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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Emission standard of air pollutant for gasoline filling stations
(English Translation)**

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1 Scope

This Standard specifies gasoline vapor emission limits of gasoline filling stations, control technical requirements and testing methods.

This Standard is applicable to gasoline vapor emission management of existing gasoline filling stations as well as environmental impact assessment, design, completion acceptance of new, modified and expanded gasoline filling station projects and gasoline vapor emission management after completion.

2 Normative references

The provisions in the following documents become part of this Standard, through reference in this Standard. For undated documents, the latest version applies to this Standard.

GB 50156, Code for design and construction of automobile gasoline and gas filling station

GB/T 16157 The determination of particulates and sampling methods of gaseous pollutants emitted from exhaust gas of stationary source

HJ/T 38 Stationary source emission - Determination of nonmethane hydrocarbons - Gas chromatography

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

gasoline filling station

A special place for filling gasoline into car fuel tank.

3.2

gasoline vapor

Volatile organic compounds (non-methane total hydrocarbons) generated during the filling, unloading and storage of gasoline at gasoline filling stations.

3.3

vapor emission concentration

Under standard conditions (temperature is 273K, pressure is 101.3kPa), the mass of non-methane total hydrocarbons contained in every m³ of dry gas discharged, in g/m³.

3.4

vapor recovery system for gasoline filling station

A vapor recovery system for gasoline filling station is composed of vapor recovery system for unloading, closed storage of gasoline, vapor recovery system for filling, online monitoring system, and vapor emission processing equipment. The role of this system is to TRANSFER the gasoline vapor generated during the unloading, storage and filling of the gasoline filling station, through closed collection, storage and sending into the tank of a tank car, and

TRANSPORT to the oil storage depot for centralized recovery into gasoline.

3.5

vapor recovery system for unloading gasoline

A system that collects the gasoline vapor generated when a tank car unloads gasoline, through a closed manner, into the tank of the tank car.

3.6

vapor recovery system for filling gasoline

A system that collects the gasoline vapor generated when a tank car fills gasoline, through a closed manner, into the underground storage tank.

3.7

overflow protection measurement

The overflow that might happen when controlling gasoline unloading by using shut-off valve or float valve or other anti-overflow measures.

3.8

underground storage tank

A fully-buried storage tank under the ground.

3.9

pressure/vacuum valve

Also known as P/V valve, vent valve, mechanical breathing valve, which can adjust the pressure difference between the inside and outside of the tank so that the gas inside and outside the tank can communicate.

3.10

dynamic back pressure

The resistance when condensate liquid stays in the gasoline vapor pipeline or causes gas to pass through the pipeline for other reasons.

3.11

vapor recovery system tightness

The sealing degree of vapor recovery system under certain gas pressure.

3.12

air to liquid volume ratio

The ratio of the volume of gasoline vapor collected when filling to the volume of gasoline added to the tank at the same time.

3.13

vacuum-assist

In the vapor recovery system for filling gasoline, use the vacuum generator to assist recovering the gasoline vapor generated during gasoline filling.

3.14

on-line monitoring system

The system that online monitors whether the air to liquid volume ratio in the vapor recovery process for filling gasoline as well as the vapor recovery system tightness of the vapor recovery system and pipeline liquid resistance are normal.

When abnormality is found, it can remind the operator to take corresponding measures, and can record, store, process and transmit monitoring data.

3.15

vapor emission processing equipment

The device that recovers the gasoline vapor discharged from the vapor recovery system for gasoline filling station, through methods such as attaching, absorption, condensation, membrane separation.

4.1 The gasoline vapor emitted during unloading, storing and filling of gasoline

filling station shall use the gasoline vapor recovery method based on closed collection to control.

4.2 Technical assessment

4.2.1

The vapor recovery system for filling gasoline shall conduct technical assessment and issue a report. The assessment mainly includes. investigating and analyzing technical information, verifying relevant certification documents, evaluating air to liquid volume ratio of multiple flows and guns, testing operations of at least 3 months in concession, providing rang of air to liquid volume ratio of which the control efficiency is greater than or equal to 90%, listing equipment of vapor recovery system.

4.2.2 The vapor emission processing equipment (hereinafter referred to as the

processing equipment) and on-line monitoring system shall conduct technical assessment and issue a report. The assessment mainly includes. investigating and analyzing technical information, verifying relevant certification documents, providing proof of actual use in China or abroad, testing operations of at least

3 months in concession.

5.1 Emission control of gasoline vapor of unloading gasoline

5.1.1

It shall use submersible unloading method. The height of the gasoline outlet of the unloading pipe from the bottom of the tank shall be less than 200mm.

5.1.2

The gasoline unloading and oil recovery interface shall be installed with

DN100mm shut-off valve, sealed quick connector and cap. For the exiting gasoline filling stations, if unloading emission control measures have been taken but the interface size does not match, it may use a reducing diameter one to connect.