

# CONDITIONS OF ALLOCATION OF CERTIFICATION

Initial certification, renewal and re-certification

Revision: 13

PR /1000

Page 1/ 22

Page		SUMMAR	Υ.Υ					
2	1. Scop	e						
2	2.Field	of application						
2	3. Refer	rence documents						
3	4. Term	s and definitions						
5	5. Com	petence levels of the personnel						
6	6. Eligit	bility requirements						
9	7. Cond	litions of allocation of the certification						
10	8. Orga	8. Organization of certification exams						
15	9. Decis	9. Decision to award the certification						
16	10. Res	it examination						
16	11. Frau	udulent acts						
16	12. Con	nplaints and appeals						
16	13. Cert	tificates						
17	14. Cert	tification renewal						
18	15. Re-0	certification						
22	16. Cert	tification for renewal and re-certification						
22	17. Con	fidentiality						

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## 1. <u>Scope</u>

This document describes the prior requirements and the methods of allocation of the CEFRACOR Certification certificates to the personnel in cathodic protection as specified by the Conseil Français de la Protection Cathodique (CFPC). CFPC is a department of the CEFRACOR acting as a Certification Body, in agreement with the standards EN ISO/CEI 17024: 2012 version and EN ISO 15257: 2017 version.

## 2. Field of application

This procedure specifies the conditions of allocation of the "CEFRACOR Certification" certificates to the personnel in cathodic protection for five competence levels in the following application sectors:

- on-land metallic structures (Application sector "Land");
- marine metallic structures (Application sector "Seawater");
- reinforced concrete structures (Application sector "Concrete");
- inner surfaces of metallic structures (Application sector "Internal surfaces").

At present operated combinations are :

Application ector	Level 1	Level 2	Level 3	Level 4	Level 5
Land	Yes (**)	Yes	Yes	Yes (**)	Yes (*)
Seawater	Yes	Yes	Yes	Yes (**)	Yes (*)
Concrete	Yes (**)	Yes	Yes (*)	No	Yes (*)
Internal surfaces	No	No	No	No	Yes (*)

(\*) planned end 2018

(\*\*) planned beginning 2019

## 3. <u>Reference documents</u>

EN ISO/IEC 17024: 2012: Conformity assessment - General requirements for bodies operating certification for persons.

EN ISO 15257: 2017 Cathodic protection — Competence levels of cathodic protection persons — Basis for a certification scheme

**CFPC Quality Manual** 

CFPC Procedure PR/5000 : Certification Process

CFPC Procedure PR/2000 : Evaluation and process of complaints and appeals

CFPC Procedure PR/7000 : Examination Centre - Rules and approval

CFPC Procedure PR/16000 : Follow-up of certified persons

#### PR/1000 - Rev. 13

page 2 / 22

## 4. Terms and definitions

The different terms and definitions which apply in this document are described in clause 3 of EN ISO 15257: 2017 standard.

These definitions are detailed and completed below:

## **Application sector**

Particular section of industry or technology where specialized cathodic protection survey, design, installation, testing and maintenance practices are used or the science of cathodic protection is advanced, requiring specific sector-related knowledge, skill, equipment or *training* 

#### Evaluation

Process enabling to evaluate that a person fulfills the requirements of the certification scheme

## Evaluation :

Process for assessing that a person meets the requirements of the certification scheme.

## **Evaluation committee**

Group appointed by the certification body which reviews applications and examination results and determines compliance with the requirements for CP certifications offered by the certification body

#### **CP** person

Person who devotes a regular and significant percentage of his professional activity to the practical application of cathodic protection within one or more of the *application sectors*.

## Significant interruption

Period of time in which a *CP person* has not practised the duties or undertaken *training* corresponding to his level of *competence* within an *application sector*. A significant interruption comprises a continuous period in excess of 1,5 years or two or more periods for a total time exceeding 3 years during the validity of the certificate.

## Competence

Ability of a CP person to apply knowledge and skill to achieve intended results at specific levels and in specific application sectors

#### **Complex structure**

System comprising the structure to be protected connected to one or more foreign electrodes and/or crossing multiple connected electrodes or passing close or through steel-reinforced concrete

#### **Examination centre**

Place for the examination of *competence* in cathodic protection. The centre includes testing facilities to simulate the conditions that normally exist in real cathodic protection of operating industrial structures for a given *application sector* 

#### Examiner

Person with relevant technical and personal qualifications, and competent to conduct and/or score an examination

#### Invigilator

Person having competence to manage and supervise an examination but who does not evaluate the competence of a candidate

## Industrial cathodic protection experience

Practice in the applicable cathodic protection techniques and *application sector(s)* concerned, which leads to the required skill and knowledge

#### Simple cathodic protection system

Cathodic protection system in in simple uniform and stable conditions for which the design follows identified and defined, auditable procedural steps as developed by a person certificated to Level 4

#### **Technical instruction**

Written description, method statement or work instruction stating the precise steps to be followed in a cathodic protection survey, design, installation, testing or maintenance activity to an established standard, code, specification or cathodic protection procedure

#### **Technical report**

Written report intended to transmit engineering information of a complex, analytical nature

#### certification scheme

Document defining the measures to evaluate competence linked to categories of professional people who have specific qualifications or know-how to do. For the "CEFRACOR Certification" certification body the certification scheme is the EN ISO15257: 2017 Standard Cathodic protection — Competence levels of cathodic protection persons — Basis for a certification scheme

#### Certification scheme owner

The organization responsible for the development and the upholding of the certification scheme is CFPC « Conseil Francais de la Protection Cathodique, department of CEFRACOR.

