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Explosive atmospheres –
Part 44: Personal competence

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EXPLOSIVE ATMOSPHERES –

Part 44: Personal competence

FOREWORD

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IEC TS 60079-44 has been prepared by IEC technical committee 31: Equipment for explosive atmospheres. It is a Technical Specification.

The text of this Technical Specification is based on the following documents:

Draft	Report on voting
31/1716/DTS	31/1747/RVDTS

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

The language used for the development of this Technical Specification is English.

A list of all parts in the IEC 60079 series, published under the general title *Explosive atmospheres*, can be found on the IEC website.

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

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

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

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

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

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

EXPLOSIVE ATMOSPHERES –

Part 44: Personal competence

1 Scope

The purpose of this part of IEC 60079, which is a Technical Specification, 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. The purpose of this document is to provide guidance to establish:

- recommended minimum criteria to determine roles,
- expectations of the necessary skills, and
- evidence of competence

in order to assess and manage the competence of personnel who are conducting work in or associated with hazardous areas.

NOTE While many of the roles and tasks identified in this document are common multiple facilities, this document identifies some of the additional considerations that should be considered when they are being performed in facilities 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. Additionally, examples of the evidence of competence expected for each role are provided.

The aim of this document is to assist in defining, assessing, and managing unique requirements for the competence of individuals working in or associated with installations where an explosive atmosphere could be present. Such a programme could be specific 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).

NOTE ISO 10015 provides information on competency management systems.

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

This document identifies the minimum level of knowledge and skills required to work in hazardous areas and the specific competence required for work associated with equipment for explosive atmospheres (commonly termed ‘Ex Equipment’) and the standards to which competence is to be assessed and attributed.

The purpose of this document is to provide guidance to establish:

- recommended minimum criteria to determine roles,
- expectations of the necessary skills, and
- evidence of competence

The principal application of this document is for personnel dealing with explosion-protected and associated equipment for use in explosive atmospheres, including the following work functions:

- Classification of areas;

- Producing, processing or servicing functions in a hazardous area and not directly involved in installing, maintaining or repairing explosion-protected equipment and systems;
- Designing, commissioning and maintaining explosion-protection strategies and equipment;
- Selecting, installing, testing and maintaining explosion-protected equipment and systems in hazardous areas;
- Inspecting hazardous area equipment, systems and installations;
- Overhauling, repairing and modifying explosion-protected equipment;
- Management of the Ex aspects of the facility.

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.

IEC 60050-426, *International Electrotechnical Vocabulary (IEV) – Part 426: Explosive atmospheres*

IEC 60079-0, *Explosive atmospheres – Part 0: Equipment – General requirements*

IEC 60079-10-1, *Explosive atmospheres – Part 10-1: Classification of areas – Explosive gas atmospheres*

IEC 60079-10-2, *Explosive atmospheres – Part 10-2: Classification of areas – Explosive dust atmospheres*

IEC 60079-14, *Explosive atmospheres – Part 14: Electrical installations design, selection and erection*

IEC 60079-17, *Explosive atmospheres – Part 17: Electrical installations inspection and maintenance*

IEC 60079-19, *Explosive atmospheres – Part 19: Equipment repair, overhaul and reclamation*

IEC TS 60079-32-1, *Explosive atmospheres – Part 32-1: Electrostatic hazards, guidance*

ISO 19011, *Guidelines for auditing management systems*

ISO 80079-36, *Explosive atmospheres – Part 36: Non-electrical equipment for explosive atmospheres – Basic method and requirements*