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ISO 27914:2017

Australian STANDARD

Carbon dioxide capture, transportation and geological storage—Geological storage

STANDARDS Australia

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Australian Energy Council
Australian National Low Emissions Coal R&D
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Department of Premier and Cabinet (SA)
Engineers Australia
Geoscience Australia
Petroleum Exploration Society of Australia (Victorian Branch)
University of Melbourne

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Preface

This Standard was prepared by the Standards Australia Committee EE-002, Carbon dioxide capture, transportation, and geological storage.

The objectives of this Standard are as follows:

(a) establishes requirements and recommendations for the geological storage of CO_2 streams, the purpose of which is to promote commercial, safe, long-term containment of carbon dioxide in a way that minimises risk to the environment, natural resources, and human health;

(b) applicable for both onshore and offshore geological storage within permeable and porous geological strata including hydrocarbon reservoirs where a CO_2 stream is not being injected for the purpose of hydrocarbon production or for storage in association with CO_2-EOR;

(c) includes activities associated with site screening and selection, characterization, design and development, operation of storage sites, and preparation for site closure;

(d) recognizes that site selection and management are unique for each project and that intrinsic technical risk and uncertainty will be dealt with on a site-specific basis;

(e) acknowledges that permitting and approval by regulatory authorities will be required throughout the project life cycle, including the closure period, although the permitting process is not included in this Standard;

(f) provides requirements and recommendations for the development of management systems, community and other stakeholder engagement, risk assessment, risk management and risk communication;

(g) does not apply to, modify, interpret, or supersede any national or international regulations, treaties, protocols or instruments otherwise applicable to the activities addressed in this Standard; and

(h) does not apply to or modify any property rights or interests in the surface or the subsurface (including mineral rights), or any pre-existing commercial contract or arrangement relating to such property.

This Standard is identical with, and has been reproduced from, ISO 27914:2017, *Carbon dioxide capture, transportation and geological storage — Geological storage.*

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The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 265, *Carbon dioxide capture, transportation, and geological storage*.

Introduction

Geological storage of carbon dioxide (CO_2) is recognized as a key technology for abatement of CO_2 emissions to the atmosphere or ocean and is an essential component in the process of carbon dioxide capture and storage (CCS)[1]. The objective of this document is to provide recommendations for the safe and effective storage of CO_2 in subsurface geologic formations through all phases of a storage project life cycle (see Figure 1). While CCS is a nascent industry, this document is supported by a wide range of operational experiences in pilot to commercial scale carbon dioxide storage projects that have used methods and technologies mostly developed and widely deployed by the oil and gas industry including CO_2-enhanced oil recovery (EOR). This document applies to injection of CO_2 into geologic units for the sole purpose of storage and does not apply to CO_2 injection for hydrocarbon recovery, or storage of CO_2 that occurs in association with carbon dioxide enhanced hydrocarbon recovery. [ISO 29716 is in development to address carbon dioxide storage using enhanced oil recovery (CO_2-EOR)]. This document is supplemented by recommended practice manuals for CO_2 storage and numerous standards and technical recommendations developed for the oil and gas industry. [See Bibliography for selected references (References [1] to [12])].

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