#### Sectoral committee:

Committee depending on CFPC. It takes part in the management of certification in a given application sector.

#### Employer:

Entity for which the candidate works in a regular way (if applicable).

#### Applicant

Person who has submitted an application for his admission to a certification process

## Candidate

Applicant who meets the requirements and is allowed to take the certification examination

#### **Examination session**

Part of the certification exam. For Levels 1-4, the exam consists of three exam sessions. Two theoretical sessions (a core session and a specific session) and a practical sectoral session. Each session comprises tests allowing to evaluate the required competences .

#### Initial certification examination:

Set of tests constituting the initial evaluation of a candidate for a given competence level. This set allows to measure and certify the competence of the candidate by written, oral and practical examination defined in the particular measures of certification and organized according to CFPC procedures.

#### **Renewal process**

Mechanism constituting the evaluation of a candidate for the renewal of certification 5 years after his initial certification or after a re-certification.

#### **Resit examination:**

Set of simplified tests enabling the evaluation of a candidate for his re-certification 10 years after his initial certification and then every 10 years, or in case of failure of the renewal process.

#### **Certification resit examination**

Measures enabling, in case of partial failure in initial exam or re-certification exam to take again all or apart of the tests.

## Training

Theoretical and practical instructions given in conformity to a pre-established programme in order to furnish or increase the knowledge and the ability of *CP persons* in cathodic protection activities

## Training centre

The training centre includes demonstration and testing facilities to simulate the electrical conditions that normally exist in real cathodic protection of operating industrial structures for a given *application sector* for which the training of a CP person is carried out.

## 5. Competence levels of the personnel

A certified personnel in accordance with the EN ISO15257: 2017 standard has to be classified in one or more of the levels defined below, for a given application sector.

A detailed description of competence requirements is given in clause 6 of EN ISO 15257: 2017.

## Level 1 (Tester in cathodic protection)

Level 1 CP persons shall be competent

- to perform routine system operation measurements as well as a limited number of specific measurements to determine the effective implementation of CP systems.
- to collect CP performance data of simple CP systems
- to perform other basic CP tasks in accordance with technical instructions and procedures produced by Level 3 or higher persons
- to record the data to a format produced by Level 3, or higher persons and under their responsibility.
- to understand the fundamentals of the measurements that they are required to undertake, the common causes of errors in these measurements and the related safety issues.

Level 1 CP persons shall not be responsible for analysing the data.

## Level 2 (Cathodic protection technician)

In addition to the competencies for Level 1 CP persons, Level 2 CP persons shall be competent to:

- to undertake a range of CP measurement, inspection and supervisory activities in accordance with technical instructions and procedures produced by Level 3 or higher persons,
- to collate and classify the data under their responsibility.
- to know the fundamentals of electricity, corrosion, coatings, CP and measurement techniques, safety issues and applicable standards related to CP.
- to check the calibration validity of the CP measuring and testing equipment,
- to supervise and perform inspection and testing during installation of CP systems and carry out routine maintenance work on CP systems.

Level 2 persons shall not be responsible for the choice of test method, the technique to be used, preparing the technical instructions or the interpretation of test results .

# Level 3 (Cathodic protection senior technician)

In addition to the competencies for Level 2 persons, Level 3 persons shall be competent:

- to know the general principles of corrosion and CP, the principles of electricity, the significance of coatings and their influence on CP and a detailed knowledge of CP test procedures and safety issues.
- to understand and be competent to perform CP tasks according to established or recognized procedures.
- to carry out and supervise all Level 1 and Level 2 duties and to provide guidance for persons at Level 1 and Level 2.
- to prepare technical instructions for all CP persons of lower-level competence and assess all data collected from these tasks.

# Level 4 (Cathodic protection specialist)

In addition to the competences for Level 3 persons, Level 4 persons shall be competent:

- to have detailed knowledge of corrosion theory, principles of electricity, CP design, installation, commissioning, testing and performance evaluation, including systems affected by interfering conditions.
- to establishing testing and performance criteria where none are otherwise available. They shall have a general familiarity with CP in all application sectors.
- to design CP systems including those where no pre-set parameters or procedural steps exist. to define the guidelines for specifying, designing and monitoring CP systems.
- to consider technical and safety aspects.
- to prepare technical instructions for all CP persons of lower-level competence and assess all data collected from these tasks.

In all of these activities, Level 4 persons are not required to be supervised by Level 5 or other persons.

# Level 5 (Cathodic protection expert)

In addition to the competencies for Level 4 persons, Level 5 CP persons shall be competent

- to make the state of the art of CP evaluate by scientific work and peer-reviewed publications and shall have made a marked and original contribution to the science or practice of corrosion control by CP.
- to have all the competences required for Level 4 persons in at least one sector have detailed knowledge of CP and a range of competences in all sectors have in at least one of the sectors an established and mature reputation as a CP specialist at the highest level.
- to undertake a range of high-level activities such as management of R&D projects, publications in technical or scientific journals or books, lectures at congresses or training courses, participation in standardization or technical committees, lead in the development of new technology or new applications, editing scientific journals and/or other activities as described in Annex B.5. of EN ISO 15257: 2017.

## 6 Eligibility requirements

## 6.1 Eligibility requirements for levels 1 to 4

The eligibility of CP persons for the assessment of competence is demonstrated by means of a registration file including in other:

- the applicant's personal information
- a declaration relating to initial training, continuing education and industrial experience.
- practical experience in CP

## 6.1.1. Industrial experience according to the initial training

The minimum requirements concerning the duration of the experience in cathodic protection, in order to be able to acquire the certification are defined in the following table. The durations shown in this table refer to a minimum activity in CP of 20%.

