fluxys

Custody Transfer Handbook

C6+ and BTEX

- Currently GPA2261 in CTH as standard for breakdown C6+
    - Intertanko study (impact of long chain hydrocarbons in LNG)
        - Recommends using GPA2286 to take more precise into account C6+
    - Better understanding the impact of C6+ in relation to operational issues (clogging demisters, inability to operate pumps,… due to solidification of such elements)
    - There's also ISO6974 used by some loading and discharge terminals (Enagas, Fluxys,…)
- Something to add on BTEX (Benzene, Toluene, ethyl-benzene and xylene)?
    - What is the operational risk, commercial impact, human risk,…?
- In general C6+ could lead to more operational issues, commercial impacts

Existing topics

- The use of Raman for custody transfer
    - Is there an update on testing of this technology by Zeebrugge, Enegas or other terminals?
        - GERG report available with findings and recommendations: Raman method for determination and measurement of LNG composition
    - Now only small mentioning of technology
        - Reference can be made to this study in the CTH
- Mistake in current CTH handbook on density calculation
- Volume correction factor K1 ➔ clarification needed which table to use with pressurized vessels and conventional ships
    - No need to mention in more detail

New topics

- To integrate small-scale LNG transfer operations (bunkering, STS transfer, fueling of ships and trucks, filling of LNG trucks or containers (Enagas)
- Address partial loading/unloading by adding paragraph dealing with temperature issues (Equinor)
- Rephrasing following paragraph on periodic recalibrations with a recommendation interval (SLNG)?
- Transshipment and the issue with composition changes due to flash gas and gas quality determination (Fluxys) ➔ reference in appendix CTH
- Use of flow meter for custody transfer measurements (Enagas)?
    - No update or experience
    - For small vessels correolis ➔ section 17,2 alternative method for measuring transfer
- Use of portable GC's (as counter expertise) (SLNG)

New topics

- Rules for ship level meter filtering (modification of the filtering could make 200-300m³ difference
- Complete unloading (tank stripping)

Certain parties have raised concerns over the possibility of having a quantity of LNG unaccounted for during closing of CTS under a positive trim as a result of LNG being trapped in the bottom part of uncovered corrugations of MARKI/MARKIII membrane systems, where small liquid wedges may form between the tank's bottom plate and the transverse corrugation in each of the exposed tank's bottom cells. The validity and extent of such liquid entrapment is currently unknown. This will require further and full investigation by independent and expert parties, before any conclusion can be made on the subject. The conclusion of such investigation should then be fully endorsed and certified by independent and recognized sworn surveyors.

New topics

- SLNG observation: during loading of MOSS type tanks, tanks show erratic level readings at start of loading until level reaches 4-5 meter
    - This phenomenon due to cavitation or push over of liquid to tanks sides due to loading?
    - Did other terminals observe this condition?
- Estuary ship operations (ADN regulation)