

Ropný, petrochemický a plynárenský priemysel Výpočet a podávanie správ o účinnosti výroby v prevádzkovej fáze (ISO/TS 3250: 2021)

STN P CEN ISO/TS 3250

45 0108

Petroleum, petrochemical and natural gas industries - Calculation and reporting production efficiency in the operating phase (ISO/TS 3250:2021)

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 09/22

Táto predbežná slovenská technická norma je urČená na overenie. Prípadné pripomienky pošlite do mája 2024 Úradu pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, Štefanovičova 3, Bratislava.

Obsahuje: CEN ISO/TS 3250:2022, ISO/TS 3250:2021

TECHNICAL SPECIFICATION SPÉCIFICATION TECHNIQUE TECHNISCHE SPEZIFIKATION

CEN ISO/TS 3250

June 2022

ICS 75.020

English Version

Petroleum, petrochemical and natural gas industries - Calculation and reporting production efficiency in the operating phase (ISO/TS 3250:2021)

Industries du pétrole, de la pétrochimie et du gaz naturel - Calcul et rapport d'efficacité de la production dans la phase d'exploitation (ISO/TS 3250:2021) Erdöl-, petrochemische und Erdgasindustrie -Berechnung und Meldung der Produktionseffizienz in der Betriebsphase (ISO/TS 3250:2021)

This Technical Specification (CEN/TS) was approved by CEN on 20 June 2022 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

CEN ISO/TS 3250:2022 (E)

Contents	Page
European foreword	3

CEN ISO/TS 3250:2022 (E)

European foreword

The text of ISO/TS 3250:2021 has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" of the International Organization for Standardization (ISO) and has been taken over as CEN ISO/TS 3250:2022 by Technical Committee CEN/TC 12 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" the secretariat of which is held by NEN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO/TS 3250:2021 has been approved by CEN as CEN ISO/TS 3250:2022 without any modification.

TECHNICAL SPECIFICATION

ISO/TS 3250

First edition 2021-08

Petroleum, petrochemical and natural gas industries — Calculation and reporting production efficiency in the operating phase

Industries du pétrole, de la pétrochimie et du gaz naturel — Calcul et rapport d'efficacité de la production dans la phase d'exploitation





COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

Co	ntent	S	Page	
Fore	eword		v	
Intr	oductio	n	vi	
1	Scope	е	1	
2	Norn	native references	1	
_				
3	3.1	s, definitions and abbreviated terms Terms and definitions		
	3.2	Abbreviations		
4				
4	4.1	ication		
	4.2	Framework conditions		
		4.2.1 General		
		4.2.2 Quality assurance		
		4.2.3 HSE considerations		
	4.2	4.2.4 Sustainability and climate change considerations		
	4.3 4.4	Business category Overview of PE calculation and reporting work process		
	4.5	Limitations		
	4.6	PE data exchange between operators in benchmarking		
5	Dorfo	ormance measures		
3	5.1	General		
	5.2	Production efficiency		
		5.2.1 PE forecasting		
		5.2.2 PE calculation and reporting		
	F 0	5.2.3 Initial production performance		
	5.3	PE measurement		
	5.4	PE calculation methodology		
		5.4.2 PE boundary conditions and reporting period		
	5.5	Injection efficiency calculation formula		
6	Drod	uction		
U	6.1	General		
	6.2	Material balance		
	6.3	Export – measured product		
	6.4	Conversion factors for oil equivalents		
	6.5	Injection		
	6.6 6.7	Disposal – general Disposal – flaring or venting of large volumes		
	0.7	6.7.1 Production facilities with a gas export route (to sales)		
		6.7.2 Production facilities with a gas export route (to safes)		
		6.7.3 Production facilities with no gas export route or other gas disposal routes		
		6.7.4 Flaring restrictions	27	
	6.8	Disposal – venting of small volumes		
	6.9	Fuel		
	6.10 6.11	ImportArtificial lift		
_				
7		Production potential		
	7.1 7.2	General Methods for determination of production potential		
	7.2	Structural maximum production potential (Method A)		
	7.4	Achieved production potential (Method B)		
	7.5	Differences between Method A and Method B	30	
	7.6	Adjusting the production potential	31	

	7.7	Schedule delays	33
	7.8	Schedule delays Injection potential	34
8	Produ	ction loss categories	35
	8.1	General	35
	8.2	Planned and unplanned events	35
	8.3	Turnaround	35
	8.4	Modification Pre-production Flaring and venting of gas Injection	36
	8.5	Pre-production	36
	8.6	Flaring and venting of gas	36
	8.7	Injection	36
	8.8	Accounting period	37
Annex	A (nor	mative) Production loss categorization	.38
Annex	B (info	rmative) Performance measures for production availability	.49
Annex	C (nor	mative) Taxonomy classification	.52
Annex	D (info	ormative) Production loss subdivision with respect to system and equipment class	.53
Annex	E (info	rmative) Examples	.59
Biblio	graphy		.71

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The petroleum, petrochemical and natural gas industries involve large capital expenditure as well as operating expenditure. Revenue loss caused by production loss will affect the profitability of such industry and for a specific plant operatorship.

Production efficiency (PE) is a term often used by operators for historic production availability in the operating phase. PE is a reported measure, and it can be compared with the predicted (or targeted) production availability made during a project development stage. Furthermore, PE is forecasted and tracked during the operating phase to allow tracking of performance. ISO 20815:2018 addresses production assurance activities including analytical methods for predicting production availability, and also includes a production loss categorization.

This document supports this production loss categorization with a harmonized approach for calculating and reporting production loss and production efficiency in the operating phase, including forecasting during this life cycle phase. This will enable precise and consistent feedback of production performance for use in production and operational planning to achieve optimal PE for the operators and associated industry stakeholders. Focus is given to actual produced volume and reference production volume, e.g. production potential that will depend on reservoir and well constraints, plant/process constraints, export/transportation constraints and market constraints. Standardization of PE reporting across the industry will drive consistency and provide better quality PE information and communication for operators and partners.

Petroleum, petrochemical and natural gas industries — Calculation and reporting production efficiency in the operating phase

1 Scope

This document provides requirements and guidance for reporting of production performance data and production loss data in the operating phase by use of production loss categorization. It supplements the principles of ISO 20815:2018, Clause E.3 and Annex G by providing additional details.

This document focusses on installations and asset elements within the upstream business category. Business categories and associated installations and plants/units, systems and equipment classes are used in line with ISO 14224:2016, Annex A.

The production loss categories given in <u>Annex A</u> are given at a high taxonomic level and supplements the reporting of failure and maintenance parameters as defined in ISO 14224:2016, Annex B.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 14224:2016, Petroleum, petrochemical and natural gas industries — Collection and exchange of reliability and maintenance data for equipment

ISO 20815:2018, Petroleum, petrochemical and natural gas industries — Production assurance and reliability management

koniec náhľadu – text ďalej pokračuje v platenej verzii STN