# Minimum education and experience requirements for each level for candidates with no previous certification for the specific application sector

Target level	Initial level in the same sector	Initial education	Minimum experience in CP witout certification in a different sector (years)	Minimum experience in CP being certified in a different application sector at the same level (years)
		Relevant engineering or scientific discipline degree (BSc, BEng or equivalent) and specialized education in the corrosion field (significant		
		corrosion content at BSc or BEng level or significant post graduate		2
1	U	corrosion study or research) Technical education	0	0
		Other education (requires basic mathematical skills)	0	0
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		Relevant engineering or scientific discipline degree (BSc, BEng or equivalent) and specialized education in the corrosion field (significant corrosion content at BSc or BEng Level or significant post graduate		
2	0 or 1	corrosion study or research)	1	0.5
		Technical education	1	0.5
		Other education (requires basic mathematical skills)	1	0.5
	0	Relevant engineering or scientific discipline degree (BSc, BEng or equivalent) and specialized education in the corrosion field (significant corrosion content at BSc or BEng Level or significant post graduate corrosion study or research)	2	1.5
		Technical education	3	2
		Other education (requires basic mathematical skills)	4	3
3	1	Relevant engineering or scientific discipline degree (BSc, BEng or equivalent) and specialized education in the corrosion field (significant corrosion content at BSc or BEng Level or significant post graduate corrosion study or research)	2	1.5
		Technical education	3	2
		Other education (requires basic mathematical skills)	4	3
	2	Relevant engineering or scientific discipline degree (BSc, BEng or equivalent) and specialized education in the corrosion field (significant corrosion content at BSc or BEng Level or significant post graduate corrosion study or research)	1	1.5
		Technical education	2	2
		Other education (requires basic mathematical skills)	3	3

	0 and 1	Relevant engineering or scientific discipline degree (BSc, BEng or equivalent) and specialized education in the corrosion field (significant corrosion content at BSc or BEng level or significant post graduate corrosion study or research)	5	1.5
		Technical education	8	2
		Other education (requires basic mathematical skills)	12	3
4	2	Relevant engineering or scientific discipline degree (BSc, BEng or equivalent) and specialized education in the corrosion field (significant corrosion content at BSc or BEng level or significant post graduate corrosion study or research)	4	1.5
		Technical education	7	2
		Other education (requires basic mathematical skills)	11	3
		Relevant engineering or scientific discipline degree (BSc, BEng or equivalent) and specialized education in the corrosion field (significant corrosion content at BSc or BEng level or significant post graduate corrosion study or research)	3	1.5
	3	Technical education	5	2
		Other education (requires basic mathematical skills)	8	3
5	4	Certified level N4 in the same application sector since at least three years	3 starting from level N4 certification date in the same sector	NA

The durations shown in the above table refer to a minimum activity in CP of 20%.

"Other education" includes candidates who may have had no formal post-school education or whose postschool education does not include relevant scientific or engineering content.

Candidates of a higher level in one sector can apply for a lower level in another sector and shall comply with the minimum requirements listed in the above table in the new sector.

## 6.1.2 Training

CP persons shall provide documentary proof that they have completed a period of training in the application sector and level.

The minimum training period, through recognized course(s) or by self-study method and syllabus under supervision shall be as follows:

# The theoretical and practical knowledge and skill required for all application sectors and levels are detailed in clause 6 of EN ISO 15257: 2017 standard.

Initial level	Target level	Training duration
0	1	2 days
0 or 1	2	5 days
0 or 1	3	10 days

2	3	5 days
1	2	40 h
0,1,2,or3		To obtain a level 4 in CP a minimum training period is not required. The applicants must be able to submit a relevant documentation related to their training, theoretical knowledge, continuous vocational training and practical skill in CP. The training period, its method and its content must be sufficient to transmit knowledge and skill.
	1	Requirements of skill and will be based on:
	<ul> <li>possession of university education</li> <li>participation in established induction</li> </ul>	<ul> <li>possession of a relevant technical or scientific degree or completion of a period of university education at a higher education institution;</li> </ul>
		<ul> <li>participation in training courses, conferences or seminars (such as those organized by established industry or independent associations);</li> </ul>
		• • the study of scientific or technical manuals, journals and other specialized documents
		To obtain a level 5 in CP, a minimum duration of training is not required Given the scientific and technical skills required for applicants, the competency requirements will be:
		<ul> <li>have at least Level 4 skills in the same application sector;</li> </ul>
4 (only)	5	<ul> <li>have detailed knowledge of corrosion and CP and a wide range of skills in all sectors;</li> </ul>
. (01.19)		<ul> <li>have made significant contributions to the development of CP technology, for example, by providing technical leadership in the development of new CP technologies and applications, publishing research results, or being a long-standing member of committees recognized standards;</li> </ul>
		• have the competence to make scientific and technological advances in CP practice and corrosion control applications, and have made a significant and original contribution to the science or practice of corrosion control. by CP.

## 6.2. Verification of eligibility conditions

The eligibility requirements are checked by the concerned Evaluation Committee which relies on the registration request file for the examination of certification that each applying candidate has to fill out. These files are accessible from the website <u>http://www.protectioncathodique.net</u> on the page called: Certification – CFPC, tab "Exams registration" (link from the Website <u>http://www.cefracor.org</u>).

In case the applicant expresses a consideration of special needs through their registration file, the responsible of the Evaluation Committee examines the relevance of these particular needs and considers if they are valid.

