



IECEX Personnel Certification Scheme CoPC

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Program

What is Competence?

Elements of Competence

Units of Competence

How is a person 'declared competent'?

Application for Competence & evaluation

Different Competence systems.

IECEX Personnel Competence Scheme.

Reactions to competence

Whenever there is discussion on Personnel Competence we find the people are:

- ★ *Guaranteed to respond*
- ★ *Passionate*
- ★ *Fearful*
- ★ *Concerned*

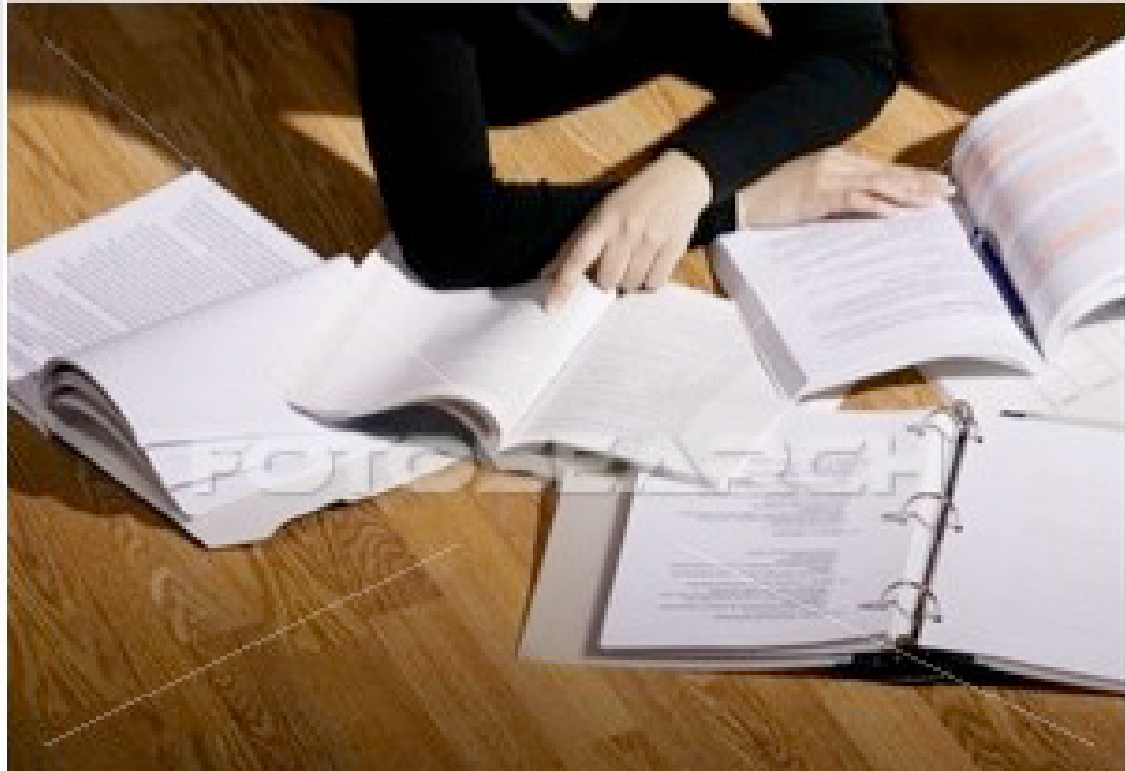
What is Competence?

The concept of competence focuses on what is expected of an employee in the workplace rather than the learning process.

It embodies the ability to transfer and apply skills and knowledge to new situations and environments.

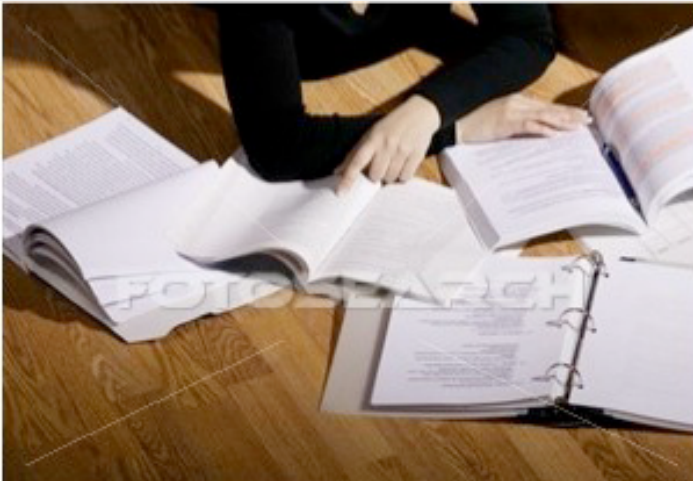
What is Competency?

