

2021 Oil Loss prevention for Traders & their Operators (1-2 days)



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 & Operators

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

Morning session

Section 1 - Analysis of crude oil Losses over the years

- Analysis of crude oil Losses – 1993 to 2014
- The current status – what this amounts to
- Assessing why the change. Is this a representative picture?
- Individual cargo losses still high and what about Products?
- How does this impact the Buyer – how could it affect future trading patterns?
- What is an acceptable loss?
- What is the trade allowance – why is this important?

Section 2 - Custody Transfer procedures

- How buying – how selling (Quantity & Quality) – whose choice?
- Inco Terms
- Measurement methods of B/Lading and Outturn assessment
- Review of industry standards - is there conformity?
- **Q & A session**

Section 3 – Brief introduction to Terminal Storage and measurement systems – specific issues

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)
- Shore Tank maintenance inspections (API 653)
- Calibration/verification/ recalibration (ISO 7507, API 2.2)
- **Case Studies**

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 systems

- Flow meters
- Case Studies
- Q & A

Section 4 – Terminal pipeline condition & operations

- Shore line condition (free water – line fullness etc)
- Adopting the present “line fullness policy” (ISO 11563 2003)
- Case Studies
- 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?
- Case Studies

Section 5 – 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)
- Dynamic – Auto-inline sampling – mainly crudes - trying to achieve representivity
- 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
- Sampling test method matrix – valuable comments
- Samples properly retained
- Case studies
- Q & A

Afternoon Session

Section 6 – A brief introduction into Vessel Operations and measurement systems – specific issues

- Loading crude, products and blending on board – recap on importance of sampling
- Valve / tank / pump segregation for products
- ship tank auto and manual measurements - issues
- OBQ/ROB – how should this be assessed properly?
- Vessel Experience Factor derivation and problems
- Crude assays and correct cargo handling of various crudes
 - Cargo heating - Waxy crudes – when should you heat (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
 - **Case Studies**
 - **Q & A**

Section 7 – 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 – **Case Study**
- 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, volumetric shrinkage, flexing, single valves etc
 - temperature layering – also probe error
 - ship measurements – list, trim, VEF issues, OBQ, ROB, Pipeline volumes
 - **Case studies**
- Single valve Terminals
- Pipeline integrity
- Shore tank integrity
- Integrity Inspection programs (IIP)

Section 8 – **Practical – Quantity loss / Case studies and open discussion**

- **Practical - Identifying quantity and quality losses – Vessel crude discharge (heavy waxy crude) and mixing and reporting S & W.**

Section 9 – **Practical - Quality – Contamination issues**

- A vessel loading Jet
- Cargo is off-specification after loading
- Investigate from evidence supplied what happened
- What could be put in place to assist in prevention in the future?
- What additional procedures are necessary Ship and shore?
- Are Inspectors sufficient or is the value of the commodity such that an Oil Loss Control Expert (OLCE) is justified?
- The importance of an Oil Loss Control Expert/Superintendent/Expeditor as your 'eyes and ears',

Section 10 - Open discussion and closing practical session

- Where are these losses occurring more often (Ship or Shore)?
- Conclusions
- The way forward?
- Proposal of a risk assessment procedure for Traders, Inspectors and OLCE's
- 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?
- Proposal of comprehensive Guidelines to Inspectors and

Course Instructor



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 www.sustenance4all.com, a thinktank researching sustainable business methods to ensure human well-being and the preservation of the environment. In 2020 he founded www.tssi.ch the Tank Storage Sustainability Initiative.

We make people better!