



# Commonality of GoM Lightering Experience with GoM Shuttling



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## What is Lightering?

**What:** Lightering is defined as the process involving ship-to-ship transfer of oil cargo.

**Why:** This process is used because economical shipment of crude oil from its source to the United States requires the use of extremely large tankers called very large crude carriers (VLCCs) and ultra large crude carriers (ULCCs). In turn, ports may not be deep enough, or have narrow entrances, or have small berths such that these large tankers cannot be accommodated. Thus, lightering allows offshore unloading of the crude oil cargoes of the very largest tankers.

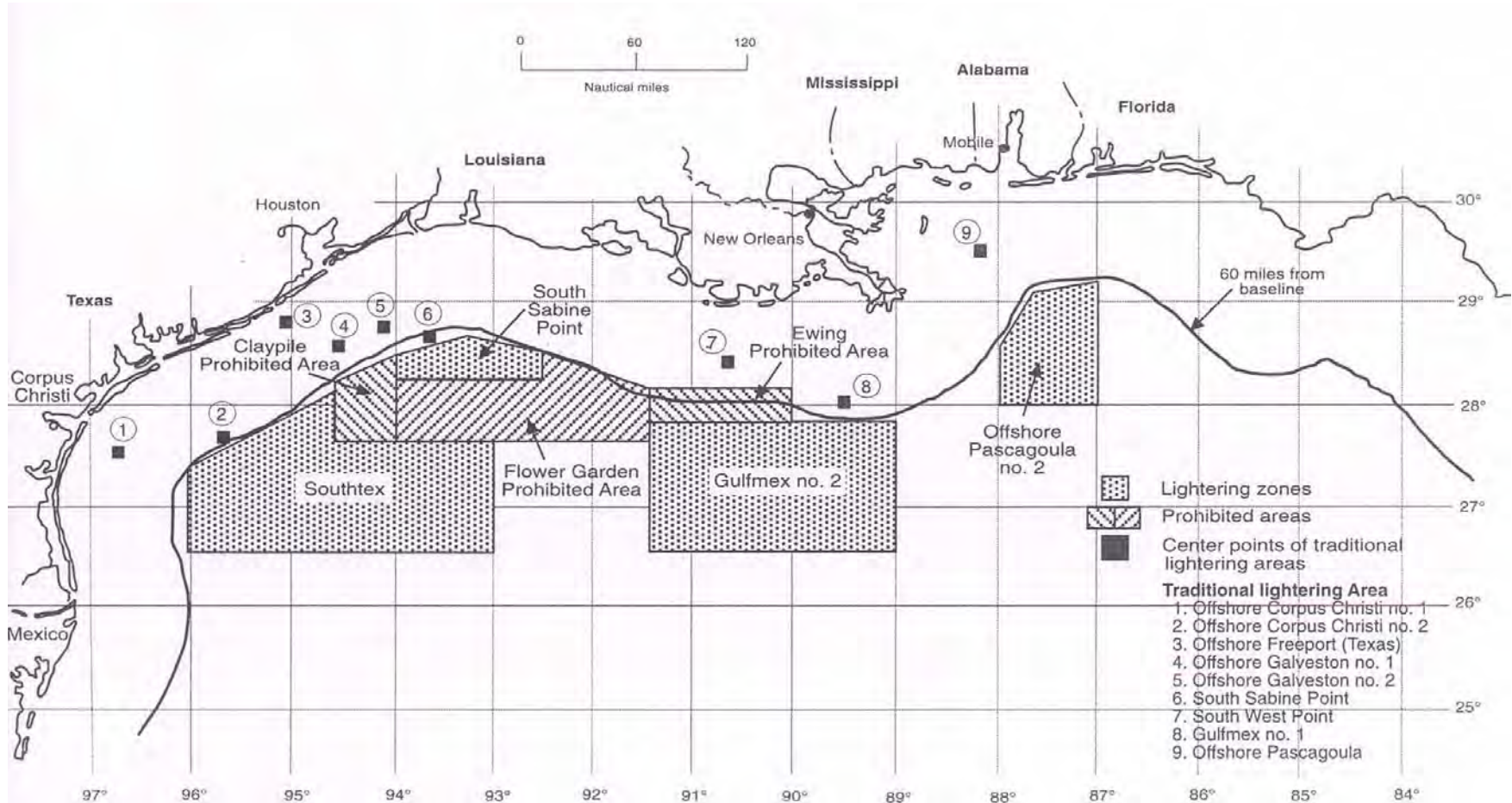
**How:** The lightering process consists of maneuvering a smaller tanker (service vessel) alongside the larger tanker or STBL (ship to be lightered), typically with both vessels underway. The two vessels are moored together with lines while using large rubber bumpers called fenders between the two vessels to prevent damage. A portion of the crude oil cargo from the larger ship is discharged through hoses connected between the two vessels to the smaller ship. The two vessels may be anchored or may continue underway while the transfer takes place depending upon sea conditions.

