

STN	Ropný, petrochemický a plynárenský priemysel Manažérstvo spoľahlivosti a zaistenie ťažby (ISO 20815: 2018)	STN EN ISO 20815 45 0105
------------	---	--

Petroleum, petrochemical and natural gas industries - Production assurance and reliability management (ISO 20815:2018)

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. 04/19

Obsahuje: EN ISO 20815:2018, ISO 20815:2018

Oznámením tejto normy sa ruší
STN EN ISO 20815 (45 0105) zo septembra 2010

128496

EUROPEAN STANDARD

EN ISO 20815

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2018

ICS 75.180.01; 75.200

Supersedes EN ISO 20815:2010

English Version

Petroleum, petrochemical and natural gas industries -
Production assurance and reliability management (ISO
20815:2018)

Industries du pétrole, de la pétrochimie et du gaz
naturel - Assurance de la production et management de
la fiabilité (ISO 20815:2018)

Erdöl-, petrochemische und Erdgasindustrie -
Betrieboptimierung und Zuverlässigkeitsmanagement
(ISO 20815:2018)

This European Standard was approved by CEN on 7 October 2018.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, 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

EN ISO 20815:2018 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 20815:2018) has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" in collaboration with 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.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2019, and conflicting national standards shall be withdrawn at the latest by May 2019.

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.

This document supersedes EN ISO 20815:2010.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 20815:2018 has been approved by CEN as EN ISO 20815:2018 without any modification.

INTERNATIONAL STANDARD

ISO 20815

Second edition
2018-10

Petroleum, petrochemical and natural gas industries — Production assurance and reliability management

*Industries du pétrole, de la pétrochimie et du gaz naturel —
Assurance de la production et management de la fiabilité*



Reference number
ISO 20815:2018(E)

© ISO 2018

ISO 20815:2018(E)**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2018

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
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms, definitions and abbreviated terms	2
3.1 Terms and definitions.....	2
3.2 Abbreviations.....	15
4 Production assurance and decision support	17
4.1 Users of this document.....	17
4.2 Framework conditions.....	17
4.3 Optimization process.....	19
4.4 Production assurance programme.....	21
4.4.1 Objectives.....	21
4.4.2 Project risk categorization.....	22
4.4.3 Programme activities.....	23
4.5 Alternative standards.....	25
5 Production assurance processes and activities	26
Annex A (informative) Contents of production assurance programme (PAP)	28
Annex B (informative) Core production assurance processes and activities	30
Annex C (informative) Interacting production assurance processes and activities	39
Annex D (informative) Production performance analyses	43
Annex E (informative) Reliability and production performance data	50
Annex F (informative) Performance objectives and requirements	52
Annex G (informative) Performance measures for production availability	56
Annex H (informative) Relationship to major accidents	69
Annex I (informative) Outline of techniques	71
Bibliography	96

ISO 20815:2018(E)

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*.

This second edition cancels and replaces the first edition (ISO 20815:2008), which has been technically revised. The main changes compared to the previous edition are as follows:

- [Clause 3](#): several new terms, definitions and abbreviations;
- [Clause 4](#): new [4.1](#) and new [Figure 2](#);
- [Annexes A, B, C](#) and [E](#): minor changes;
- [Annex D](#): various new text and new figures;
- [Annex F](#): new text in [Clause F.3](#), new [Clause F.4](#), and new figure;
- [Annex G](#) and [H](#): some changes in [Clauses G.2, G.3, H.1](#) and [H.2](#);
- [Annex I](#): various changes in [Clauses I.7](#) to [I.10](#), [I.18](#) to [I.22](#), and new [Clauses I.23](#) to [I.26](#).

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 investment costs as well as operational expenditures. The profitability of these industries is dependent upon the reliability, availability and maintainability of the systems and components that are used. Therefore, for optimal production availability in the oil and gas business, a standardized, integrated reliability approach is required.

The concept of production assurance, introduced in this document, enables a common understanding with respect to use of reliability technology in the various life cycle phases and covers the activities implemented to achieve and maintain a performance level that is at its optimum in terms of the overall economy and, at the same time, consistent with applicable regulatory and framework conditions.

[Annexes A](#) to [I](#) are for information only.

Petroleum, petrochemical and natural gas industries — Production assurance and reliability management

IMPORTANT — The electronic file of this document contains colours which are considered to be useful for the correct understanding of the document. Users should therefore consider printing this document using a colour printer.

1 Scope

This document describes the concept of production assurance within the systems and operations associated with exploration drilling, exploitation, processing and transport of petroleum, petrochemical and natural gas resources. This document covers upstream (including subsea), midstream and downstream facilities, petrochemical and associated activities. It focuses on production assurance of oil and gas production, processing and associated activities and covers the analysis of reliability and maintenance of the components. This includes a variety of business categories and associated systems/equipment in the oil and gas value chain. Production assurance addresses not only hydrocarbon production, but also associated activities such as drilling, pipeline installation and subsea intervention.

This document provides processes and activities, requirements and guidelines for systematic management, effective planning, execution and use of production assurance and reliability technology. This is to achieve cost-effective solutions over the life cycle of an asset development project structured around the following main elements:

- production assurance management for optimum economy of the facility through all of its life cycle phases, while also considering constraints arising from health, safety, environment, and quality;
- planning, execution and implementation of reliability technology;
- application of reliability and maintenance data;
- reliability-based technology development, design and operational improvement.

The IEC 60300-3 series addresses equipment reliability and maintenance performance in general.

This document designates 12 processes, of which seven are defined as core production assurance processes and addressed in this document. The remaining five processes are denoted as interacting processes and are outside the scope of this document. The interaction of the core production assurance processes with these interacting processes, however, is within the scope of this document as the information flow to and from these latter processes is required to ensure that production assurance requirements can be fulfilled.

The only requirement mandated by this document is the establishment and execution of the production assurance programme (PAP). It is important to reflect the PAP in the overall project management in the project for which it applies.

This document recommends that the listed processes and activities be initiated only if they can be considered to add value.

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 20815:2018(E)

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

koniec náhľadu – text ďalej pokračuje v platenej verzii STN