Moreover the applicant as well as his or her possible employer commit themselves, during the registration request:

- to respect the ethic rules specified in the procedure PR/4000 "Conditions of use of "CEFRACOR certification" mark code of ethics
- to pay the registration fee for the examination sessions.

For levels 1, 2, 3 and 4 the applicant must have an adequate physical ability to reach the outdoor facilities and to carry out the practical work in acceptable safety conditions.

#### 6.3 Insurance

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The candidate will have to make sure, or check that he is insured against the risks of personal or material injuries (Liability Insurance) that can occur during his stay in the Examination Centre or during his transportation.

In case of any disaster occurring because of the candidate, his liability will be total and the candidate cannot prevail over a partial or total lack of information.

#### 7. Conditions of allocation of certification

## 7.1 Conditions of allocation of certification for levels 1, 2, 3 and 4

The allocation of certification in cathodic protection for a definite level and sector is subjected to

- the respect of the conditions of admissibility mentioned in the previous paragraph
- and to the successful completion of a certification examination, the procedures and organization of which are defined in the procedure CFPC PR/5000 "Process of Certification"

## .7.2 Conditions of allocation of certification for level 5

The allocation of certification in cathodic protection for a level 5 in a definite sector is subjected to :

- compliance with the conditions of admissibility mentioned in the preceding paragraph of this document
- a positive assessment of a competency file provided by the candidate and an interview during which the candidate will present one or more significant achievements of his activity. The modalities and organization of these evaluations are defined below and in CFPC procedure PR/5000 "Process of Certification".

## **8 Organization of certification exams**

## 8.1 Organization of the examinations of certification for levels 1, 2, 3 and 4

The examination Organization of the examinations of certification for levels 1, 2,3 and 4 take place in the approved Examination Centre according to the procedure PR/7000 "Rules and approval for the Examination Centres" in accordance with the procedure PR/5000" Certification process".

The candidate must have valid and unambiguous proof of identity (eg identity card, passport or driver's license with photo ID) and an official convocation for the examination.

The theoretical and practical sessions are done without personal document, nor notes or programmable calculator. The necessary data such as abstracts of standards, graphs or numerical tables, ..., are provided to the candidate the day of the examination if necessary.

Any candidate commits himself during the examination not making fraudulent acts or in being accessory and not to recover and reveal confidential documents. Any candidate who, during the examination, does not respect the rules, commits a fraudulent act or who is accomplice in such an act, is excluded from the rest of the sessions and / or will be subject to sanctions. The candidate has to wait at least one year before being allowed to apply for a new examination.

The conditions of equity, validity and reliability of operating and use of an Examination Center to organized the exam sessions are defined for 5 domains (personnel, buildings, installation, material and weather conditions) in the specific registration document according to four performance levels from 1 for the highest performance level to 4 for the lowest.

If only one performance degree is equal to 1, it is considered that equity, validity and reliability are not respected. So, it will be necessary to find conditions that will enable to raise this performance degree before continuing the certification examination.

If two performance degrees have a grade equal to 2, it is considered that equity, validity and reliability are not respected. So, it will be necessary to find conditions that will enable to raise at least one of these performance degrees before continuing the certification examination.

In case a performance degree equals to 1 or 2, except for those that be due to weather conditions, a corrective action or a correction will be required and set up. These actions will be regularly followed during the annual executive meetings. That will enable to reaffirm the upholding of equity, validity and reliability of the general functioning of each examination and to handle any detected dysfunction.

## There are three examination sessions:

**Two theoretical sessions** based on a multiple-choice questionnaire (MCQ) coming from a collection of unpublished questions.

one theoretical session about the Common-core It must allow the candidate to show that he
has the general required knowledge for the comprehension of the phenomena of corrosion,
cathodic protection defined in table 1 of section 6.2 "Knowledge requirements for all
application sectors and for all levels" of EN ISO 15257: 2017 standard.

- one theoretical "Sectoral" session. It must allow the candidate to show that he has the necessary knowledge and theoretical competences to undertake the tasks corresponding to the concerned application sector as defined in the clauses:
- 6.3 "Tasks to be fulfilled for all application sectors for levels 1 to 4"
- 6.4 "Specific tasks for on-land metallic structures application sector for Levels 1 to 4"
- 6.5 " Specific tasks for marine metallic structures application sector for Levels 1 to 4
- 6.6 "Specific tasks for the area of application of reinforced concrete structures for levels 1 to 4
- 6.7 " Specific tasks for inner surfaces of metallic structures application sector for levels 1 to 4."

of EN ISO 15257: 2017 standard.

For these two sessions, the questions are selected in a random way in the collection of questions of general knowledge for the Common-core and in the collection of specific questions regarding the concerned application sector.

A practical session test is based on a number of tests depending on the certification level aimed. They must enable the candidate to demonstrate that he has the knowledge and practical skills necessary to undertake the tasks corresponding to the relevant application sector defined in EN ISO 15257: 2017 in the paragraphs:

- 6.3 "Tasks to be fulfilled for all application sectors for levels 1 to 4"
- 6.4 "Specific tasks for on-land metallic structures application sector for Levels 1 to 4"
- 6.5 " Specific tasks for marine metallic structures application sector for Levels 1 to 4
- 6.6 "Specific tasks for the area of application of reinforced concrete structures for levels 1 to 4
- 6.7 " Specific tasks for inner surfaces of metallic structures application sector for levels 1 to 4."

The three session tests are scored separately in order to:

- allow the candidate to apply for certification in another application sector for the same skill level without a new Common Core test
- In the event of failure, do not have to pass the successful session tests during the examination.

Each session is scored according to Table 5.