- ★ Competency comprises:
 - ❖ knowledge



What is Competence?

- ★ Competency comprises:
 - ❖ knowledge and
 - ❖ skills



What is Competence?

- ✦ Application of that knowledge and skill to the standards of performance required in the workplace.
- ✦ Competency includes all aspects of work performance and not only specific skills.

Elements of Competence

- ★ Competency involves three elements.
 - ❖ Qualifications
(Off the Job)
 - ❖ Experience
(On the Job)
 - ❖ Recent and Relevant Training
(Off and On the Job)

What is Competence?

Competence assessments require objective evidence that is:

- ★ *Valid.*
- ★ *Direct.*
- ★ *Authentic.*
- ★ *Current.*
- ★ *Sufficient.*

Units of Competence

The different types of work are covered by “Units of Competency”

- ❖ A unit of competency is the competency required for a useful work function and which resides with an individual. It must include the ability to apply both the theory and the practical skills.
- ❖ This should not be confused with a job description which may comprise a number of units of competency.



Units of competence

Each Unit of Competence comprises:

- ❖ *Scope*
- ❖ *Pre-requisites*
- ❖ *Elements and performance criteria*
- ❖ *Scope Limitations*

Application for Competence

An applicant is expected to provide:

- ★ Evidence of education and training:
 - ❖ Work experience in both non-hazardous and hazardous areas
 - ❖ Validation of the information
- ★ Personal details sufficient to uniquely identify the individual
- ★ Scope of Competence being requested
- ★ Declaration

Owner/Operator Responsibility

In most countries legislation or regulations identify that the owner is responsible and accountable for the safety of the design, installation and maintenance of electrical equipment within their plant.

This is usually achieved through Occupational Health & Safety or Workplace legislation.

How is Competence identified?

- ✦ An owner or occupier can accept the responsibility of deeming his own personnel as competent however they would face the consequences if there was an incident.
- ✦ They could rely on their personnel being considered competent through a company or National scheme
- ✦ Use of Competence through the IECEx Certification of Personnel Competence scheme

Why is Competence required?

- ✦ Equipment must be used correctly.
- ✦ Persons must know what they are doing.
- ✦ Personnel Competence supports other certification schemes.
- ✦ Recognizes that both knowledge and skills are needed.

Why is Competence required?

Standards references

IEC 60079-14 Ed 4, Clause 4.4

IEC 60079-19 Ed 2, Clause 4.4

Owner/Operator Responsibility

Responsible for plant safety

Use qualified persons

Competence Evaluation

Meeting pre-requisite requirements

- ★ What information can be reasonably expected to be provided BEFORE being assessed for the following Units of Competence.
 - ❖ Basic Unit
 - ❖ Installation
 - ❖ Repair & Overhaul
 - ❖ Inspection
 - ❖ Design

Competence Evaluation - Knowledge

Typical knowledge assessment question for the basic unit

What are the conditions that will lead to an explosion?

1. Burnable Material, oxygen, ignition source, coincidental local concurrence
2. Burnable material, high concentration of explosive gas
3. Oxygen, burnable material and a source of ignition
4. Oxygen, ignition source, coincidental local concurrence

Competence Evaluation - Knowledge

Typical knowledge assessment question for the basic unit

In which IEC Standard can the requirements for installations in hazardous areas for an onshore installation be found?

