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Gestion du risque du cycle de vie des projets CSC intégrés

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Foreword

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

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Introduction

Carbon Capture and Storage (CCS) is a process that can mitigate the CO_2 emissions from power plants and other industrial sources of CO_2. CCS draws on many decades of experience in the electricity generation, industrial gas separation, chemical and manufacturing industries, and oil and gas industries, including substantial experience with subsurface injection techniques.

Many of the individual processes (or project phases) that are linked together to comprise a CCS chain have been proven for some time, albeit often in different contexts. Others are still being developed or adapted to this new application. Additionally, bringing them together in a CCS configuration represents a new application, with which there is limited global experience to date. As a result, there is an important need for knowledge development as real experience is gained in the comprehensive application of these technologies.

As with most technologies, CCS has inherent risks which need to be analysed and managed. Integrated projects, given their especially long-term and multi-component aspects, impose particular importance and challenge upon comprehensive risk identification. Risk assessment (detailed risk description and quantification) is completed using all available data, and assessment refreshed with updated numerical simulations which enable comprehensive risk analysis throughout the project lifecycle. The project lifecycle extends across all project phases from business development to site selection through post-closure. Together, risk identification, assessment, analysis, evaluation, management, and treatment are integrated into a risk management plan. The risk management plan aids in decision-making by the owner/operator and, to the extent the results of planning are communicated, aids other stakeholders in evaluating the project.

Keys to the success of the risk management plan are the integration and iterative application of risk assessment, risk data, and risk analysis. Risk analysis and numerical simulation help to identify, estimate and mitigate risks that may arise from CCS projects. These tools are also useful to optimize the design and operation of the monitoring, verification, and accounting aspects of the projects and can serve to inform and facilitate more effective site characterization and model improvement. Importantly, risk tools can be used to shape the design and operation of preventive and remediation options at every stage in the project lifecycle. Effective risk management communication to stakeholders who may be affected is crucial to the success of the project. The risk management plan can serve as a key component of the information handled through the public outreach and communication plan.

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