**Where:** Lightering locations are dictated primarily by water depth and traffic. In the Gulf of Mexico, this process takes place twenty (20) to sixty (60) miles from land.

**When:** All the time!



# Lightering Coastline









SKAUN  
MONRO



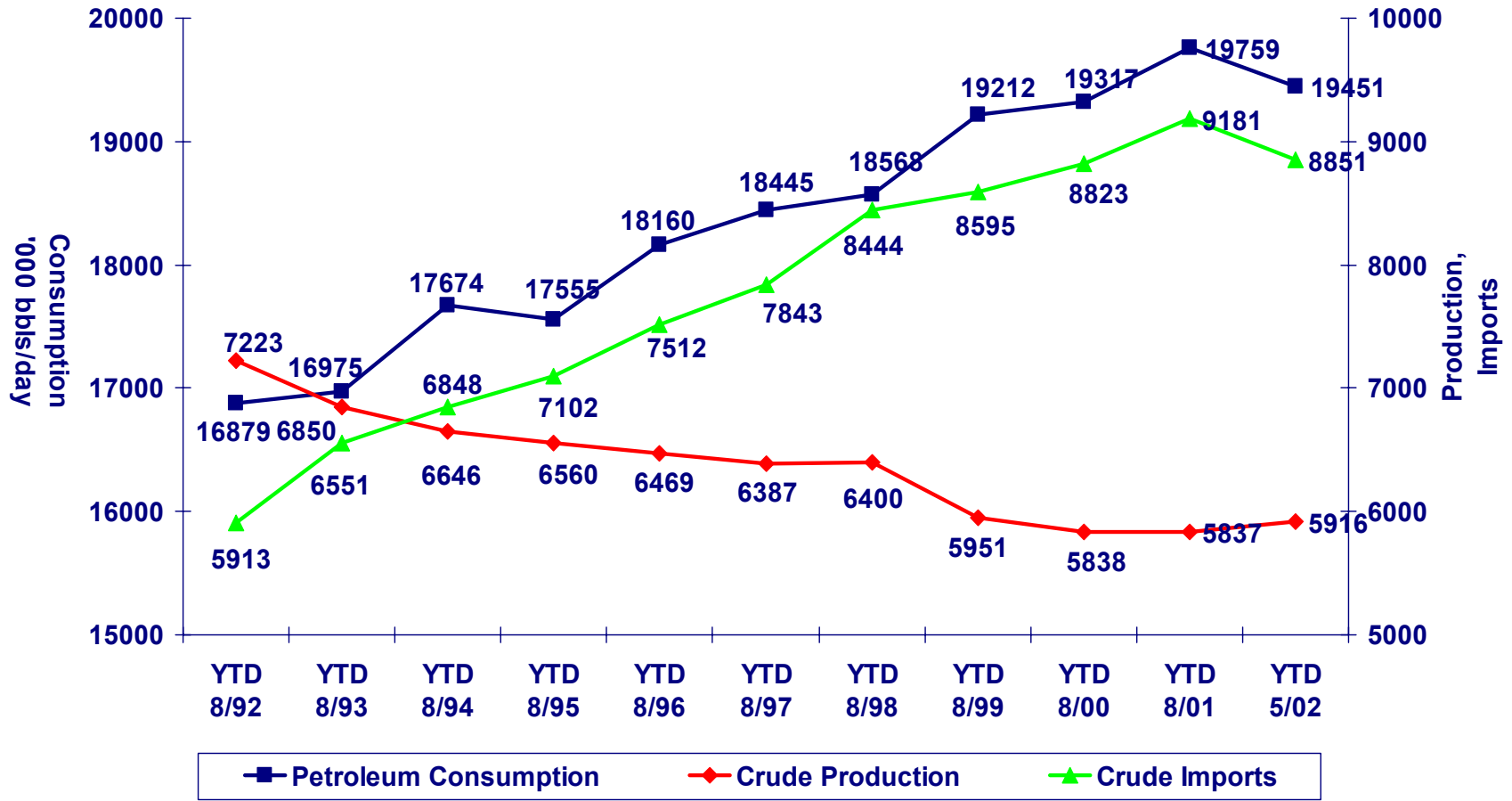






