

Prevention First 2018

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Port of Long Beach welcomes TAQAH – deepest draft tanker to call in U.S.



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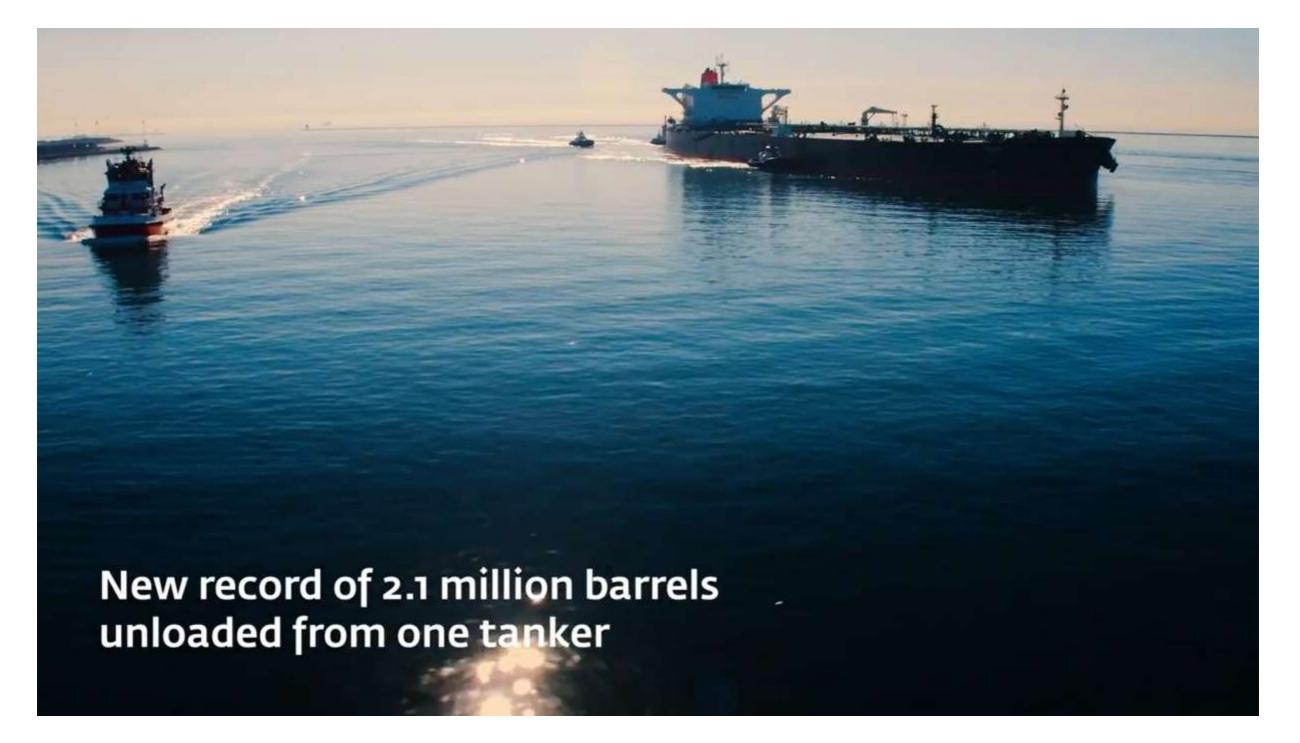
Port's Man Channel is 76 feet deep



TAQAH

Andeavor technology increases safe draft from 65 feet to 68.7 feet







Enough to make 42 million gallons of gasoline



Innovation means fewer ships, less pollution



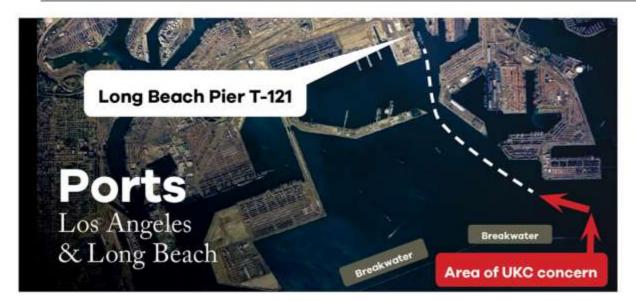






Long Beach Deep Draft Tanker Under Keel Clearance Project





The Pitch Problem

in a Long Period Southerly Swell







ABOUT PROTIDE

- PROTIDE is used in the ports of Rotterdam, Amsterdam and Emshaven
- Calculates Vertical Ship Motion (Pitch, Roll and Squat). UKC and Bottom Touch Probability

USES PREDICTED

- •Water levels
- Currents
- Wave conditions
- Channel depth
- Ship Course and speed
- Ship dimensions

SHARED VALUE GOALS

Increase safety

•By reducing the risk of an accidental grounding due to pitch or roll

Increase efficiency

 Provide Pilots and Ship Captains the information necessary to adjust arrival time based on the forecasted conditions to transit directly to the berth

Reduce emissions

•Enable VLCCs to avoid; lightering, double handling cargo and additional tanker to offload the lightered crude oil, thereby reducing stack and hydrocarbon emissions

Reduced risk during transportation and transfer of crude oil

- •Fewer transfers at Pacific Area Lighterage (offshore)
- Transfers in protected harbors at berth
- •More efficient use of port infrastructure

Reduced personnel exposure

Mooring operationsCrew fatigue

Reduced demurrage

- •VLCC's
- Daughter vessels



Investing in STRONG PORTS by

collaborating with our partners on the Dynamic Under Keel Clearance Program





LONG BEACH PILOTS SINCE 1924



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