## INSTITUTE OF CORROSION

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# SENIOR Cathodic protection TECHNICIAN level 2

# certification Application in accordance with BS EN 15257

***TYPE or PRINT in black ink. This form is available in e-format from http://www.icorr.org.***

*Note that this form will be photocopied. Please send your completed form, copies of Certificates and supporting documents to:*

*Institute of Corrosion, Professional Assessment Committee, CP Sub Committee Chairman.*

*Note that the Institute of Corrosion needs this information, in addition to details of any courses and examinations that you have undertaken to assess your experience and competence in the field.*

## PART 1 - PERSONAL INFORMATION (If not relevant, insert N/A)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Title |  | Surname |  | Forenames |  | |
| Present Grade of Membership (if any) | | | TICorr/MICorr/FICorr | Membership Number | |  |
| Gender | | |  | Date of Birth | |  |
| Telephone Home | | | |  | | |
| Business | | | |  | | |
| Mobile | | | |  | | |
| Fax Home | | | |  | | |
| Business | | | |  | | |
| eMail Home | | | |  | | |
| Business | | | |  | | |
| Private Address (Including Postcode) | | | |  | | |
| Business Address (Including Postcode) | | | |  | | |

PART 2 - CRITERIA FOR SENIOR cathodic protection TECHNICIAN level 2 certification

Passed ICorr Level 2 Underground and Immersed Structures Cathodic Protection Course:

Certificate No(s):\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| ***Industrial Experience***  Please give details of at least your last 4 years’ experience immediately prior to this application to demonstrate your current professional practice giving Employer, dates and position. These should include reference to the tasks listed in Experience Report Tables 1 and 2  List what projects you were involved in and what tests you undertook or supervised: | Referees to initial for verification of experience |

***APPLICANT’S UNDERTAKINGS***

I wish to apply for registration as a Certificated Level 2 Senior Cathodic Protection Technician in the Sector (s) of:

**Underground and Immersed Metallic Structures (**Buried pipeline externals which may cross river/estuaries etc., buried tank externals, external bottoms of above ground storage tanks, well casings etc.)

**Attestation**

In signing and completing this form I confirm that the information given above is truthful and accurate. I acknowledge that my Certification can be withdrawn by the Institute of Corrosion if any element of the above information is shown to be false and that such withdrawal can be published by the Institute.

I also accept that the Institute of Corrosion will maintain records of my Certification and may disclose them at any time to any enquirer seeking personnel Certificated in Cathodic Protection. The Institute of Corrosion is authorised to make contact with me by the details that I have provided above.

I am also accepting and agreeing to work within the Code of Ethics for the Institute of Corrosion Scheme for Certification of Inspection and Cathodic Protection Personnel as detailed below:

**Code of Ethics for ICorr Certification of Inspection and Cathodic Protection Personnel**

This code must be upheld by all personnel Certificated to levels 1, 2 or 3 under the Institute of Corrosion’s *ICorr Certification Scheme* for Inspection and Cathodic Protection personnel engaged in painting and coating inspection, cathodic protection, and in inspection of pipe coating, insulation, fire proofing and metallic coatings.

This Code was approved by the Council of the Institute of Corrosion in December 2013.

Before ICorr Certification or Re-certification can be issued, participants in the scheme shall sign this Code of Ethics and undertake to comply with the following:

1. I undertake to uphold the dignity and good standing of my profession and the Institute of Corrosion and its Certification Scheme; I will observe the highest standards of ethical behaviour and obey local laws.
2. I will exercise due skill, care and diligence in all of my professional activities.
3. I acknowledge that my activities may impact on the health and safety of individuals, of the public at large, on the safety of plant and facilities on which I work and on the environment; I will be rigorous in the execution of my professional activities.
4. I shall not use ICorr Certification to mislead any individual, employer or authority by presenting it as testimony that applies to any task outside the scope of the Certification as declared on the ICorr Certificate. I shall not permit my ICorr Certification to be used by any other party nor shall I knowingly permit my Employer or others to misuse the Certification documents issued to me.
5. I shall always endeavour to become fully familiar with my duties and understand the scope of my authority prior to performing work. I shall not accept duties for which I am not trained and proficient; if I am requested to do so I will request – (in writing) – to receive additional training and mentored experience.
6. I recognise that it is my duty to perform tasks as I have been contracted to do and I shall not allow deviations from specified requirements unless given permission – (in writing) – to do so by a higher authority.
7. I will report – (preferably in writing) – to a higher authority if I am aware of any specified requirements which may lead to adverse work or conditions which were not intended.
8. I will endeavour to perform inspections, tests, measurements and any other work for which I have been contracted to the best of my ability and will inform my superior(s) – (in writing) – if I am unable to do so.
9. I will not accept gratuities of any kind which may affect my judgement in the work that I am performing as an ICorr Certificated individual.
10. I will endeavour to be fair, reasonable and objective towards the requirements for which I perform at all times.
11. I will not allow my work to be influenced by personalities or other individual considerations.

