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

GB/T 22343-2015

Replacing GB/T 22343-2008

Natural gas generating sets for the petroleum industry

石油工业用天然气内燃发电机组

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Quarantine;
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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 22343-2008 "Natural gas generator for oil industry". Compared with GB/T 22343-2008, The main technical changes are as follows: - the scope of application of the increase in diesel/natural gas dual-fuel internal combustion generator and marine drilling and production and processing platform with natural gas Internal combustion generator, the unit power range from 3kW ~ 3150kW modified to 3kW ~ 4500kW (see Chapter 1);

--- Increased definition of natural gas generating units, diesel/natural gas dual fuel internal combustion generating units and generating units heat rate Chapter 3); - modified "requirements" (see Chapter 4, Chapter 5, Chapter 6, Chapter 3 of the.2008 edition); - modified fuel (see 3.4.2,.2008 version 3.1.2); - increased content in fire protection, explosion protection and safety requirements (see 5.2.3, 5.2.8); - modified the chapter and part of the "test" (see Chapter 7, Chapter 4 of the.2008 edition); - increase the calculation of the heat rate of diesel/natural gas dual fuel internal combustion generating units (see 7.4.13); - delete table 7 and table 8 (see table 7, table 8, table 8), the test items and test items into a table to form a table (see Table 6). This standard is proposed by the National Petroleum Drilling Equipment and Tools Standardization Technical Committee (SAC/TC96). The drafting unit of this standard. China Petroleum Group Ji Chai Power Plant, China Petroleum Bohai Drilling Engineering Company, CNOOC Research Institute, Baoji Oil machinery limited liability company. The main drafters of this standard. Ma Junjie, Hao Lihua, Ni Xiuyong, Li Shusheng, Xu Chuanguo, Wang Lingjin, Yu Xiaoyan, Zhang Shijuan, Lei Xiang, Wang Jianfeng, An Weizheng, Zhang Guoshan. This standard replaced the previous version of the standard release.

--- GB/T 22343-2008. Natural gas generator for oil industry

1 Scope

China's national standard for natural gas engine generating sets used in the petroleum industry. It specifies the classification and basic parameters, the technical requirements, the test methods, the inspection rules, and the marking, packaging, transport and storage of natural gas generating sets for petroleum industry use. An oil or gas field generates its own

power, and it does so on the gas it produces, because that gas is present at the wellhead, is often uneconomic to transport and would otherwise be flared. That single fact makes the machine different from an ordinary gas generating set. The fuel is not pipeline-quality gas of consistent composition: it is associated gas whose methane number, calorific value, heavier hydrocarbon content and inert fraction change with the well and over time, and which may carry hydrogen sulfide, carbon dioxide and liquids. An engine that cannot tolerate that variation knocks, loses power, or stops. The standard therefore sets the fuel gas range the set must accept and how the control system adapts to it, alongside the requirements that follow from where the machine stands: operation unattended in a remote location with maintenance intervals measured in hundreds of hours, ambient conditions from desert heat to Daqing winter, altitude derating, and the hazardous area classification that applies wherever hydrocarbons are handled - which governs the electrical equipment, the exhaust and the crankcase ventilation. Around that sit the ordinary generating set requirements: the rated outputs and duty classes, the voltage and frequency regulation and their behaviour under step load, the starting capability, the noise, the emissions, and the type and routine tests. Issued on 31 December 2015 and in force since 1 April 2016, it replaces GB/T 22343-2008.

This standard specifies the natural gas generating units for the petroleum industry (hereinafter referred to as units, including offshore drilling and production and processing platforms) Natural gas generating units) terms and definitions, technical requirements, inspection items and test methods, inspection rules, marking and packaging and storage Waiting for. This standard applies to 3kW ~ 4500kW, rated frequency of 50Hz, natural gas and diesel/natural gas as the fuel of the reciprocating internal combustion Engine (hereinafter referred to as the engine), the alternator, the control device and the auxiliary equipment. Generators with other combustible gases as fuel or units with a frequency of 60 Hz may refer to the implementation.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 191 packaging and storage icon GB 252 ordinary diesel

GB/T 2820.1-2009 Reciprocating internal combustion engine driven alternators - Part 1. Uses, quotas and performance

GB/T 2820.3 Reciprocating internal combustion engine driven alternators - Part 3. Generators for alternators

GB/T 2820.4 Reciprocating internal combustion engine driven alternators - Part 4. Control devices and switchgear

GB/T 2820.5 Reciprocating internal combustion engine driven alternators - Part 5.
Generators

GB/T 2820.9 Reciprocating internal combustion engine driven alternators - Part 9.
Measurement and evaluation of mechanical vibration

GB/T 2820.10 Reciprocating internal combustion engine driven alternators - Part 10.
Measurement of noise (wrapping method)

GB 3836.1 Explosive atmospheres - Part 1. General requirements

GB 4556 reciprocating internal combustion engine fire protection

GB/T 6072.1 Reciprocating internal combustion engine performance - Part 1. Calibration of
power, fuel consumption and oil consumption and test methods Additional requirements for
general purpose engines

GB 11122 diesel engine oil

GB/T 13306 signs Dimensions and quality limits for transport packages Test method for
internal combustion engine power station GB/T .20136-2006 Safety of reciprocating internal
combustion engines - Part 1. Compression - ignition engines GB 20651.1

3 Terms and definitions

GB/T 6072.1, GB/T 2820.5 Definitions and the following terms and definitions apply to this
document.

3.1 Natural gas generating unit naturalgasgeneratingset A generator set consisting of a
reciprocating internal combustion engine, an alternator, a control device and an auxiliary
device with natural gas as fuel.