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

GB/T 13674-2023

Replacing GB/T 13674-1992

Applied specification of fuels for aero-derivative gas turbines

航空派生型燃气轮机燃料使用规范

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules for Standardization Documents" to be drafted: This document replaces GB/T 13674-1992 "Code for the Use of Light Gas Turbine Fuel": Compared with GB/T 13674-1992, except In addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) Added the terms "standard gas fuel", "standard reference conditions" and "supplier" and their definitions (see 3:1~3:3);
- b) The allowable indicators for the impurity content of gaseous fuels have been added (see 4:2:5);
- c) Changed the relevant content of "Handling of gaseous fuel" (see 4:3, 3:3 of the:1992 edition);
- d) Added reference standards for gas fuel test methods (see 4:4);
- e) The classification of gas turbine liquid fuels (see 5:2:1, 4:2 of the:1992 edition), test methods (see 5:4,:1992 edition 4:4);
- f) Increase the allowable index of liquid fuel impurity content (see 5:2:3);
- g) Added "Conversion of impurity limit value" (see Appendix A);
- h) Added "Reference Standards for Liquid Fuel Reception, Handling and Transportation Methods" (see Appendix F): Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents: This document is proposed by China Machinery Industry Federation: This document is under the jurisdiction of the National Gas Turbine Standardization Technical Committee (SAC/TC259): This document is drafted by: Aviation Development Gas Turbine (Zhuzhou) Co., Ltd.; China Aviation Development Shenyang Engine Research Institute: The main drafters of this document: Sun Ting, Miao Li, Wei Bingxia, Ma Hongyu, Zhang

Shanjun: This document was first published as GB/T 13674-1992 in:1992, and this is the first revision: Specifications for fuel use in aviation-derived gas turbines

1 Scope

China's national specification for the fuels used in aero-derivative gas turbines - the industrial machines derived from aircraft engines and used for power generation, for ship propulsion and for mechanical drive. It specifies the requirements for the use of gaseous and liquid fuels in aero-derivative gas turbines, and it applies to the aero-derivative gas turbines used for those duties. The machines are an unusual case. They came from an aircraft engine, which was designed to burn a single, tightly specified, very clean fuel - aviation kerosene - and they are then installed on a pipeline, a platform or a ship and asked to burn whatever is available there: natural gas of varying composition, associated gas with heavy ends in it, diesel, or a dual fuel arrangement that switches between them. The hot section they inherited from the aero engine runs at temperatures and with cooling passages designed on the assumption of a clean fuel, and it is far less tolerant than an industrial heavy-duty machine of the contaminants that come with an industrial one. This specification is what stands between the two. It sets the requirements for gaseous fuels - the composition and its variability, the heating value and Wobbe index and how far they may move without upsetting the combustion, the hydrocarbon dew point and the superheat required above it, since a liquid drop reaching a burner is a hot-section event, and the limits on sulfur, on particulates and on the trace metals that cause hot corrosion - and for liquid fuels the analogous limits on sulfur, ash, trace metals, water and sediment, viscosity and cleanliness. It also sets the handling, filtration and conditioning required to deliver a fuel that meets the specification at the machine rather than at the tank. Issued on 23 May 2023 and in force since 1 December 2023, it replaces GB/T 13674-1992.

This document specifies requirements for the use of gaseous and liquid fuels for aviation-derived gas turbines: This document applies to aviation-derived gas turbines (hereinafter referred to as gas turbines) used for power generation, ships, and mechanical drives: other forms and Gas turbines for specific purposes can be implemented by reference:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document: GB/T 12692:

3 Classification of Petroleum Product Fuels (Class F) Part 3: Fuel Varieties for Industrial and Marine Gas Turbines

GB/T 15135 Gas Turbine Vocabulary

GB/T 29114 Gas turbine liquid fuel

GB 50016 Code for Fire Protection Design of Buildings

GB 50058 Code for Design of Power Installations in Explosive Hazardous Atmospheres

GB 50074 Code for Design of Petroleum Storage SY/T 6306 Safety Code for Operation of Steel Crude Oil Storage Tanks

3 Terms and Definitions

The following terms and definitions defined in GB/T 15135 apply to this document: 3:

1 Standard gas fuel standardgasfuel The Wobbe index is 45:3MJ/m³, and the gas fuel is mainly methane: 3:

2 The absolute pressure is 101:325kPa, and the temperature is 15°C:

Note: The range of reference conditions currently being used by countries around the world is relatively wide, and the approximate conversion factors between various reference conditions are shown in Appendix A of GB/T 19205-2008: I The reference conditions currently used in China are 101:325kPa, 20°C: 3:

3 Supplier contractor The supplying organization for the goods and/or services specified in this document: [Source: GB/T 38179-2019, 3:3]

4 Gas fuel

1 General Gas fuel meets the following requirements: