

Petroleum and Petrochemical Bulletin

**VESSEL EXPERIENCE FACTORS
API MPMS Chapter 17.9 / EI HM 49**

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Introduction

This bulletin updates the position of TIC Council member companies regarding the use and application of Vessel Experience Factors (VEF's). TIC Council member companies are frequently asked to apply VEFs to vessel figures for Custody Transfer where measurements determined by static shore tank or meter are not available.

The VEF was initially developed as a loss control tool; and, while the Standard (Edition 3 of API Chapter 17.9/EI HM 49) was revised in July 2019, the basic concepts have changed little since it was first issued as Appendix C to API MPMS Chapter 17.1, back in the 1990s. It should therefore be recognized that quantities derived using vessel figures and the VEF are unlikely to have the measurement rigor of those from traditional static shore tank or meter measurements.

While in many situations when traditional measurements are questioned, a VEF adjusted vessel quantity may be the only available practical alternative, the lack of known precision and uncertainty cannot be overcome. Therefore, in these situations, it should not be automatically assumed that VEF adjusted vessel figures will provide any greater accuracy than the traditional measurements they might replace.

VEF Databases

Several clients of TIC Council member companies are now using a commercial database for the development of both load [VEFL] and discharge [VEFD] experience factors; and are requesting independent inspection companies to use these. In addition to such use being subject to the agreement of all commercial parties involved, as required in Section 4.4 of the standard, the inspection company will be required to treat this in the same way they would any other piece of submitted data and its use will be subject to the same limitations and disclaimers that the independent inspection company deems appropriate for the use of submitted data in its reports. With the possibility of data being provided from multiple sources, including TIC member companies, it is recommended when the data is not provided by the vessel or barge operator as stipulated in the standard, the source of the data is clearly advised within the comments/remarks section to ensure transparency of the data source.

Member companies also receive requests to use the actual VEF value from commercial databases, not simply voyage data, in these cases there are inherent concerns around the completeness of the data and if the VEF is produced in accordance with the latest standard, such as the rounding of the TCV values. In these cases, this will be noted on the VEF report page within the report. In addition, if data from the vessel is also available an independent calculation will be performed and included for information.

Revisions/Reaffirmations

Rev. 0 March 2002
Rev. 1 March 2009
Rev. 2 July 2015
Rev. 3 October 2019
Rev. 4 May 2023

Application of the Vessel Experience Factor

It is recommended that TIC Council member companies should calculate custody transfer figures by applying a VEF to vessel measurements as follows:

- Vessel experience factors will be applied for purposes of determining custody transfer quantities only when instructed to do so and agreed by all commercial parties involved. It should be noted that such agreement must extend beyond that of simply agreeing to apply a VEF and must also include agreement on the VEF factor itself, the calculation method and the source of the data used.
- If the primary method for the VEF produces a value then this should be the VEF used within the calculations.
- Section 4.2 states that, “*If the primary method does not produce a VEF, then the alternate method **should** be used* “. As used in a standard, “should” denotes a recommendation or that *which is advised but not required* in order to conform to the standard. Therefore, if the primary method does not produce a VEF, TIC Council member companies will apply the alternative method when agreed to by all parties.
- As the VEF is created from the TCV values for both the vessel and shore, the VEF should also be applied to the TCV vessels figures, for example $TCV / VEF - FW = GSV w/VEF$.

Note: A minimum of 5 Qualified Voyages remains a requirement for VEF determination, whether using the Primary or Alternate Method – see Sections 6.5 and F2 of the standard for additional information.

- Where no agreement is obtained regarding the application of a VEF for purposes of determining a custody transfer quantity, TIC Council member companies should issue vessel figures with no factor applied.

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