Institute of Corrosion – Aberdeen Branch

Cathodic Protection Personnel Competence:

BS EN 15257:2006 Cathodic Protection : Competence levels and Certification of Cathodic Protection Personnel

John Thirkettle – Thor Corrosion

BS EN 15257: 2006 – Competence and Certification

Key participants:

- CEN (European Committee for Standardisation) – European Standard : BSEN 15257 is presently under review by ISO. It is intended that the document will become an ISO standard
- Institute of Corrosion – Certifying Authority
- Argyle Ruane (Institute of Mechanical Engineers) – Training service providers - Rotherham

BS EN 15257: 2006 – Competence and Certification

Key Documents

- BS EN 15257:2006 – Cathodic Protection – Competence Levels and Certification of Cathodic Protection Personnel

- ICORR REQ DOC (CP) – Requirements for the Certification of Cathodic Protection Personnel (2009)

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Framework

- Defines Competence Levels
- Defines Training Requirements
- Defines Certification
- Defines Minimum Requirements for Certifying Bodies

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The standard….

- Issued nearly 7 years ago
- Valid in 29 European countries
- Key statement:

" To enable the competence of personnel carrying out CP studies, execution of work, inspection and maintenance of work to be defined and verified…"

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The standard…..
(cont'd)

Includes the 3 Recognised Sectors

- Underground or Immersed
- Marine
- Reinforced Concrete

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The standard…..
(cont'd)

- 3 Levels of Competence for Each Sector
- References ALL key BS EN Cathodic Protection Standards

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Training Centre - Rotherham

Training Aids

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COMPETENCE ACHIEVED BY GAINING THE APPROPRIATE LEVELS OF TRAINING & EXPERIENCE IN A SPECIFIC SECTOR

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- Professional Knowledge
- Skill
- Experience
- Training
- Gained in Industry e.g. In the field
- Identified Skill sets for each Sector & Level
- Gained through I.Corr & Company Training

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VALID COMPETENCY IS ACHIEVED *BOTH* BY *CERTIFICATED* TRAINING TO BS EN 15257 AND BY *DOCUMENTED* EXPERIENCE IN THE FIELD

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Certifying Body – Institute of Corrosion

- Initiated the requirements of the Standard
- Promote the requirements of the Standard
- Maintain the requirements of the Standard
- Administer the requirements of the Standard
- Determine competence levels from the requirements of the Standard
- Publish training requirements (ICORR REQ DOC)
- Assess & approve training & examination centres

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LEVEL 1 – "CERTIFICATED TO DEMONSTRATE OUTLINE KNOWLEDGE & COMPETENCE IN DEFINED TASKS "

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- Fundamentals of electricity, corrosion and coatings
- CP and measurement techniques
- Safety & standards

- Work under supervision of Levels 2 & 3
- ALL Activities in accordance with Method Statements for Tasks as prepared by L2 or L3
- Routine system & function tests
- *Limited* specific tests
- Calibration checks
- Record & report results
- Supervise and test simple installations

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LEVEL 2 – "CERTIFICATED TO DEMONSTRATE COMPETENCE IN……." - *a significant increase to Level 1 Competency*

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- Understand principles of electricity, corrosion & CP
- Detailed knowledge of CP and measurement techniques
- Test procedures, safety & standards
- Write technical instructions (Method Statements)
- Basic Design (Supervised by L3)
- Work under instruction of Level 3
- All Level 1 & supervise & guide
- Selection of testing
- Set up & verification
- Organise, interpret and evaluate data to Standards
- Determine remedials
- Supervise, Commission & maintain installations (L3)

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LEVEL 3 – CERTIFICATED TO HIGHEST LEVEL - IN AT LEAST ONE SECTOR

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- Detailed knowledge of electrical and corrosion theory
- Detailed knowledge of CP design, install, commissioning, testing & performance
- Evaluation, safety & standards
- Theoretical & practical experience
- Unsupervised Design
- Familiarity of CP in other sectors
- Interpretation of Standards
- Application & Verification of criteria
- Draft policies
- Technical *& financial* review
- Supervise Levels 1 and 2
- Utilise experience to improve design, ops and performance

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ELIGIBILITY FOR CERTIFICATION

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- "Open to all"
- To be eligible must fulfil both training and practical experience
- Must pass relevant examinations (L1 and L2) and/or assessment (L3)
- L1 & L2 training and examination can be completed *before* industrial experience

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- TRAINING REQUIREMENTS

- Gained via employer, external courses and self-study
- Documentary proof relating to specific sector

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TRAINING PROVISION

- Certifying body must define period, syllabus and methods
- Key tasks for all sectors at all Levels have been tabulated within BS EN 15257:2006 & ICORR REQ DOC (CP):2009
- Minimum Training duration 40 hrs formal or 'on-the-job' (L1 & L2) or 80 hrs L2 if no L1.
- Minimum Experience requirements

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TRAINING PROVISION

- L3 relevant engineering or science degree / post graduate qualification
- Training courses, seminars and conferences
- Self-study
- Document training, experience, theoretical knowledge & practical skills
- Certifying body to establish, publish and update L3 requirements