In order for a candidate to be certified, the final mark for the exam, calculated on 100, must be greater than or equal to 70/100 without an eliminatory mark of less than 6/10 at any of the sessions for level 3 and 4 and without eliminatory marks lower than 6/10 in the practical session and 5/10 in the theoretical sessions (MCQ) for levels 1 and 2.

The examination sessions are led, supervised and corrected by at least one examiner, who can be helped by one or several invigilators. These ones can manage or supervise an examination but do not evaluate the competence of a candidate. The examiner is responsible of the management and the grading of a session. The invigilator can manage the practical tests and supervise the written tests under the responsibility of the latter in his absence.

A CFPC personnel who has trained, within the two previous years, one of the candidates or who has been employed in the same company as one of the candidates cannot be an examiner of this or these candidate(s).

A CFPC personnel who has trained one of the candidates or who has been employed in the same company as one of the candidates can be a invigilator.

The examiners attest their independence and their integrity and guarantee the confidentiality of all the information collected during the process of evaluation of the candidates.

The examiners must declare the absence of potential conflict of interests with any candidate in the specific document.

In the particular case of a candidate belonging to CFPC, a special procedure is applied to avoid any conflict of interest. This procedure is described in PR/10000 "Management of Persons Involved in Certification".

The number of questions per test for the theoretical sessions and the number of tests scheduled for the practical session as well as the total time allocated and the weight of the notation are presented in the Tables below.

## Number of exam questions for the theoretical sessions

Level	Number of questions asked for the session "Common Core"	Allotted time	Weight of notation / 100	Number of questions asked for the session "Sectoral Theoretical"	Allotted time	Weight of notation / 100
1	10	20 mn	10/100	20	40 mn	20/100
2	20	45 mn	20/100	20	45 mn	20/100
3	25	75 mn	25/100	25	75 mn	25/100
4	20	60 mn	20/100	20	60 mn	20/100

## Number of exams for the practical session

For the Land application sector

Levels	Test 1	Alloted time	Weight of notation / 100	Test 2	Alloted time	Weight of notation	Test 3	Alloted time	Weight of notation
1	Potential measurements on structure (Eon)	30 mn*	40/100	Additional simple measurements on structure or in lab	30 mn*	30/100			
2	Potential measurements on structure (Eon and Eoff measure indicator gradient RI )	30 mn*	30/100	Additional measurements on structure (resistivity, soil measures,)	30 mn*	20/100	In lab measurements	30 mn*	10/100
3	Potential measurements or OM implementation ( on structure or in lab)	30 mn*	10/100	Write technical instructions for N2 level	90 mn	10/100	Analysis of a report with common anomalies, simple CP sizing	150 mn	30/100
4	Oral exam about structures and systems or their simulations.	60 mn*	20/100	Write a technical report	120 mn	20/100	Analysis of a report with no simple anomalies complex CP sizing	120 mn	20/100

## For the Marine metallic structures application sector

Levels	Test 1	Alloted time	Weight of notation /100	Test 2	Alloted time	Weight of notation/ 100	Test 3	Alloted time	Weight of notation /100
1	Potential measurements on structure (Eon)	30 mn*	40/100	Additional simple measurements in tank or in lab	30 mn*	30/100			
2	Potential measurements on structure (Eon, Eoff)	30 mn*	30/100	Additional measurements in tank	30 mn*	20/100	In lab measurements	30 mn*	10/100
3	Potential measurements on structure (Eon, Eoff)	30 mn*	15/100	Write technical instructions for N2 level	60 mn	10/100	Analysis of a report with common anomalies, simple CP sizing	150 mn	25/100
4	Oral exam about structures and systems or their simulations.	60 mn*	20/100	To write a technical report (case analysis)	120 mn	20/100	Complex CP sizing	120 mn	20/100

For the concrete application sector

Levels	Test 1	Alloted time	Weight of notation /100	Test 2	Alloted time	Weight of notation /100	Test 3	Alloted time	Weight of notation /100
1	Potential measurements on structure (Eon)	30 mn*	40/100	Additional simple measurements on structure or in lab	30 mn*	30/100			
2	Potential measurements on structure (Eon, Eoff)	30 mn*	30/100	Additional measurements on structure	30 mn*	20/100	In lab measurements	30 mn*	10/100
3	Potential measurements on structure or in lab (Eon, Eoff)	30 mn*	10/100	Write technical instructions for N2 level	90 mn	10/100	Analysis of a report with common anomalies, simple CP sizing	150 mn	30/100
4	Oral exam about structures and systems or their simulations.	60 mn*	20/100	To write a technical report (case analysis)	120 mn	20/100	Complex CP sizing	120 mn	20/100

(\*) the indicated time takes into account the preparation by the candidate

# 8.1.1 Respect of the conditions of non-variability and equity of the different theoretical and practical tests

The respect of the conditions of non-variability and equity of the different theoretical and practical tests that the candidates can take during different examinations, is done through a comparability tool that compares tests levels.

The comparability tool also enables to understand the sensitivity of the examiners with regard to the evaluation of the answers that is done during the practical tests.

The analysis of the results of this tool is done every year during the executive meeting in order to reaffirm the equity, validity and reliability of the evaluation system.

If a significant variability is noted between the theoretical tests or practical tests that is to say:

• ± 2 points/20 compared to the average of all the same subjects and this on a minimum panel of 10 candidates,

a modification of the concerned test is done in order to homogenize its degree of difficulty compared to the other tests. This one is carried out by the ad hoc Sectoral Committee.

In case of a significant difference between grades for the same practical test for an examiner, that is to say:

•  $\pm$  2 points/20 compared to the average of the given grades by all of the other examiners and this on a minimal panel of 10 candidates,

a search for causes is made and actions are undertaken.