I hereby agree to uphold and abide by this code and I acknowledge that I may be subject to a disciplinary procedure which could result in loss of Certification if it can be proven that I have failed to comply or have provided false information associated with my participation in the scheme.

|  |  |  |
| --- | --- | --- |
| Name (Print) | Signature of Applicant: | Date |

**OPTIONAL**

**As a Level 2 Certificated Cathodic Protection you will be eligible to apply for the Professional Membership Technician Grade in the Institute of Corrosion: TICorr. If you wish to apply for TICorr and thus become a full member of ICorr and gain all the associated benefits, please tick the box**

|  |
| --- |
|  |

**Data Protection:** The Institute of Corrosion will register the information submitted on a database. If your application is successful details will be held on the Institute of Corrosion’s Certification Register. This publicly available register will include your name, the Institute of Corrosion, and your Level 2 Certification Number. I Corr may wish to use the information you supply in order to be able to communicate with individuals effectively. Level 2 Certified Senior Technicians have the right of access to the personal data held on them by I Corr and the right to prevent its use for direct marketing services.

|  |  |
| --- | --- |
| **If you wish to receive this information, please tick the box** |  |

There is no additional charge for Certification.

Please send your completed form, copies of Certificates and Professional Report (See Guidance Notes and Example) to the INSTITUTE OF CORROSION

EXPERIENCE REPORT

LEVEL 2 UNDERGROUND AND IMMERSED STRUCTURES

**All candidates are to fill in Table 1 and Table 2 to indicate their experience in the relevant tasks for Level 2 Certification. (See ICORR REQ DOC (CP).**

NOTE: To Candidate and Verifier:

It is not expected that the Candidate will have been taught or will have been examined on the theory and practice of ALL of the Tasks listed below, as part of the Institute of Corrosion training courses or examination that the Candidate originally undertook prior to Certification.

However, it IS expected that during their time of experience, before and after Certification, ALL of the tasks below have been taught to the Candidate, in the field or in the classroom, by his colleagues, his employer and his Level 2 or Level 3 Cathodic Protection supervisors. We rely on the Candidate and the Verifier to be honest and rigorous in the assessment below of whether the Candidate is competent in their understanding and execution of the specific tasks below (C) and whether the Candidate undertakes them regularly (at least once per month) (R). The Institute of Corrosion reserves the right to call Candidates for interview or examination in order to prove the validity of a proportion of applications for Certification.

Please enter N for any task that the Candidate does not understand and/or is not competent to undertake. It IS permitted for the Candidate to be specifically trained in these tasks by Level 2 or Level 3 supervisors, in the field or classroom, or by self-study and field application supervised by others, before completing this Certification Application. Any Candidate indicating lack of understanding or competence in any task may be called for additional training and examination by the Institute of Corrosion.

Please sign that you understand the above requirements:

Candidate……………………………………. Referees 1………………………………..

Print Names ………………………………… Referees 2………………………………..

Please complete the “Insert R or C” column with “R” for tasks you are deemed competent to carry out and have regularly carried out in your normal job activities, or “C” for those tasks you are deemed competent to carry out although you present duties may not require them to be used regularly. Insert N for tasks with which you are not familiar and are not deemed competent.

Tasks to be fulfilled in all application sectors

Table 1 details tasks which shall be fulfilled for Level 2 whatever the application sector. The field of application of each of these tasks covers only the application sector of the certificated individual.

