

Generation of Calibration Charts for Horizontal Petroleum Storage Tanks Using Microsoft Excel

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Abstract:

Petroleum and petroleum products are expensive commodities due to their global demand as a major source of energy. As a result of its expensiveness, there is need for proper inventory to know what is going in and coming out of the storage tanks. Proper inventory is achieved by accurate measurement through the generation of a calibration chart for every storage tank. Calibration chart (tank table) gives the needed information about the level (height) and the corresponding volume of the petroleum product in the storage tank. Geometrical method (dry calibration) is the most widely used method of computing tank table using the field data such as circumference, shell or plate thickness, length of barrel and lap/butt strap while taking the necessary correction factors into consideration. Microsoft Excel is a powerful tool in Microsoft (MS) office package used for computation and programming through the use of visual basic for application. In this study, MS Excel was used to generate two different charts which were compared with the charts generated from customized specialized calibration software from Socie'te' Ge'ne'rale de Surveillance (SGS software) and the results were found to be within the statistical controlled limit.

Keywords: Calibration; Chart; Storage tanks; Tank table; Microsoft Excel