## 8.1.2 Exemptions of competence evaluation

The certified personnel of level 1,2,3 or 4 in a given sector of application and applying for another sector of application is exempted, if he or asks it, to take the Common Core session. The candidate keep then the grade he got at the previous exam for the Common Core session.

Candidates are required to retake the theoretical and practical sector exam sessions related to the new application sector.

## 8.2. Organization of the assessment of certification for level 5

There are three steps for the assessment process, each one being activated only after validation of the previous one:

## <u>Step1 :</u>

Study of the admissibility of the registration application by the Evaluation Committee

## <u>Step 2 :</u>

Study and grading by the members of the Evaluation Committee of a proficiency record written by the candidate detailing and documenting the qualifications in initial training, scientific or technical of the active person in CP namely:

- the extent of his experience as a manager in the particular application sector;
- examples of design documents, reports, or technical articles prepared by the CP Person;
- demonstration of a high level of understanding and a wide range of skills in all areas of CP;
- demonstration of the candidate's continuing professional education and the fact that his expertise is at the forefront of technology and is fully up-to-date with CP practice;
- demonstration that it has made important contributions to the development of science and technology in CP.

The dossier shall demonstrate compliance with all of the above without exception.

Candidates for Level 5 shall provide a dossier that is valued by credit points in the following scheme and have at least 60 credit points at the time of application to be eligible for Level 5. :

- executed R&D projects: 5 credit points per R&D project;
- executed engineering projects with sole or premier responsibility for significantly complex or novel CP designs: 5 credit points per project;

- editor or member of scientific board in technical or scientific journals: 2 credit points per year of job execution;
- publications in technical or scientific journals or books: 2 credit points per publication;
- lectures at congresses or training courses: 1 credit point per lecture;
- participation in standard or technical committees: 1 credit point per committee and year (e.g. 10 credit points if 10 years membership is demonstrated), 2 credit points for convenorship;
- patents that have been substantially applied: 5 credit points per patent;
- technical lead in the development of new technology or new applications: 5 credit points per item.

The dossier shall include technical instructions by a minimum of two independent CP persons with a competence of at least Level 4 familiar with the work of the concerned CP persons who shall attest to the veracity and accuracy of the dossier.

## Step 3 :

Assessment of the candidate's competence on the basis of an interview during which the candidate will present one or more significant achievements of his activity. During this interview, the Evaluation Committee will be able to ask all the technical questions relating to the skills that an N5 certified must possess in accordance with the aspects mentioned in clause 6.8 of the ISO 15257: 2017 standard.

The grading of the assessment is done in 2 steps:

Rating the content of the competency file according to a scale of points cited above. A credit score of 60 or more is required for the candidate to conduct his interview before the Evaluation Committee.

Rating of the interview on the mastery of the subject, the theoretical knowledge, the clarity of the expression, relevance of the answers to the questions asked widened to the field of certification aimed: a note superior to 70 / 100 is required for the candidate to qualify for certification

The elements to be taken into account for the interview rating are shown in the table below.

The interview is conducted in a suitable place to receive, under good conditions, the candidate and the members of the evaluation committee.

The candidate must have valid and unambiguous proof of identity (eg identity card, passport or driver's license with photo ID) and an official notice of the assessment.

Object	Evaluated fields	Grading scale
	Technical and/or scientific content of the document	0 to 30
Level of achievement (s) presented	Quality of the document (drafting, presentation)	0 to 10
	Mastery of the subject, theoretical knowledge	0 to 25
Level of	Clarity of talk	0 to 10
exchanges during the interview with the candidate	Relevance of the answers to the questions asked	0 to 25
Total		0 to 100

## Rating elements for level 5

## 9 Decision to award the certification

After an exam session for levels 1, 2, 3 and 4 or an evaluation for a level 5 an Evaluation Committee with at least 3 members which certification level is at least Level 3 or equal to that of the examination to be evaluated is organized. They can either physically meet or do it through a conference call to rule on the exam results.

The Evaluation Committee gets together as soon as possible after the end of the grading by the examiner for the exam sessions for levels 1, 2, 3 and 4 and the very same day for the evaluation sessions of level 5. The Evaluation Committee examines the obtained results and the recommendations of the examiner or evaluators in order to decide which are the candidates accepted for the certification.

If the candidate meets the conditions of certification allocation as indicated in the present document so the case will not be discussed.

A potential resit examination in order to decide to accept the certification for a candidate will only take place if this candidate, for levels 1 up to 4,does not have an eliminatory grade at the various tests and if he does not have more than two points less for the whole test compared to the minimum grade to get (70/100).

Under these conditions and by taking into account the recommendations of the examiner, there will be an analysis of the reasons of this variation by the members of the Evaluation Committee who did not take part in the examination nor in the training of the candidate. If these reasons are not likely to endanger the durability of the protected works or to be protected, the candidate could pass.

For level 5, if the score of the interview is between 65/100 and 70/100, there is consultation between the members of the Evaluation Committee with a view to a possible resit examination of the candidate's results.

Once the decisions are made, they are formalized in a report. The list of the certified persons is published by CFPC.

## 10 Resit examination

For levels 1 to 4, candidates who have not obtained the required mark may retake only one of the exam sessions in which they have failed (common core, theoretical and practical sectors), under provided that the resit examination takes place no later than 12 months after the original examination.

For this exam, candidates may retain the benefit of grades above 6/10 obtained.

Candidates who fail the exam or do not retake the exam within 12 months may run as candidates and must pass the exam in accordance with established procedures for new applicants.