IEC 60079-11

IEC 60079-7

IEC 60079-14

IEC 61241-11

Other Competence Schemes

- ✦ Philosophy is to provide training with accompanying assessment
- ✦ Scope coverage of units is inconsistent with some very specialised narrow content and others being extensive with broad content
- ✦ Slow to react to changes in Standards
- ✦ Training dependent
- ✦ Does not handle RPL or RCC very effectively
- ✦ Concentrates on either knowledge or skills but rarely both
- ✦ Not easy for those engaging a 'competent person' to understand the competence achieved

IECEx Competence Scheme [CoPC]

- ★ The Scheme has been established to provide a consistent approach to the assessment of the Competence of personnel.
- ★ It assesses the individual – not an organization.
- ★ Independent of training to remove conflict so not concerned with how the knowledge and skills are obtained.

CoPC = Certificate of Personnel Competence

IECE_x CoPC

Managed by a new Certification Committee [ExPCC] in IECE_x

"To maintain and enhance the policies and procedures relating to the operation of the CoPC Scheme within IECE_x System. This includes the responsibility for the Scheme Rules, Operational Documents and Guide as well as any other documentation relevant to the scheme."

IECE_x CoPC

IECE_x CoPC has developed:

IECE_x05 - Scheme Rules based on:
ISO/IEC17024; Guide 27; Guide 28 & Guide 65

Operational Documents for:

***OD501** - Assessment Procedures for ExCBs;*

***OD502** - Application for Personnel Competence;*

***OD503** - ExCB Procedures for issuing and maintaining certificates*

***OD504** - Specification for Units of Competence Assessment Outcomes.*

Scheme Rules IECEx05

Key details include:

- ❖ Compliance with rules
- ❖ Appeals
- ❖ Withdrawal
- ❖ Suspension
- ❖ Complaints
- ❖ Confidentiality
- ❖ Typical Forms for application
- ❖ Governing of the IECEx Scheme for Competency
- ❖ Principles of the IECEx Certification of Personnel Competencies Scheme
- ❖ Confidentiality
- ❖ Participating countries
- ❖ IECEx instruments
- ❖ Certification procedure
- ❖ Acceptance of certification bodies
- ❖ Complaints

IECEx Units of Competence

There are ten Units of Competence:

1. Apply basic principles of protection in explosive atmospheres
2. Perform classification of hazardous areas
3. Install explosion-protected equipment and wiring systems
4. Maintain equipment in explosive atmospheres
5. Overhaul and repair of explosion-protected equipment
6. Test electrical installations in or associated with explosive atmospheres
7. Perform visual & close inspection of electrical installations in or associated with explosive atmospheres
8. Perform detailed inspection of electrical installations in or associated with explosive atmospheres
9. Design electrical installations in or associated with explosive atmospheres
10. Perform audit inspection of electrical installations in or associated with explosive atmospheres



IECEx Units of Competence

- ★ Scope limitations:
 - ❖ *Type of explosion protection*
 - ❖ *Product type*
 - ❖ *Groups*
 - ❖ *Voltages*
 - ❖ *Other* – which may be related to specific National requirements
- ★ Validity
 - ❖ *Surveillance*
 - ❖ *Re-assessment every 3 years.*

