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

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National foreword

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

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Endorsement notice

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

Contents

Page

Foreword ..... **v**

Introduction ..... **vi**

1 Scope **1**

2 Normative references **1**

3 Terms, definitions and abbreviated terms **1**
3.1 Terms and definitions 1
3.2 Abbreviations 12

4 Application **13**
4.1 Users of this document 13
4.2 Framework conditions 14
4.2.1 General 14
4.2.2 Quality assurance 16
4.2.3 HSE considerations 16
4.2.4 Sustainability and climate change considerations 17
4.3 Business category 17
4.4 Overview of PE calculation and reporting work process 18
4.5 Limitations 19
4.6 PE data exchange between operators in benchmarking 20

5 Performance measures **20**
5.1 General 20
5.2 Production efficiency 20
5.2.1 PE forecasting 20
5.2.2 PE calculation and reporting 21
5.2.3 Initial production performance 21
5.3 PE measurement 22
5.4 PE calculation methodology 23
5.4.1 PE calculation formula 23
5.4.2 PE boundary conditions and reporting period 23
5.5 Injection efficiency calculation formula 23

6 Production **24**
6.1 General 24
6.2 Material balance 24
6.3 Export – measured product 25
6.4 Conversion factors for oil equivalents 26
6.5 Injection 26
6.6 Disposal – general 26
6.7 Disposal – flaring or venting of large volumes 26
6.7.1 Production facilities with a gas export route (to sales) 26
6.7.2 Production facilities with a gas injection route only 26
6.7.3 Production facilities with no gas export route or other gas disposal routes 27
6.7.4 Flaring restrictions 27
6.8 Disposal – venting of small volumes 27
6.9 Fuel 27
6.10 Import 27
6.11 Artificial lift 28

7 Production potential **28**
7.1 General 28
7.2 Methods for determination of production potential 28
7.3 Structural maximum production potential (Method A) 28
7.4 Achieved production potential (Method B) 30
7.5 Differences between Method A and Method B 30
7.6 Adjusting the production potential 31

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7.7 Schedule delays 33
7.8 Injection potential 34

8 Production loss categories 35
8.1 General 35
8.2 Planned and unplanned events 35
8.3 Turnaround 35
8.4 Modification 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 (normative) **Production loss categorization 38**

Annex B (informative) **Performance measures for production availability 49**

Annex C (normative) **Taxonomy classification 52**

Annex D (informative) **Production loss subdivision with respect to system and equipment class 53**

Annex E (informative) **Examples 59**

Bibliography 71

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Foreword

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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.

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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 Annex A 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*

3 Terms, definitions and abbreviated terms

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1 Terms and definitions

3.1.1
achieved production potential
production potential (3.1.43) that in retrospect can be verified as the maximum achievable production in a given time period

Note 1 to entry: Achieved production potential is the sum of the achieved production and the estimated *production loss* (3.1.40) occurring in the four production potential elements: *well production potential* (3.1.58), *plant production capacity* (3.1.34), *export capacity* (3.1.12) and *market potential* (3.1.26).

Note 2 to entry: Achieved production potential can vary over time.

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