For level 5, candidates there is no possibility for a resit examination. The candidates who have not obtained the mark required during the interview must apply for an initial evaluation.

## 11. Fraudulent acts

Any candidate who, during the examination, does not respect the above mentioned rules, commits a fraudulent act, or he or she is an accomplice of such an act, is excluded from the rest of the sessions. The candidate must wait at least one year before being allowed to take a new examination.

Any incident must make the object of a statement established by the examiner and transmitted to the Evaluation Committee for the final deliberation.

## 12. Complaints and appeals

The claims and appeals are not acceptable beyond thirty days after the results were sent to the candidate.

They are treated according to the procedure PR/2000 «Claims and appeals examination and process".

## 13. Certificates

## 13.1. Validity period of the certificates

The validity period of the certificate is 5 years. The date of departure of the validity of the certification is the date of the meeting of the Evaluation Committee. It is mentioned in the certificate.

The certification becomes non valid:

- on the initiative of the CFPC, for example after having knowledge of evidence concerning a non-ethical behavior incompatible with the procedures of certification;

- if a significant interruption, as defined in the standard EN ISO 15257: 2017, occurs in the application sector for which the person is certified.

## 13.2. Fraudulent use of the certification card

In case of a professional dispute concerning the fraudulent use of the certification certificate of a person, the complainant can make a claim at CFPC.

Any claim related to a fraudulent falsification or use of a certification certificate by the personnel or his employer, is examined according to the procedure "Complaints and appeals examination and process" (PR/2000).

The CFPC Board keeps the right to inform, to retrogress or to even invalidate the certification of a personnel certified in cathodic protection when notorious insufficiencies or failures in the discharge of his activities were brought to its attention via a written and a well-argued way such as it is specified in the procedure "Complaints and appeals examination and process" (PR/2000).

## 13.3. Establishment of the certificates

CFPC establishes for each personnel recently certified a certificate with at least the following mentions:

- The last name and the first name of the certified person;
- The certification issue date;
- The certification expiration date;
- The application sector and the level of certification;
- The name of the Certification Body;
- The signature of the certified person;
- The unique identification number
- The signature of the designated representative of the Certification Body.

The designated representative of the certification organization is the CFPC President or by delegation, the Vice-president. All the certificates are signed by the CFPC President or Vice-president.

This certificate is provided in 2 forms:

• A4 paper size

• "Plastic card" format with a QR code allowing direct access to the official list of certified to verify the veracity of the card. (the sending of this certificate is subject to the receipt of a photo of the candidate).

## 13.4. Change of employer and / or new address

The certified personnel who changes employer and / or has a new address has to inform CFPC in order to update the file of the certified persons.

## 13.5. Change of physical or mental capacity of the certified person

A certified person must inform, immediately, about the elements which can affect their capacity to continue satisfying the requirements of the certification.

## 13.6. Certificate for a new competence level or for a new application sector

A person, already certified in a given level or a given sector, who passed a new examination for another level or application sector gets a new certificate.

## 14. Certification renewal

The certified personnel follow-up is defined in the procedure PR/16000.

After the first period of validity of certification (5 years) and then every 10 years, the certification of the personnel must be renewed for a new 5 year-period.

The renewal is subordinated to the favorable analysis, by the concerned sectoral Committee, of the follow-up sheets of the certified personnel These follow-up sheets must bring the proof of a continuous and satisfactory professional activity without significant interruption and of the actualization of the technical knowledge in the sector of application for which the certification renewal is required.

The follow-up sheets of the certified personnel are filed.

In accordance with the standard EN ISO 15257: 2017, it is considered that there is a continuity of the activity if this one is done without absence or change of activity during a total cumulated time greater than 1.5 years or at least 2 periods representing a total duration of more than 3 years during the duration of validity of the certificate. If the file presented by the candidate for the renewal of his certificate is admissible, the certification of the latter is extended by the duration of 5 years, reduced from the date of expiry of his certificate until the date of decision certificate renewal.

In the event that the renewal criteria verified from the follow up sheets are not met, the certified person may register, for a "re-certification examination" for levels 1 to 3 or to a "re-certification assessment" for level 4 and 5.

In case of failure, the person must be considered as a new candidate for certification in the relevant application sector and level.

In the particular case of a candidate belonging to CFPC, a special procedure is applied to avoid any conflict of interest. This procedure is described in PR/10000 "Management of Persons Involved in Certification".

## 15 Re-certification

At the end of each second validity period (every 10 years), certification is maintained only after a re-certification examination for levels 1 to 3.

For the levels 4 and 5 the re-certification can be pronounced on demonstration that their competence for the accomplishment of the tasks mentioned in ISO 15257: 2017 standard by submitting a file detailing their professional continuing education (courses, conferences, etc.), their permanent activity in as managers in the applicable sector (s) and evidence of their continued suitability (reports, projects, technical articles, etc.).

This file will be submitted to an Evaluation Committee which will decide of the award of the re-certification.

It is required that CP persons have their file confirmed by their employer and / or by independent CP persons.

## 15.1 Organization of the re-certification examination for levels 1 to 3

The re-certification examinations must be taken within a period ranging between 6 months before the end of validity date and 6 months after this due date, except in case of force majeure (disease, strike, expatriation...).

The examinations take place in an Examination Centre approved according to the procedure "Rules and approval for the Examination Centres" (PR/7000) by the Certification Board in accordance with the procedure PR5000 "Certification process".

The sessions of examinations are led, supervised and corrected by at least one examiner as long as he fulfils the specific independence requirements as defined in this document.

