

ICS 13.100
CCS E09



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

GB 42294-2022

**Safety code of practice for onshore petroleum and natural gas
exploration and production**

陆上石油天然气开采安全规程

Issued on: December 29, 2022

Implemented on: January 1, 2024

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Basic safety requirements	2
4.1 General requirements	2
4.2 Risk control and hidden danger governance	2
4.3 Education and training	3
4.4 Change Management	3
4.5 Safety production information management	3
4.6 Personal protection	3
4.7 Incident management	3
5 Special Security	4
5.1 Well Control	4
5.1.1 Well control design	4
5.1.2 Well control device	4
5.1.3 Disposal options	5
5.1.4 Well control exercise	5
5.1.5 Well Control Disposal	5
5.2 Hydrogen sulfide protection	5
5.2.1 General requirements	5
5.2.2 Design	5
5.2.3 Risk Control	5
5.3.1 Purchasing	6
5.3.2 Handling and transportation	6
5.3.3 Storage	6
5.3.4 Using	7
5.3.5 Obsolete	7
5.4 Equipment and facility management	7
5.4.1 Equipment requirements	7
5.4.2 Use requirements	7
5.5 Special operations	8
5.5.1 Work permit	8

5.5.2 Risk Control	8
5.6 Natural Disaster Preparedness	9
5.6.2 Monitoring and Early Warning	9
5.7 Lightning protection and anti-static management	9
6.1 Geophysical engineering	9
6.1.1 General requirements	9
6.1.2 Design	10
6.1.3 Construction work	10
6.2 Drilling Engineering	11
6.2.1 General requirements	11
6.2.2 Design	11
6.2.3 Construction work	12
6.3 Mud logging engineering	14
6.3.1 General requirements	14
6.3.2 Design	14
6.3.3 Construction work	14
6.4 Logging Engineering	14
6.4.1 General requirements	14
6.4.2 Design	15
6.4.3 Construction work	15
6.5 Downhole operation	15
6.5.1 General requirements	15
6.5.2 Design	16
6.5.3 Construction work	16
6.6 Ground engineering construction	17
6.6.1 General requirements	17
6.6.2 Design	17
6.6.3 Construction work	17
6.7 Oil Production Engineering	17
6.7.1 General requirements	17
6.7.2 Design	18
6.7.3 Production operations	18
6.8 Gas production engineering	18
6.8.1 General requirements	18
6.8.2 Design	18

6.8.3 Production operations	19
6.9 Injection engineering	19
6.9.1 General requirements	19
6.9.2 Design	19
6.9.3 Production operations	19
6.10 Crude oil gathering and transportation	20
6.10.1 General requirements	20
6.10.2 Design	20
6.10.3 Production operations	21
6.11 Natural gas gathering and transportation	21
6.11.1 General requirements	21
6.11.2 Design	21
6.11.3 Production operations	22
6.12 Disposal	22
6.12.1 General requirements	22
6.12.2 Design	22
6.12.3 Construction work	22
23 Reference	24

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" drafting. 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 was proposed and managed by the Ministry of Emergency Management of the People's Republic of China. Onshore Oil and Gas Exploitation Safety Regulations

1 Scope

GB 42294-2022 is the Chinese national standard on safety code of practice for onshore petroleum and natural gas exploration and production, in the field of environment and health protection, safety. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 29 December 2022 by the State Administration for Market Regulation; Standardization Administration of China, and

has been in force since 1 January 2024. Classification: ICS 13.100, CCS E09. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the production safety requirements for onshore oil and gas exploration operations. This document is applicable to the exploitation of onshore oil and gas (including shale gas), and the exploitation of coalbed methane can be used as a 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 6722 Blasting Safety Regulations

GB 12158 General guidelines for preventing electrostatic accidents

GB 13348 Electrostatic Safety Regulations for Liquid Petroleum Products

GB 30871-2022 Safety Code for Special Operations of Hazardous Chemical Enterprises

GB 50057 Design Code for Lightning Protection of Buildings

GB 50169 Specifications for construction and acceptance of grounding devices for electrical installation engineering

GB 50183 Code for Fire Protection in Oil and Gas Engineering Design

GB 50194 Safety Code for Power Supply and Utilization of Construction Sites

GB 50253 Code for Design of Oil Pipeline Engineering

GB 50349 Design code for gas field gathering and transportation

GB 50350 Oilfield oil and gas gathering and transportation design specification

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Production areas that contain or may contain hydrogen sulphide. Note

1. Without taking any personal protective measures, the maximum concentration of hydrogen sulfide gas that will not cause harm to human health is 15mg/m³ (10x10⁻⁶). Note