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EXPERIENCE

- Ideally acquired before certification
- Documented by employer/referees
- Minimum of 50% of the particular sector tasks experienced
- L3 require knowledge beyond 1 sector & demonstrated practical & theory to L2 or certified as L2

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Level	Qualification in Relevant Science or Eng Discipline	Min. No. of Years Experience in CP
1	ALL CASES	1
2	SPECIALISED EDUCATION IN CORROSION	2
	TECHNICAL EDUCATION	3
	ALL OTHER CASES	4
3	SPECIALISED EDUCATION IN CORROSION	5 (ASSESSED) 3 (EXAMINATION)
	TECHNICAL EDUCATION	8 (ASSESSED) 5 (EXAMINATION)
	ALL OTHER CASES	12 (ASSESSED) 8 (EXAMINATION)

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COMPETENCE ASSESSMENT

- L1 & L2 by Examination
  - Common Core
  - Sector Theory
  - Sector Practical

  Plus Assessment of Experience to prove ability in all Key Tasks
- L3 by Assessment - Qualifications & experience

  (Dossier with optional Examination / Presentation / Interview).

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EXAMINATIONS

- Formal, controlled, locations and resources
- Graded to marking schemes
- Modular pass grades
- Verified against tasks in BS EN 15257:2006 Annex B
- Assessment Committees

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REASSESSMENT & EXEMPTIONS

- Re-sit L1 & L2 failed sessions after additional training
- Re-apply for L3 after committee review
- Unethical behaviour
- Significant interruption
- Exempt from core session if changing sectors if already passed
- Validity of certification before BS EN 15257 before 2010.

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ADMINISTRATION

- Controls & Filing
- Identification cards
- Certification (Full and Provisional) Examination Certificates & (possibly later) Certificates of Competence

Validity – 5 years moving to 10 years

- Re-certification – On proof of improvement or continuity otherwise re-examination

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WHERE ARE WE AT THE MOMENT

- An international ICorr certification scheme has been in place since the mid-late 1990's for Pipelines (buried and immersed {rivers, estuarine NOT Offshore}structures).
- We are now committed to conformance with BS EN 15257 and several courses are available being upgraded or are in commission
- In the eyes of the standard we are 7 years into this transition
- Trustees from across the CP spectrum have been and are upgrading or preparing the various courses and examinations.

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- L1 and L2 syllabus agreed in all sectors
- Training Courses available that conform to BS EN ISO 17024 – Conformity assessment – General requirements for bodies operating certification of persons
- Approved revision of ICORR REQ DOC (CP) fully in line with BS EN 15257:2006
- Independent ICorr appointed body controlling professional development, training and certification (PDTC) in line with this standard.

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- Certification registers: all Levels
- Certification application forms: all Levels
- Delegated Bodies for Training and Examination
- I Corr PAC committee to process and review Level 3 applications and Level 1 & 2 Experience
- Personal Certificates: Examination at L1 & L2; Competence at all Levels
- Application guidelines
- Assessment interview format

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- I.Corr " Certification of Cathodic Protection Personnel" scheme for the CP industry is now in place.
- L1 – Courses plus 1 year (min) assessed experience for Technicians
- L2 – Courses plus 6 years (variable) assessed experience for Senior Technicians
- L3 – Applications for Assessment plus 15 years (variable) experience for Senior Engineers

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WHO NEEDS TO BE CERTIFICATED?

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- Technicians
- Senior Technicians
- Junior Engineers
- Field Engineers
- Designers
- Consultants

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Underground & Immersed Metallic Structures

- Buried pipelines
- Onshore pipelines across rivers, lakes and short sea lengths
- Buried tanks and related piping
- Tank bases (external) of above ground tanks
- Well casings

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Marine Metallic Structures

- Ships (external hulls and ballast tanks)
- Fixed offshore structures (platforms, jackets)
- Floating structures
- Underwater structures (manifolds, well heads & piping)
- Coastal and offshore pipelines and risers
- Buoys
- Harbour facilities (piers, jetties & lock gates)

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Reinforced Concrete Structures

- Air-exposed reinforced (and pre-stressed) concrete (bridges, walls, piers, buildings)
- Buried reinforced (and pre-stressed) concrete (pipelines, tunnels, foundations)
- Reinforced and pre-stressed) concrete immersed in fresh water (pipelines, foundations, tanks) and seawater (piers, jetties, platforms)

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WHAT COURSES ARE AVAILABLE?

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Underground Immersed Metallic Structures

- L1 - Complete
- L2 – Complete
- L3 - Application and assessment available through I Corr

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Marine Metallic Structures

- L1 - Complete
- L2 - Complete
- L3 - Application and assessment available through I Corr

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Reinforced Concrete Structures

- L1 - available
- L2 - in preparation
- L3 - Application and assessment available through I Corr

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WHY DO WE NEED TO BE COMPETENT AND CERTIFICATED?

BS EN 15257: 2006 – Competence and Certification

- CP provides a critical role to asset integrity and risk management. Therefore, it is essential that personnel have proven competence through training and experience.
- The standard is now a requirement across for the CP industry across Europe.
- Government procurement is OBLIGED to require compliance with BS ENs including 15257
- CP companies have a responsibility to undertake this scheme and provide the appropriate level of resource.