**Table 1: Tasks to be fulfilled by the level 2 applicants**

|  |  |  |  |
| --- | --- | --- | --- |
| **Task No** | **Description of task** | **Level 2** | **Insert**  **R,C or N** |
| 2 | Training for the lower level(s) | YES |  |
| 4 | Preparation of technical instructions | YES for Level 1 |  |
| 5 | Collection of general information for design purposes based on technical instructions for simple conditions (as defined in B.1.2) | YES |  |
| 6 | Collection of detailed information and data for design purposes | YES |  |
| 7 | Pre-commissioning testing and energising of power supplies and check polarity | YES |  |
| 8 | Interpretation of commissioning or performance verification data and preparation of commissioning report, performance verification report or system review report for simple cathodic protection systems (as defined in B.1.2) | YES |  |
| 9 | Interpretation of commissioning or performance verification data and preparation of commissioning report, performance verification report or system review report for the other systems | YES (I) |  |
| 10 | Interpretation of function check data and preparation of function check report | YES |  |
| 11 | Determination of routine increase/decrease in current output to maintain optimum performance | YES |  |
| 12 | Determination of increase/decrease in current output to maintain optimum performance including remedial actions to correct anomalies and interferences | YES (T) |  |
| 13 | Awareness and compliance with safety requirements related to application of CP in the application sector, task and competence level | YES |  |
| 14 | Risk assessment of safety requirements related to application of cathodic protection in the application sector, task and competence level | YES |  |
| 15 | Expertise to investigate any case of material weight loss corrosion when application of cathodic protection may be involved | YES (O) |  |

* **YES (T)**means: Subject to sufficient documented training and competence in the specific task and/or equipment and/or safety training. This additional equipment and safety training is NOT part of certification;
* **YES (M)** means: Participates as a team member under direct supervision of a higher level who shall maintain responsibility;
* **YES (I)** means:Works to a technical instruction (method statement, procedure) by level 3;
* **YES (O)** means: Level 2 working with an organisation allowing supervision by a personnel certificated to level 3.

# Specific tasks for Underground and Immersed Structures application sector

Level 2 certificated personnel shall have a good understanding of:

|  |  |
| --- | --- |
| BS EN 12594:2001 | Cathodic protection of buried or immersed metallic structures — General principles and application for pipelines |
| [BS EN 13509:2003](http://shop.bsigroup.com/en/ProductDetail/?pid=000000000030105263) | Cathodic protection measurement techniques |
| BS EN 14505:2005 | Cathodic protection of complex structures |
| BS EN 15112:2006 | External cathodic protection of well casings |
| BS EN 16299:2013 | Cathodic protection of external surfaces of above ground storage tank bases in contact with soil or foundations |
| BS EN 50162:2004 | Protection against corrosion by stray current from direct current systems |
| BS EN 15280:2013 | Evaluation of a.c. corrosion likelihood of buried pipelines. Application to cathodically protected pipelines |
| ISO 15589-1:2003 | Petroleum, petrochemical and natural gas industries. Cathodic protection of pipeline transportation systems - On-land pipelines |

Table 2: Specific tasks to be fulfilled by Level 2 in Underground and Immersed Structures application sector

