

## 2019 Oil Loss prevention for Traders & their Operators (1 day)



### Workshop Overview

Commodities such as crude oil and bulk liquid products are subject to sensitive commercial transactions with price being determined on quantity and quality. Such demanding trading environments require swift resolution to any disputes but many claims either remain unresolved or are the subject of lengthy and costly litigation.

It would seem to have become a way-of life to accept a level of losses when Buying and or Selling from/into certain Oil Terminals throughout the world. However, once the sources of losses have been predetermined and highlighted to the parties in a contract, action can be taken i.e. either rectification or adjustment in pricing. Once a contract has been entered into then it is only when direct intervention occurs (i.e. controlling losses up front) from an experienced third party at a point or points of the Custody Transfer that these losses can be prevented.

This one day workshop is designed to provide a brief overview of the major activities performed in the Custody Transfer and the common mistakes made by looking into historical Case Studies of loss scenarios and the action that was taken on the ground on behalf of Traders. For example it looks into the problems associated with Oil Terminals without a “Line fullness policy”, a Shore Tank and pipeline Integrity Inspection program and/or a shore tank or meter calibration verification plan; which leave themselves open to quantity/quality claims. It looks at the problems associated with vessel measurement and the Vessel

Experience factor when occasionally Bills of Lading are based on ships measurements.

Traders who are either unaware of the handling issues surrounding the various crudes and products and the problems associated with losses in certain Terminals and vessels, or fail to pass on definitive instructions to their Inspectors, will suffer in the long run. This workshop starts the process of putting this right and addresses many of the Traders concerns. Many of the losses in the Custody Transfer regime are significant and, at present, remain non-recoverable. Sometimes these amount to millions of dollars. This situation should be addressed and the tendency reversed where possible.

## KEY BENEFITS OF ATTENDING THE COURSE:

**BENEFIT** from the real-life Case Studies from the Course facilitator's own practice and up-to-date information on energy standards

**ASSESS** from the course material where losses could occur due to poor measurement and sampling practice

**IDENTIFY** product quantity and quality issues which can occur due to uncertain physical storage and pipeline conditions

**GAIN** insight into the various crude and product handling characteristics and how these can impact on losses

**ANALYZE** when a cargo should be heated and which crude oil washing methods should be employed when discharging a cargo of crude oil

**ACKNOWLEDGE** the constraints with the various measurement, sampling and analysis systems and be able to give recommendations for the use of alternative methods

**UNDERSTAND** what is and what is not an "acceptable loss" and when to pursue a claim

**APPRECIATE** the importance of the role of the Inspector and of high operating standards, and the need for clear instructions

**LEARN** the importance of the role of the Oil Loss Control Expert (Expeditor) who is at the 'coal face' with the Inspector and is equipped with the experience and knowledge of the various issues which can have a detrimental effect on product quantity and quality

**CAPITALISE** on the opportunity to learn from an expert how to improve your Company's position regarding Terminal and Vessel operations which can assist in the prevention of losses

**ASSIST** in revolutionising the industry by discussing and developing ideas, as a team project, for improvements in the Custody Transfer process.

**Arend and Shyam endeavour to "lift the lid" on the morass of bad measurement, sampling and analytical practice prevalent worldwide which have led to large oil trading losses; and points towards a position where all parties could operate to ethically higher standards and be more open in consequence. The final practical session looks at ways that this might be implemented.**

## **Why should you attend?**

This program is designed for those who want to be familiar with the issues surrounding the movement and handling of oil cargoes and decision makers relating to custody transfers. Typically, but not exclusively, it would interest the following:-

- Oil Suppliers
- Oil Receivers
- Oil Traders
- Oil Trading Operators
- Oil Terminal Managers/operators
- Oil Terminal Stock Controllers

## Oil Loss prevention for Traders

### **1 Day Course Agenda introducing a comprehensive overview of the issues involved with possible solutions**

#### **Morning session (Ashore)**

#### **Section 1 – Brief introduction to Terminal Storage and measurement systems**

**Terminal storage** - Advantages and disadvantages of each of the following for custody transfer assessment:-

- Fixed roof and Floating roof shore tanks – comparisons
- Underground storage
- Floating storage (FPSO)
- Calibration/verification/ recalibration

#### **The various Terminal measurement systems and associated issues:-**

- Static & Dynamic measurement systems – a brief overview
- Types of Terminal and typical methods of quantity measurement used
- Shore tank manual measurements
- Shore tank auto gauge systems
- Flow meters

#### **Section 2 – Terminal pipeline condition & operations**

- Shore line condition (free water – line fullness verification)
- Single valve segregation
- Transfers “away” during custody transfer operations
- Traceability (i.e. records, print-outs etc)
- Pipeline and valve integrity - “aging” testing schedules in place?

