



SLOVENSKI STANDARD
kSIST FprEN ISO 13354:2014
01-januar-2014

Industrija za predelavo nafte in zemeljskega plina - Vrtalna in proizvodna oprema - Oprema "Shallow gas diverter" (ISO/FDIS 13354:2013)

Petroleum and natural gas industries - Drilling and production equipment - Shallow gas diverter equipment (ISO/FDIS 13354:2013)

Erdöl- und Erdgasindustrie - Shallow gas Diverterausrüstung (ISO/FDIS 13354:2013)

Industries du pétrole et du gaz naturel - Équipements de forage et de production - Équipement déflecteur pour gaz de surface (ISO/FDIS 13354:2013)

Ta slovenski standard je istoveten z: FprEN ISO 13354

ICS:

75.180.10	Oprema za raziskovanje in odkopavanje	Exploratory and extraction equipment
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kSIST FprEN ISO 13354:2014

en,fr,de

FINAL
DRAFT

INTERNATIONAL
STANDARD

ISO/FDIS
13354

ISO/TC 67/SC 4

Secretariat: ANSI

Voting begins on:
2013-11-28

Voting terminates on:
2014-01-28

Petroleum and natural gas industries — Drilling and production equipment — Shallow gas diverter equipment

*Industries du pétrole et du gaz naturel — Équipements de forage et
de production — Équipement déflecteur pour gaz de surface*

Please see the administrative notes on page iii

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Reference number
ISO/FDIS 13354:2013(E)

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Published in Switzerland

ISO/CEN PARALLEL PROCESSING

This final draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO-lead** mode of collaboration as defined in the Vienna Agreement. The final draft was established on the basis of comments received during a parallel enquiry on the draft.

This final draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel two-month approval vote in ISO and formal vote in CEN.

Positive votes shall not be accompanied by comments.

Negative votes shall be accompanied by the relevant technical reasons.

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Foreword

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The committee responsible for this document is ISO/TC 67, *Petroleum and Natural gas industries*, Subcommittee SC 4, *Drilling and production equipment*.

ISO/FDIS 13354:2013(E)

Introduction

Drilling into shallow-gas-bearing formations is a very delicate and challenging operation. If the drilling operations are seriously complicated by the reduced safety margin available between kick and loss, the situation in case of a gas influx becomes extremely hazardous, due to a combination of the following adverse factors.

- Shallow gas flows are extremely fast-developing events; there is only a short transition time between influx detection and well unloading, resulting in a reduced time for the driller to take the right decision, and leaving little room for error.
- Past blowout reports have disclosed the magnitude of severe dynamic loads applied to surface diverting equipment. One of the associated effects is erosion, which adds a high potential for fire and explosion due to flow impingement on rig facilities which gives the gas flow access to various sources of ignition.
- Many past shallow-gas kicks turned into uncontrolled blowouts due to the failure of former diverter systems installed several decades ago. Failure is seen as a result of the system's complexity, its lack of functional reliability and its inability to cope with the severe dynamic loads.
- Certain drilling supports are exposed to specific threats associated with shallow gas blowouts, e.g. risk of cratering, risk of ship-shaped vessel capsize.
- Unprepared or inadequately trained drilling crews experience a high level of stress when facing a violent shallow gas flow.

In the aftermath of shallow gas blowouts during the last four decades, comprehensive inquiries and reports have been carried out, in particular by the specialists involved in combating these events, and significant findings and conclusions have been published. In the meantime, the manufacturing industry has developed various equipment aimed at significantly improving the safety of shallow-gas drilling operations.

This International Standard has been prepared taking these aspects into consideration.