

ISO 4266-2:2002-11 (E)

Petroleum and liquid petroleum products - Measurement of level and temperature in storage tanks by automatic methods - Part 2: Measurement of level in marine vessels

Contents		Page
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Precautions	2
4.1	Safety precautions	2
4.1.1	General	2
4.1.2	Equipment precautions	2
4.2	General precautions	3
4.2.1	Accuracy and performance	3
4.2.2	Speed of response	3
4.2.3	Protection from mechanical damage	3
4.2.4	Manual gauging	3
4.2.5	Minimum measurable level	3
4.2.6	Trim and list	3
4.2.7	Product temperatures	3
4.2.8	Compatibility	3
4.2.9	Entrained air and vapour	4
4.2.10	Vessel motion	4
4.3	Use of marine ALGs in fiscal/custody transfer	4
5	Accuracy	4
5.1	Intrinsic error of ALGs	4
5.2	Calibration prior to installation	4
5.3	Initial shipyard adjustment	4
5.4	Error caused by operating conditions	5
5.5	Overall accuracy	5
5.5.1	General	5
5.5.2	Use of ALGs for fiscal/custody transfer purposes	5
6	Installation of marine ALGs	5
6.1	General	5
6.2	Location of ALG	5
6.3	Location of manual calibration check point	5
6.4	Gauging of inerted tanks	5
7	Onboard verification of marine ALGs	6
7.1	General precautions	6
7.1.1	Check for smooth operation of level-sensing elements -- at the shipyard	6
7.1.2	ALG technology-specific considerations	6
7.2	Verification by innage gauging or ullage gauging	6
7.3	Initial verification	6
7.4	Subsequent verification	6
7.4.1	General	6
7.4.2	Agreement between ALG reading and manual gauge reading	6
7.4.3	Use of average gauge readings	6
7.4.4	Adjustment of the ALG	7

7.5	Verification by alternate methods	7
7.6	Schedule for regular ALG verification	7
7.7	Record keeping	7
8	Data communication and receiving	7
8.1	Introduction	7
8.2	Use of remote readout in fiscal/custody transfer	7
8.3	Telemetry and readout equipment	8
Annexes A Accuracy limitations of marine level measurement		9
B	Accuracy limitations of marine volume measurement	10
Bibliography		11