# The US Petroleum Market

## Increasing Consumption plus Decreasing Production = Strong Imports



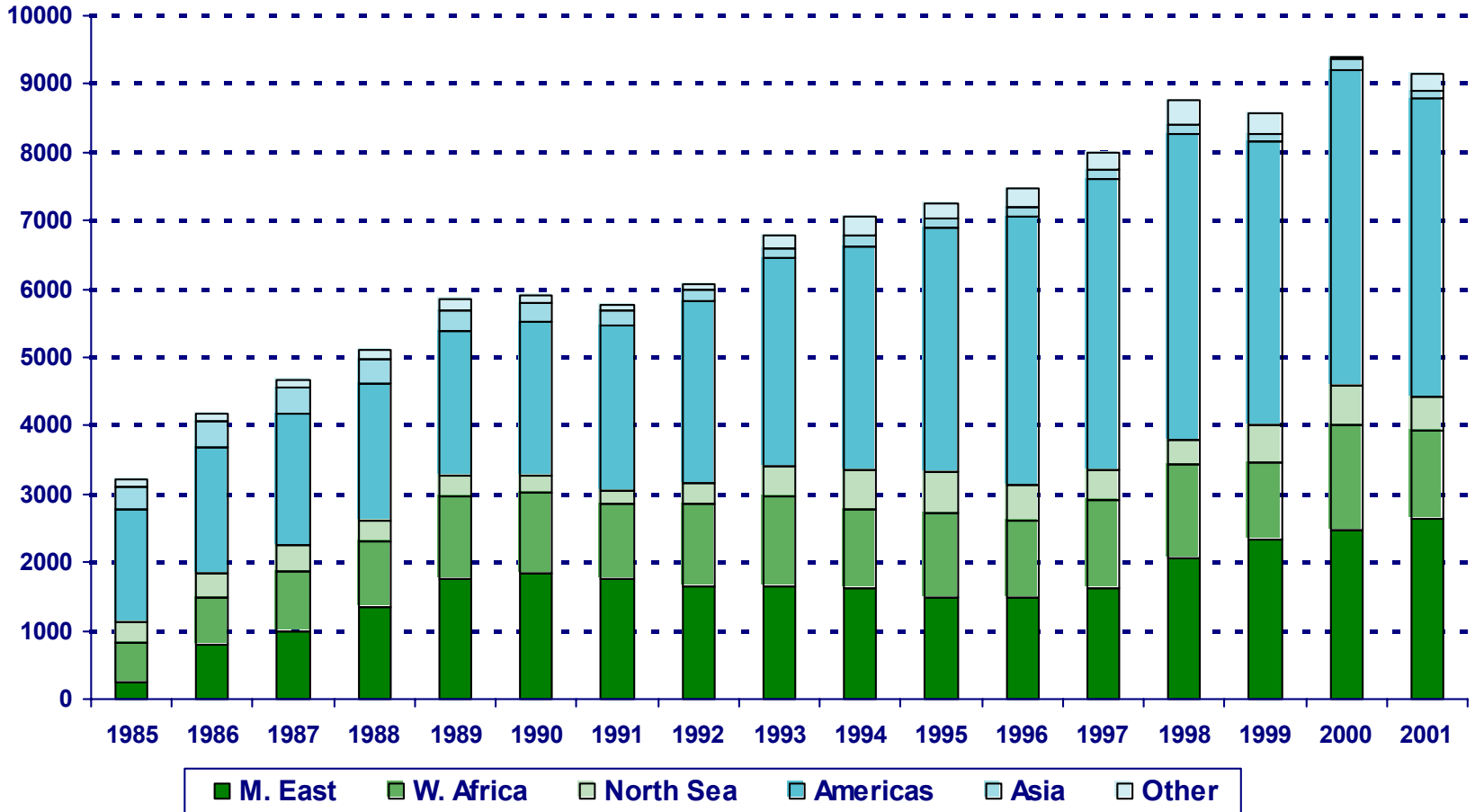
Source: Department of Energy

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# Us Crude Imports by Country of Origin

