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IEC TC 31 : EQUIPMENT FOR EXPLOSIVE ATMOSPHERES

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OF INTEREST TO THE FOLLOWING COMMITTEES:

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☐ EMC

☐ ENVIRONMENT

☐ QUALITY ASSURANCE

☐ SAFETY

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TITLE:

IEC 60079-44: Explosive atmospheres – Part 44 - Personal Competence

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

IEC TS 60079-44

EXPLOSIVE ATMOSPHERES

Part 44: Personal Competence

FOREWORD

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The text of this document is based on the following documents:

Enquiry draft	Report on voting
XX/XX/DTS	XX/XX/RVDTS

Full information on the voting for the approval of this document can be found in the report on voting indicated in the above table.

139 The language used for the development of this document is **English**.

140 This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in
141 accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available
142 at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are
143 described in greater detail at www.iec.ch/standardsdev/publications.

144 The committee has decided that the contents of this publication will remain unchanged until the
145 stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to
146 the specific publication. At this date, the publication will be

147 transformed into an International standard,

148 reconfirmed,

149 withdrawn,

150 replaced by a revised edition, or

151 amended.

152

153 The National Committees are requested to note that for this publication the stability date is

154 THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED
155 AT THE PUBLICATION STAGE.

156

157

Introduction

158 The objective of this Document is to minimize the impact on safety and integrity of facilities,
159 where hazardous areas may be present, due to human error that may result from an individual's
160 lack of knowledge, skills, or abilities during the performance of certain activities. This document
161 explains how the minimum requirements for the competence and management of competencies
162 of personnel working in industries where hazardous areas may be present can be achieved.
163 Assurance that individuals who perform such tasks and those individuals responsible for
164 ensuring a qualified workforce are competent according to this document will also support the
165 achievement of the stated objective.

166 Competence depends on knowledge, skill, experience, and training. Verification of competence
167 is a difficult task and requires specific assessment methods based on clear criteria. In
168 establishing these criteria, it is acknowledged that:

- 169 – The competencies for conducting work in facilities where explosive atmospheres may be
170 present are in addition to any competencies which may apply for the specific type of work
171 being undertaken, for example, electrical, mechanical, operations.
- 172 – Competencies for working in hazardous areas vary by the individual roles and tasks
173 performed (see Section 8), and the protection techniques used.
- 174 – As protection techniques adopt quite different and individual design and installation
175 requirements it is common for personnel to be trained and competent either in some or all
176 these techniques.

177 Regarding the assurance of competence, it is recognised that competence evolves with years
178 but can also deteriorate if not applied, and so continued training and assessment to verify
179 competence is necessary. Where training or assessment of competence is required it is
180 expected that those conducting these activities should have at least the same level of
181 competence as those being trained or assessed. These and other specific processes and
182 requirements might also be defined in other publications that are employed in competence
183 certification systems.

184

1 Scope

The purpose of this document is to provide guidance to establish recommended minimum criteria to determine roles, establish expectations of the necessary skills and evidence of competence to assess and manage the competence of personnel conducting work in or associated with hazardous areas.

This document provides examples and recommendations of minimum levels of competence for typical roles associated with hazardous areas by addressing the knowledge, skills, or abilities that is expected of personnel, and provides examples of the evidence of competence expected for each role.

This document is to assist employers in developing a programme to define, assess and manage requirements for competence. Such a programme could be unique to a facility or used in conjunction with other regulatory requirements where they exist. The competencies for conducting work in a hazardous area are in addition to any competencies which may apply for the general type of work being undertaken (for example, professional credentials, electrical, non-electrical, operations, design).

This document applies to both electrical and non-electrical applications.

2 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.

- IEC 60050-426, International Electrotechnical Vocabulary – Part 426: Equipment for explosive atmospheres.
- IEC 60079-0 Explosive atmospheres - Part 0: Equipment - General requirements
- IEC 60079-17, Explosive atmospheres – Part 17: Electrical installations, inspection, and maintenance

3 Definitions

For the purposes of this document, the terms and definitions given in IEC 60079-0 and the following apply.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 first-party verification

process where an individual self-declares their credentials and competency

Note 1 to entry: permitting first-party verification for individuals working in hazardous areas could result in liability issues for the employer

3.2 second-party verification

process where the employer, a person or organization appointed by the employer assesses an individual to a defined set of competency requirements

3.3 third-party verification

process where an organization independent of the employer, or its contractors, assesses individuals against a defined set of competency requirements

Note 1 to entry: Third-party verification organizations typically satisfy ISO/IEC17024 requirements and are assessed by a National Accreditation Body.

3.4 prerequisite qualifications

knowledge, skills, and capabilities required to perform an assigned role or task in non-hazardous areas

Note 1 to entry: Some work roles may require registration or licencing by a local or national authority to verify, approve or endorse specific base knowledge. For example, professional engineer or tradespersons professional registration or licencing.

3.5 competence

ability to apply knowledge and skills to achieve intended results

[SOURCE: ISO/IEC 17024:2012, 3.6]

3.6 hazardous area

area in which an explosive atmosphere is present, or can be expected to be present, in quantities such that special precautions for the construction, installation and use of equipment are required

Note 1 to entry: IEC 60079-10-1, Explosive atmospheres – Part 10-1: Classification of areas – Explosive gas atmospheres, gives a classification of hazardous areas containing explosive gas atmospheres (see IEC 426-03-03, IEC 426-03-04 and IEC 426-03-05).

Note 2 to entry: IEC 60079-10-2, Explosive atmospheres – Part 10-2: Classification of areas – Explosive dust atmospheres, gives a classification of hazardous areas containing explosive dust atmospheres (see IEC 426-03-23, IEC 426-03-24, and IEC 426-03-25).

[SOURCE: IEC 60050 426-03-01]

3.7 non-hazardous area

area in which an explosive atmosphere is not expected to be present in quantities such as special precautions for the construction, installation and use equipment

[SOURCE: IEC 60050 426-03-02]

3.8 equipment

apparatus, fittings, devices, components, and the like used as a part of, or in connection with, an installation

[SOURCE: IEC 60050 426-01-01]