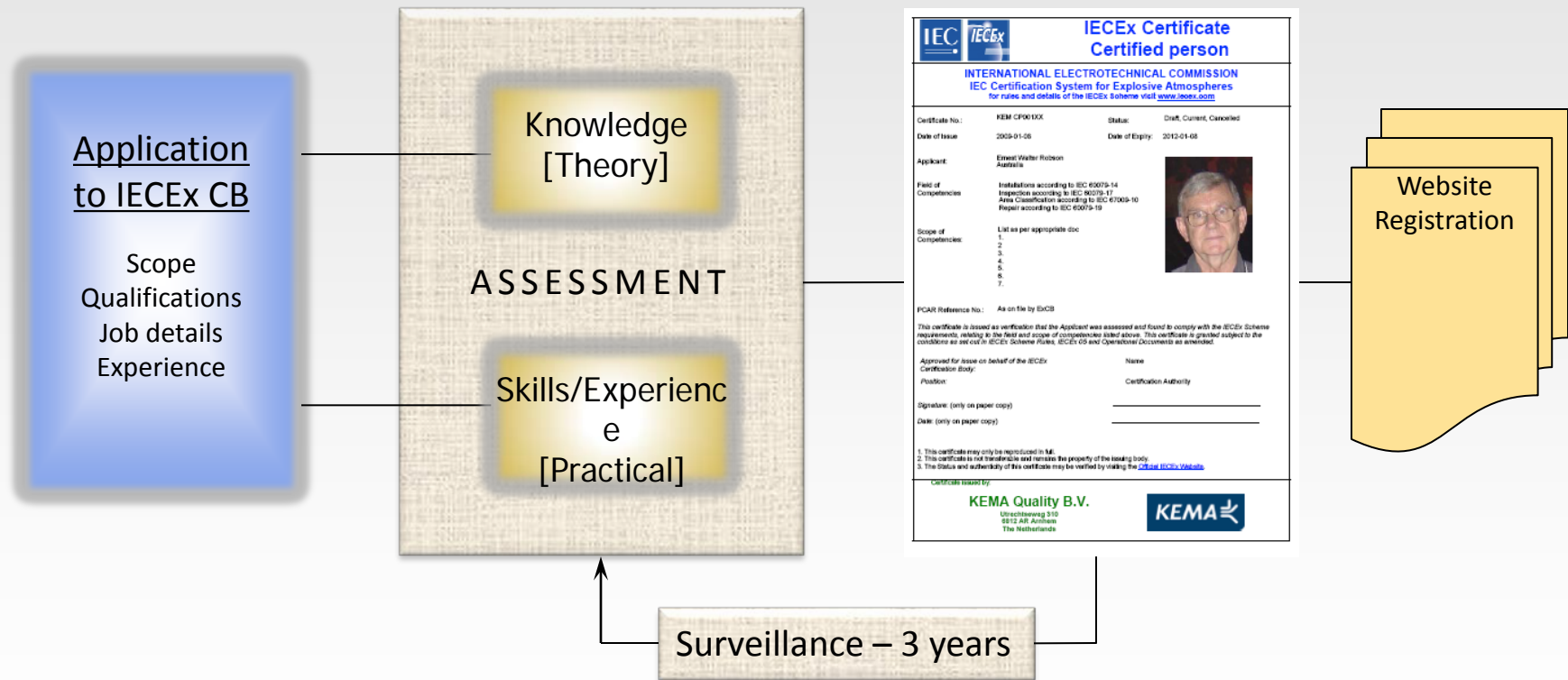


Documents for the IECEx CoPC Scheme

- ★ *Application Form*
- ★ *A Certificate of Personnel Competence [CoPC]*
- ★ *A Personnel Competence Assessment Report [PCAR]*
- ★ *An Identification Card (credit card size)*

Details of the Certificate, ID Card and PCAR
can be verified on-line at www.iecex.com

IECE_x CoPC Process



IECEx CoPC

- ★ Covers all issues of IEC standards for Hazardous Area requirements and is up to date.
- ★ Global Scheme with Regional requirement allowance
- ★ Assists in maintaining plant integrity and function
- ★ Independent of training
- ★ Sets the Competence benchmark for use in any regulatory framework
- ★ Endorsement by United Nations, via the UNECE, as the best practice model for verification of compliance with International Standards.

Summary

Standards for hazardous locations require the use of special equipment to avoid ignition of the atmosphere.

If that special equipment is NOT installed correctly it may no longer provide the explosion protection integrity and therefore cause the installation to be unsafe.

The use of Competent persons ensures that equipment will be used correctly and the explosion protection integrity for the life of the equipment will be maintained.

Competent persons are able to identify faults which could become potential sources of ignition.

Summary

Concern over the lack of separation of training with the assessment process has been expressed.

It is possible for the IECEx CoPC to open the way for a global scheme to provide consistency in the assessment of competent persons. It provides separation from training schemes therefore giving the highest level of integrity of assessment. Recognition that the knowledge and skills could be obtained by any means such as tertiary education, internal company training, external private training, on the job mentoring, etc., is provided.

The IECEx CoPC Scheme is likely to become the benchmark for competency requirements for use within any framework providing essential support for the overall package of compliance requirements for hazardous areas.

Questions?

Time is up but are there any FINAL questions?

Many thanks for your participation!