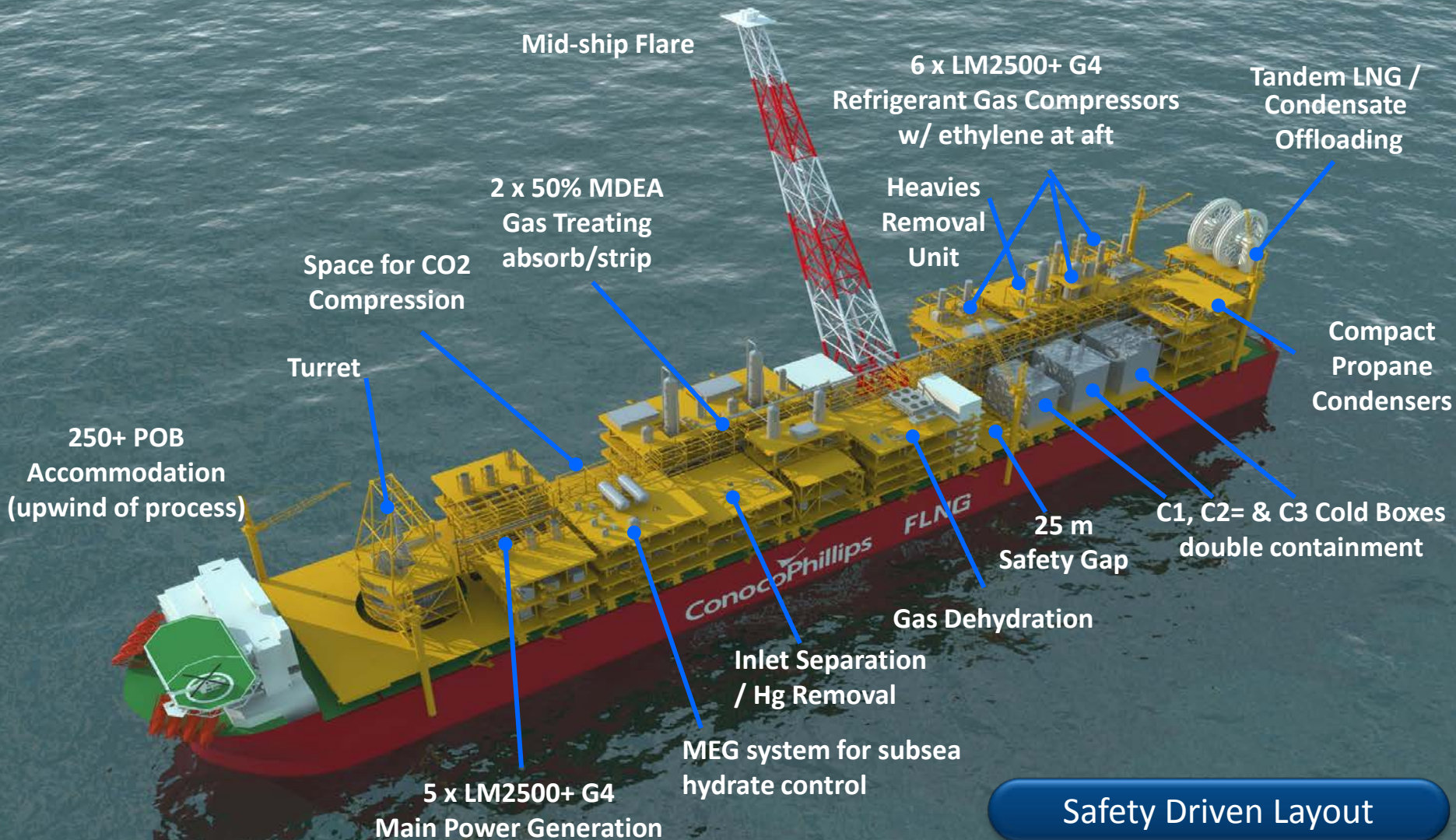


Source: ConocoPhillips

Marinising a leading LNG technology with over 40 years operating experience



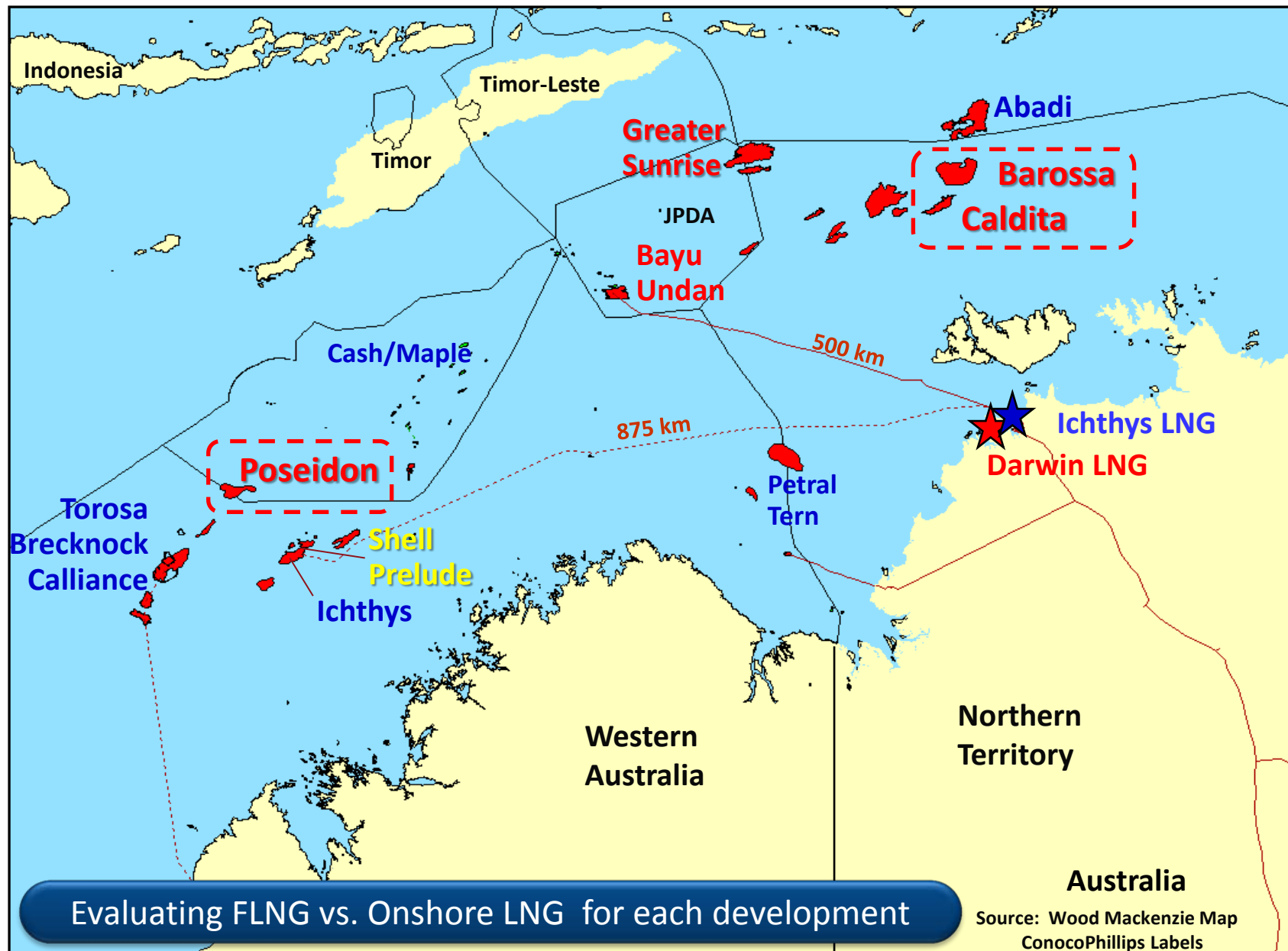
# FLNG Key Topside Design Features



**Safety Driven Layout**

Source: ConocoPhillips

# ConocoPhillips' Potential FLNG Opportunities



# ConocoPhillips FLNG Path Forward

- Wrap up report for 2013 Technology Development Program including Optimized Cascade<sup>®</sup> technology pilot testing programs
- Transition to Project Development Pre-FEED studies when the ConocoPhillips Australia Business Unit and JV Partners are ready
- Continue evaluating and optimizing key technologies and design options, working with leading contractors and vendors
- Seek and evaluate alternate applications for the technology

ConocoPhillips' FLNG is moving forward as opportunities mature

# Questions – I can't answer any questions in these areas

- Non-public material or information, **any detailed numbers**, purchase prices, major facility modifications, start-ups or shutdowns,
- Reserves, oil and gas discoveries, new business ventures, acquisitions or asset sales
- Pricing trends
- Organizational, personnel or labor relation issues
- Third-party communications by joint ventures, consortiums, suppliers, or other vendors
- 'Export controlled' – no sanctioned countries
- Forward-looking statements in the publication.
- Detailed budgetary, organizational or operating information.
- ConocoPhillips' documents that have not been approved for release.
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- Information that could compromise ConocoPhillips' worldwide competitive position or commercial opportunities.