#### **Section 3 – Sampling systems and Quality control**

- The agreed custody transfer procedure
- A Sampling Plans model – a guideline for all parties
- Export/Import of crude and products (different sampling strategy)
- Accuracy of the sampling system – Dynamic (Auto) to Static (Manual) Homogeneity issues
- Dynamic – Auto-inline sampling – mainly crudes - trying to achieve reliability

- Manual sampling – ship and shore – conventional and improved methods
  - Crude
  - Products - including “bench blends”, first-foots’ etc
- The importance of correct sample mixing prior to analysis
- Analysis and reporting
- Accuracy of the analysis – Quality – crude and products
- Importance of “repeatability and reproducibility”
- Correct reporting of results

## **Afternoon Session (On Board) Loading- In transit- Discharge operations**

### **Section 4 – An introduction into Vessel Operations and measurement systems**

- Bill of Lading versus Ship’s figures - In transit difference - Outturn
- Ship tank auto and manual measurements - issues
- OBQ/ROB – how should this be assessed properly?
- Vessel Experience Factor derivation and problems
  - Cargo heating - Waxy crudes – heating (EI document)
  - The problem with high ROB and clingage
- Understanding Crude oil washing procedures and effectiveness
- Monitoring for effective stripping procedures
- Discharge of clean products
  - Final Line stripping / MARPOL line – contamination prevention

### **Section 4 – Review of causes of Losses (including contaminations)**

- Descriptions of physical and apparent losses
- Impact on use of different tables between loading and discharging worldwide
- Example of real “physical” losses – ROB/OBQ
- Vapour emissions - “Light ends” losses
- Shore line condition & integrity (free water – line fullness – single valves etc)
- Accuracy of the measuring systems - Quantity
  - Meters – types and plausibility
  - shore tanks – e.g. floating roofs, volume shrinkage, flexing, single valves etc
  - temperature layering – also probe error
  - ship measurements – list, trim, VEF issues, OBQ, ROB, Pipeline volume
- Single valve Terminals
- Pipeline integrity
- Shore tank integrity

**Section 5 – Practical – Quantity loss / Case study and open discussion**

**Section 6 - Open discussion and closing practical session**

- Where are losses occurring more often: Ship or Shore?
- Conclusions
- Discuss how one can be prepared which will take into account the Q & Q issues and the weaknesses in the systems discussed over the day.
- When should you make a Claim if you were a Trader
- What further instructions could be given to Inspectors and OLCE to assist in preventing losses and contaminations?

**End of Training Course**

*We make people better!*

## Course Instructors



**Course Instructor: Arend van Campen, Tank Terminal Training**

Arend van Campen is a committee member of the Dutch Branch of the Energy Institute. Arend has worked for over 35 years as a CEO, Terminal Manager, Marine Cargo Expediter and Loss Prevention Advisor around the globe including Amsterdam, Rotterdam and Antwerp for a number of clients such as Shell, BP, Exxon, Pertamina, Q8 Petroleum, Gulf Nederland, Vopak, Cargill, Amfert, Mobil and Petroplus. TTT has been officially recognized by the Energy Institute as a Learning Affiliate. Arend holds a Master's degree in Business Ethics & Social Responsibility and teaches that a safe, sustainable and profitable business can thrive only when people choose and act ethically and are willing to learn. He set up 'CREAZENE', an institute researching sustainable methods to ensure human well-being and the preservation of the environment



Capt. Shyam Paliwal has more than 12 continuous years of successful hands-on problem solving and decision making experience in challenging, dynamic and multifaceted marine work environments at sea and ashore, in a position of responsibility or other crucial decision-making leadership capacities. This includes 7 years as a Captain/Senior officer aboard deep-draft LNG tanker vessels transporting volatile cargoes in the world-wide liquid gas trade, with unblemished safety record as well as outstanding personnel evaluations.

This was followed by 5 years of work experience at LNG, LPG and Oil Tanker Terminals in Korea in the capacity of LNG advisor to Shell Trading and Shipping Company (STASCO). During his time with Shell he was responsible for Oil loss control and helped save millions of dollars by preventing shortages and contaminations. Shyam has worked as a Consultant in Korea for P&I clubs in investigating contamination losses of petroleum products. He has successfully reduced the vessel turnaround times and increased berth utilization. He commissioned the 4 largest LNG carriers in the world the Q-Max vessels at LNG Import terminals in Korea. Each vessel is an LNG terminal on its own with a re-liquefaction plant and an enclosed flare. Shyam also supervised the building of 25 Oil and LNG Tankers at Samsung, Daewoo and Hyundai Shipyards in Korea as a Nautical Inspector while working for Shell in South Korea. He provided LNG marine operations, safety and regulatory compliance consulting services to major energy and marine transportation companies. Shyam has significant shore side operations management experience with broad knowledge of commercial aspects of global maritime enterprise and energy shipping. He holds various marine technology patents and copyrights. He is a Master Mariner and a member of the Nautical Institute, UK.