



Facility/Technical/Inspection Code for Fuel Devices for Liquefied Urban Gas Vehicles

Deliberation/Resolution by Gas Technical Standards Committee : March 20, 2020

Approval by the Ministry of Trade, Industry & Energy : April 29, 2020

Gas Technical Standards Committee

Chairman	Byung-Hak Choi, Professor of Gangneung-Wonju National University
Vice-Chairman	Gi-hyun Jang, Professor of Inha University
Ex Officio Member	Yoon-Gil Hwang, Manager of Energy Safety Department, Ministry of Trade, Industry & Energy Chae-Sik Kwak, Director of Technology and Safety, Korea Gas Safety Corporation
<hr/>	
High-Pressure Gas	Byung-Hak Choi, Professor of Gangneung-Wonju National University Seong-Jin Song, Vice president of SungKyunKwan University Beom-Seok Lee, Professor of KyungHee University Chun-Seok Yoon, CEO of Hanul E&R Yeong-Hoon Ann, Professor of HanYang University
Liquefied Petroleum Gas	Hyeong-Hwan Ann, Professor of Korea National University of Transportation Hyuk-Myun Kwon, Professor of YonSei University Jeong-Sik Cheon, Director of E1 CO., Ltd. kyung-Soo Kang, Senior Researcher of Korea Institute of Energy Research Yong-Kwon Lee, Vice-President of DaeYeon Co., Ltd.
Urban Gas	Dong-Il Shin, Professor of MyongJi University Jeong-Hoon Kim, Principal Researcher of Korea Institute of Machinery and Materials In-Cheol Jeong, Director of Yesco Co., Ltd. Gi-hyun Jang, Professor of Inha University
Hydrogen Gas	Kwang-Won Lee, Professor of HoSeo University Ho-young Jeong, Professor of ChonNam National University In-Yong Kang, CEO of H&Power Co., Ltd. Woon-Bong Baek, Senior Researcher of Korea Institute of Standards and Science

This code is the detailed standards established by the Gas Technical Standards Committee in accordance with Article 22-2 of "High-Pressure Gas Safety Control Act", Article 45 of "Safety Control and Business of Liquefied Petroleum Gas Act" and Article 17-5 of "Urban Gas Business Act", Article 48 of "Hydrogen Economy Promotion and Hydrogen Safety Management Act". Since conformity to this Code is deemed to conform to the laws and regulations above, this Code must be observed.

This English version of KGS Code is an informal translation from its Korean original version. Only the Korean version of the KGS Code is officially effective since it has been authorized by the Gas Technical Standards Committee (KGS Code Committee). The secretariat of the Committee reserves the right to revise the English version whenever translation errors are found.

Contents

1. General	5
1.1 Scope	5
1.2 Validity of the Code	5
1.3 Definitions of Terms	5
1.4 Application of the Code <i>Mutatis Mutandis</i> (N/A).....	5
1.5 Transitional Measures (N/A).....	5
1.6 Restrictions on the Use of Appliances.....	6
2. Facility Standards.....	6
2.1 Layout Criteria (N/A)	6
2.2 Foundation Standards (N/A)	6
2.3 Storage Equipment Standards	6
2.3.1 Storage equipment material (N/A).....	6
2.3.2 Storage equipment structure (N/A)	6
2.3.3 Installation of storage equipment.....	6
2.4 Gas Equipment Standards	10
2.4.1 Gas equipment materials (N/A).....	10
2.4.2 Gas equipment structure	10
2.4.3 Gas equipment thickness and strength (N/A).....	10
2.4.4 Installation of gas equipment.....	11
2.4.5 Gas equipment performance	13
2.5 Piping Standards.....	14
2.5.1 Piping material	14
2.5.2 Piping structure (N/A)	14
2.5.3 Pipe thickness and strength (N/A).....	14

2.5.4	Joining of piping equipment.....	14
2.5.5	Measures for absorbing the expansion and contraction of piping (N/A).....	14
2.5.6	Insulation of piping (N/A)	15
2.5.7	Installation of piping equipment.....	15
2.5.8	Installation of auxiliary equipment of piping (N/A)	16
2.5.9	Performance of piping equipment.....	16
2.6	Standards for Pressure Regulator (Room) (N/A).....	16
2.7	Standards for Combustors (N/A)	16
2.8	Standards for Accident Prevention Facilities	16
2.8.1	Overpressure safety device.....	16
2.8.2	Installation of gas leak alarm and automatic cut-off device	18
2.8.3	Installation of emergency shut-off device (N/A)	18
2.8.4	Installation of backflow prevention device	18
2.8.5	Installation of light back prevention device(N/A).....	18
2.8.6	Installation of risk monitoring and control device (N/A)	18
2.8.7	Installation of erroneous oscillation prevention device (N/A).....	18
2.8.8	Installation of electrical explosion-proof equipment (N/A)	18
2.8.9	Installation of ventilation equipment (N/A).....	18
2.8.10	Installation of anti-corrosion equipment (N/A)	18
2.8.11	Installation of static electricity removal equipment (N/A).....	18
2.8.12	Installing an overturning protection device (N/A)	19
2.8.13	Installation of overflow prevention valve.....	19
2.9	Damage Reduction Equipment Standards(N/A)	19
2.10	Ancillary Equipment Standards.....	19
2.10.1	Installation of instrumentation	19
2.10.2	Installation of emergency power equipment (N/A)	20
2.10.3	Installation of communication equipment (N/A).....	20

2.10.4 Installation of operating facilities (N/A).....	20
2.10.5 container anchoring device.....	20
2.10.6 Installation of exhaust duct (N/A).....	21
2.10.7 Electrical wiring	21
2.11 Marking Standards.....	21
2.12 Miscellaneous	21
3. Technical Standards.....	21
4. Inspection Standards	22
4.1 Inspection Items.....	22
4.2 Inspection Method	22
4.2.1 Attachment status of containers, pipes, etc.	22
4.2.2 Leakage test of piping, etc.....	22
4.2.3 Leakage test of full container, semi-container, or trunk compartment <Revised on April 29, 2020>	22

Facility/Technical/Inspection Code for Fuel Devices for Liquefied Urban Gas Vehicles

1. General

1.1 Scope

1.1.1 This Code is applicable to the facilities, technical matters, and inspections of fuel devices for motor vehicles that use liquefied urban gas as fuel (hereinafter referred to as a "vehicle") in accordance with Article 20-2 (1) 3 of the Enforcement Rule of the Urban Gas Business Act (hereinafter referred to as the "Enforcement Rule").

1.2 Validity of the Code

1.2.1 This Code has been approved by the Ministry of Trade, Industry and Energy (MOTIE) (MOTIE Notification No. 2020-271, April 29, 2020) following a review and resolution (Agenda No. 2020-1, March 20, 2020) by the KGS Code Committee pursuant to Article 33-2 of the High-Pressure Gas Safety Control Act in accordance with Article 17-3 (2) of the Urban Gas Business Act (hereinafter referred to as the "Act") and is in effect as detailed standards under Article 17-3 (1) of the Act.

1.2.2 Compliance with this Code will be regarded as conformity to the matters set forth in subparagraph 4 of attached Table 7 of the Enforcement Rule in accordance with Article 17-3 (4) of the Act.

1.3 Definitions of Terms

The definitions of the terms used in this Code are as follows:

1.3.1 "Container, etc." means a container, container accessories, and container anchoring equipment.

1.3.2 "Container accessories" means a detachable structure combined with a container, including container valves and safety valves.

1.4 Application of the Code *Mutatis Mutandis* (N/A)

1.5 Transitional Measures (N/A)