'000 bbls/day



**M. East, W. Africa and North Sea = Lighterable (or Long-Haul)**



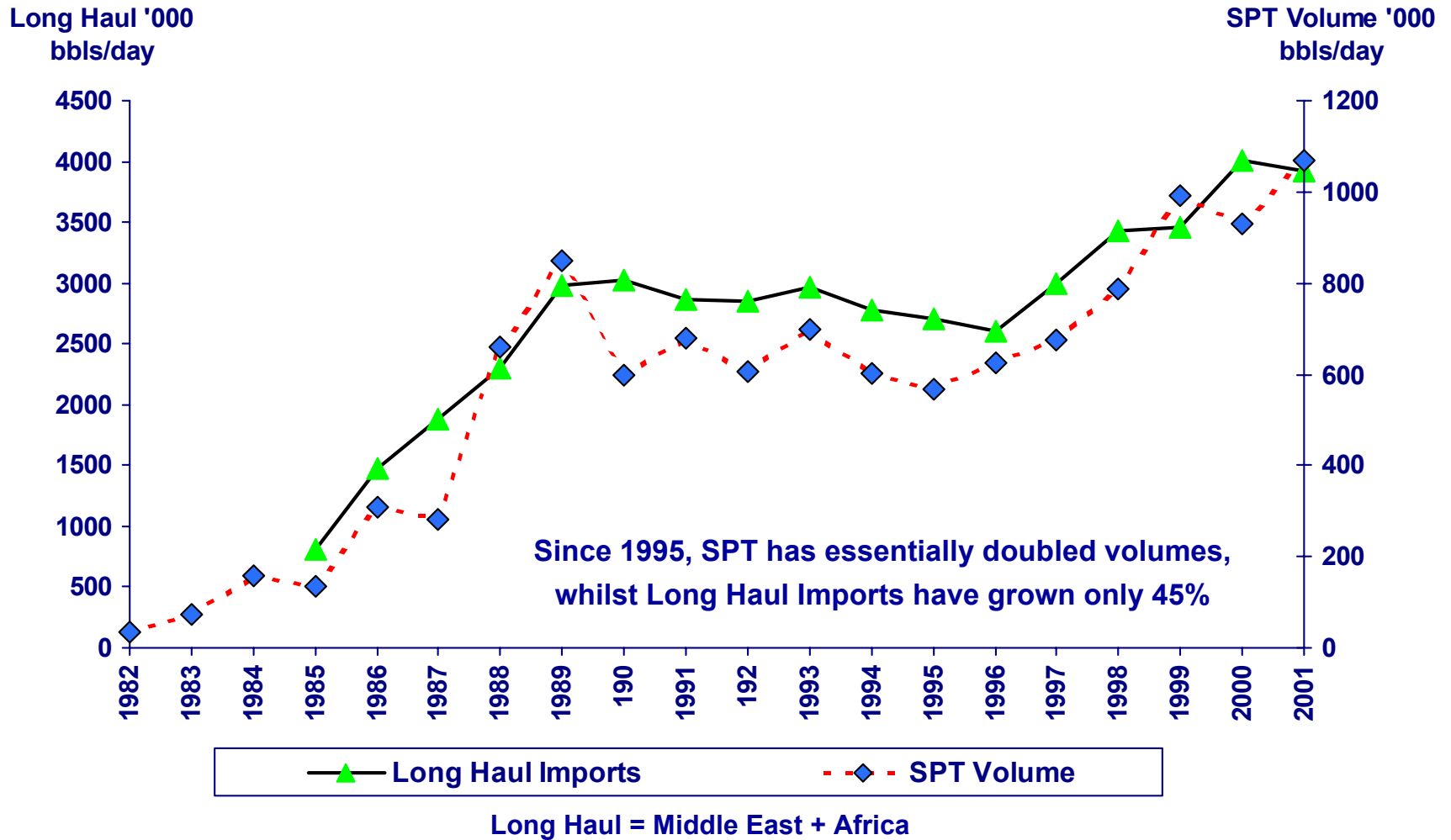
## History of Lightering in US Gulf

- Skaugen PetroTrans was the first independent lightering company when started in 1981 (prior to this, the oil companies conducted their own lighterings)
- Over 9,800 operations completed
- More than 4,433,164,000 barrels lightered
- Approximately 14% of total U.S. sea born crude imports in 2001
- SPT alone handles more than 1.1m barrels per day



# The US Petroleum Market

## SPT Lightering Volumes vs. Long Haul Imports





## SPT Customers

**Our customers are International Oil Companies and Traders, such as:**

- ❖ Addax
- ❖ TotalFinaElf
- ❖ Bayoil
- ❖ BP
- ❖ ChevronTexaco
- ❖ Citgo
- ❖ Conoco Phillips
- ❖ Crown Resources
- ❖ El Paso
- ❖ ExxonMobil
- ❖ Glencore
- ❖ Hunt
- ❖ Koch
- ❖ Lion Oil
- ❖ Lyondell/Citgo
- ❖ Marathon Ashland
- ❖ Morgan Stanley
- ❖ Murphy
- ❖ N-Terminal/Waterway/Gunvor
- ❖ Petrobras
- ❖ PDVSA
- ❖ Premcor
- ❖ Saudi Petroleum International
- ❖ Sempra
- ❖ Shell
- ❖ Statoil
- ❖ Sunoco
- ❖ Trafigura
- ❖ Valero
- ❖ Western/Taurus
- ❖ Williams Energy



## Lightering Safety Record

### National Research Council:

“Oil Spill Risks From Tank Vessel Lightering”

**“...confirms results of previous studies of lightering safety that very few spills are related directly to lightering and, with rare exceptions, they are small spills”**

USCG Authorization Act of 1996 required USCG to coordinate with Marine Board of the National Research Council to conduct studies on risks of oil spills from lightering operations off US coasts. “Oil Spill Risks From Tank Vessel Lightering” is the report of committee established to conduct those studies.