| **Task No** | **Description of task** | **Level 2** | **Insert**  **R, C or N** |
| --- | --- | --- | --- |
| 1 | Measurement of metal to electrolyte natural (free corrosion) potential | YES |  |
| 2 | Measurement of resistivity: four pins Wenner and soil box methods | YES |  |
| 3 | Design of simple CP systems for simple conditions (as defined in 5.3.ix and B.1.2). Examples are buried tanks or limited length pipelines | YES |  |
| 4 | Design of all other cathodic protection systems | YES (M) |  |
| 5 | Supervision of the preparation of steel for making cable connection and for repairing coating | YES |  |
| 6 | Supervision of the installation of cable connections: bolting, compression and conductive adhesive | YES |  |
| 7 | Supervision of the installation of cable connections: soldered, exothermic welded, pin brazed | YES (T) |  |
| 8 | Supervision of installation of galvanic anodes | YES |  |
| 9 | Supervision of installation of d.c. power supply (electrical a.c. supply excluded, depending on regulations) | YES |  |
| 10 | Supervision of the installation of deepwell anode groundbeds | YES |  |
| 11 | Supervision of the installation of other impressed current anode groundbeds | YES |  |
| 12 | Supervision of installation of isolation devices | YES |  |
| 13 | Supervision of installation of permanent reference electrodes (including calibration) and coupons (monitoring systems may be complex instrumentation, remote control or telecommunication systems requiring specialist knowledge and training) | YES |  |
| 14 | Supervision of installation of a.c. mitigation earthing electrodes and d.c. decoupling devices | YES |  |
| 15 | Verification of the electrical continuity of all parts of the structure to be protected | YES |  |
| 16 | Localisation of pipeline, concrete steel reinforcement and foreign metallic structures | YES |  |
| 17 | Checking of d.c. power supply output polarity | YES |  |
| 18 | Inspection & testing of isolation and surge protection devices | YES |  |
| 19 | Measurement of current and voltage in the CP circuit | YES |  |
| 20 | Inspection & measurement of d.c. power supply output current and voltage | YES |  |
| 21 | Inspection & verification of d.c. power supply overall operations | YES |  |
| 22 | Inspection & maintenance of d.c. power supply output terminations | YES |  |
| 23 | Inspection & maintenance of d.c. power supply components (extent depending on regulations) | YES |  |
| 24 | Verification of d.c. power supply voltage and current outputs with portable calibrated meter | YES |  |
| 25 | Measurement of metal to electrolyte ON potential | YES |  |
| 26 | Measurement of metal to electrolyte instant OFF potential | YES |  |
| 27 | Close interval potential survey (ON) | YES |  |
| 28 | Close interval polarised potential survey (ON/Instant OFF) | YES |  |
| 29 | Establishment and confirmation of synchronisation of current interruptions for instant OFF measurements | YES |  |
| 30 | Measurement of ON and IR free potential and current both d.c. and a.c. on coupons | YES |  |
| 31 | Measurement of potential gradients in soil | YES |  |
| 32 | Intensive measurements as defined in EN 13509 | YES |  |
| 33 | a.c. frequency current signal attenuation measurements | YES |  |
| 34 | Direct Current Voltage Gradient (DCVG), non recording, as defined in EN 13509 | YES |  |
| 35 | Direct Current Voltage Gradient (DCVG) with recording of digital measurements | YES |  |
| 36 | Pearson surveys | YES |  |
| 37 | Interference testing | YES |  |
| 38 | Analysis and treatment of dc interferences | YES (M) |  |
| 39 | Analysis and treatment of ac interferences | YES (M) |  |
| 40 | Supervision of cable and connection repair | YES |  |
| 41 | Test casings for isolation from carrier pipe | YES |  |
| 42 | Interpretation of data and analysis of anomalies detected | YES |  |
| 43 | Visual inspection of pipeline and cathodic protection system components: Physical damage to pipeline and cathodic protection system, coating damage, corrosion damage. | YES |  |

* **YES (T)**means: Subject to sufficient documented training and competence in the specific task and/or equipment and/or safety training. This additional equipment and safety training is NOT part of certification;
* **YES (M)** means: Participates as a team member under direct supervision of a higher level who shall maintain responsibility;
* **YES (I)** means:Works to a technical instruction (method statement, procedure) by level 3;
* **YES (O)** means: Level 2 working with an organisation allowing supervision by a personnel certificated to level 3.

**REFEREES**

Referees should be Professional Members of the Institute of Corrosion who are established Cathodic Protection Engineers, (preferably Certificated Level 3) who have known the Applicant personally and professionally for a minimum of three years. Two Referees are required, one of whom has direct knowledge of the applicants employment. If the MICorr referees cannot be found, a Professional Member of an alternative Engineering Institute who has direct knowledge of the applicant’s employment (e.g. supervisor or line manager) will be acceptable.

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I confirm that I have read the Criteria for Level 2 Certification and confirm that the applicant is competent to carry out the tasks listed above. I recommend that the applicant, to the best of my knowledge and belief, is a fit person to be registered as a Certificated Level 2 Senior Cathodic Protection Technician through the Institute of Corrosion. I agree, on request of the Institute of Corrosion, to provide a confidential written reference.

**Referee 1**

|  |  |  |  |
| --- | --- | --- | --- |
| Name |  | Qualification |  |
| Address |  | Signature |  |
| Date |  |
| Tel No |  | Email |  |

**Referee 2**

|  |  |  |  |
| --- | --- | --- | --- |
| Name |  | Qualification |  |
| Address |  | Signature |  |
| Date |  |
| Tel No |  | Email |  |

For office tracking and recording

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Name** | | |  | | | | | |
| **Individual Application Number** | | **CP** |  | | | | **Date of Award** |  |
| **Individual Certificate Number** | | **CP** |  | | | | **Date for Renewal** |  |
|  | Checked by | | | Date |  | Checked By | | Date |
| Received |  | | |  | Assessors |  | |  |
|  |  | | |  | Committee Chairman |  | |  |
| Acknowledged |  | | |  | Certificate |  | |  |
| Referees |  | | |  | CP register |  | |  |