## Success Criteria for a Lightering Company

### What makes a good lightering company?

#### 1) Safety Record

- Demonstrated ability to do it right – every single time
- Hiring, training and retaining the best of the best ship handlers

#### 2) Critical mass (scheduling, asset utilization)

#### 3) Dependability - On-time performance

#### 4) Cost competitiveness

=> *The same will apply to shuttle tanking*



## SPT Performance Record

- Lost to the environment <900 bbls, or about 0.00002% of barrels handled 🙅
- Back-to-back First Runner Up for the US Coast Guard's William M. Benkert Award for environmental excellency, 1998 and 2000
- Winner of the 1998 Texas General Land Office's OSPRA Award for Excellence in Oil Spill Preparedness, Prevention and Response
- Recipient of Public Service Commendation from USCG



**Berge Banker incident 2/95 accounts for 850 bbls**

**SKAUGEN PETROTRANS**





## Similarities between lightering and shuttling

### SIMILARITIES

- Very short voyage to discharge port
- Same success criteria
  - Safety is priority No. 1
  - Dependability – on-time performance
  - Critical mass
  - Cost competitiveness
- Same waters
- Same customers
- Same discharge ports

### DIFFERENCES

- Offshore loading – underway vs. stationary
- Standard tankers vs. DP II purpose-built tonnage

- ⇒ Main difference: Shuttling will use a more sophisticated vessel to accommodate for stationary loading
- ⇒ Otherwise very similar to lightering – a proven concept used by all the majors on a daily basis, and that accounts for some 35% of the daily crude imports to the US Gulf Coast