The re-certification examination allows to evaluate the continuous aptitude to fulfil corresponding tasks of cathodic protection adapted to the level and the application sector of the certification to be renewed.

This session is described below:

For the levels 1 and 2, the examination is based on two practical sessions:

- of potential measurements
- of additional measurements (simple measurement for N1 et simple operating mode for N2) carried out on a structure or in lab.

For level 3, the examination is based on two practical sessions:

- on the basis of concrete topics, the candidate has to explain (oral) the necessary steps to carry out a study, to give an opinion on the efficiency of a cathodic protection and suggest, if it is necessary, the relevant actions to improve the situation.
- from a service that has to be provided, the candidate must write for a level 1 a clear and concise instruction which might include a CP sizing..

In case of failure, the certificate will not be renewed. To be certified again in the concerned level and application sector, the candidate has to apply for a new initial certification examination.

# The number of tests scheduled for the re-certification examination as well as the total time allocated and the weight of the notation are presented in Table below.

For the Land application sector

Levels	Test 1	Alloted time	Weight of notation /100	Test 2	Alloted time	Weight of notation /100
1	Potential measurements on structure (Eon)	30 mn (*)	60/100	Additional simple measurements on structure	30 mn(*)	40/100
2	Potential measurements onstruture (Eon and Eoff, indicator measurement, gradient, IR…)	45 mn (*)	60/100	Additional measurements on structure (resistivity, soil measurements,)	30 mn (*)	40/100
3	Write an instruction for a N2 level and study of simple CP	120 mn	50/100	Oral analysis of a report with common anomalies and/or simple CP sizing	60 mn (*)	50/100

For the marine metallic application sector

Levels	Test 1	Alloted time	Weight of notation /100	Test 2	Alloted time	Weight of notation /100
1	Potential measurements on structure (Eon)	30 mn (*)	60/100	Additional simple measurements on structure	30 mn (*)	40/100
2	Potential measurements on structure (Eon, Eoff,)	45 mn (*)	60/100	Additional measurements in tanks or in lab	30 mn (*)	40/100
3	Write an instruction for a N2 level and study of simple CP	120 mn	50/100	Oral analysis of a report with common anomalies and/ simple CP sizing	60 mn(*)	50/100

## For the reinforced concrete application sector

Levels	Test 1	Alloted time	Weight of notation /100	Test 2	Alloted time	Weight of notation /100
1	To be defined	30 mn (*)	60/100	To be defined	30 mn (*)	40/100
2	To be defined	45 mn (*)	60/100	To be defined	30 mn (*)	40/100
3	To be defined	120 mn	50/100	To be defined	60 mn (*)	50/100

(\*) the indicated time does not take into account the time of the preparation of the test by the candidate (about 30 mn of preparation).

In order that the certification of the candidate can be renewed, the final grade of the re-certification examination must be higher or equal to 7/10 without any grade lower than 6/10 in one of the tests.

The Evaluation committee gets together as soon as possible after the end of the grading by the examiner to review the results obtained and the recommendations of the examiner to decide which candidates are accepted for re-certification.

If the candidate meets the conditions of allocation of the re-certification, there will not be any discussion.

The examination of the results in order to decide to accept the re-certification for a candidate can take place only if this candidate for the levels of 1 to 3 no eliminatory mark in the different tests and if he has not more than two points less on the totality of the tests compared to the minimum note to be obtained (70/100).

Under these conditions and by taking into account the recommendations of the examiner, there will be an analysis of the reasons of this variation by the members of the Evaluation Committee who did not take part in the examination nor in the training of the candidate. If these reasons are not likely to endanger the durability of the protected works or to be protected, the candidate could pass.

The decisions taken are formalized in the form of a report.

The mention of the re-certification is indicated on the new certificate sent to the certified person as well as the end of the new period of validity.

The re-certification file is archived with the file of the first certification and renewal.

## 15.2 Organization of the re-certification examination for levels 4 and 5

The re-certification assessment is based on the assessment of a file provided by the candidate, detailing his permanent professional activities demonstrating his ability to perform the tasks specified for level 4 or 5 in the applicable area (s) listed in Article 6 of ISO 15257: 2017 (reports, projects, technical articles, training courses, conferences, etc.).

CFPC requires the candidate to have this file confirmed by his / her employer and / or independent respondents.

If applicable, the Evaluation Committee may request an interview with the candidate.

Evaluation file content for the level 4

Requested activities	Sector	Achieved		Details of the action	Date of	Note.
	concerned.	yes	no		completion	
Préparation of technical	All					/10
reports						
In charge of simple studies	All					/5
Analysis and interpretation	All					/10
of measurements						
Corrosion case expertise	All					/15
Design of non-simple or complex studies	All					/20
Analysis and interpretation of commissioning data	All					/10
Data evaluation and determination of the cause of corrosion and corrective action	All					/10
Analysis and treatment of DC interference from a dynamic source	Land					/10
	Land					/5
Analysis and treatment of AC interference from a static and dynamic source						
Realization of E-Log I traces	Land					/5
Organization of underwater	Seawater					/10

surveys for potential measurement and / or anode current flow for non- simple applications				
Analysis of results from underwater surveys of potential and / or anode current flow measurements for non-simple applications	Seawater			/20
CP system design and other electrochemical treatments	Concrete			/20
Supervision of the installation of cable connections to steel prestressing elements	Concrete			/10
CP design taking into account the impact on PC performance and safety implications of anodic and cathodic reactions, produced gases and pH variation	Internal surfaces			/30

## Evaluation file for level 5

	Achieved		Achieved Detailed actions		Level of involvement		note
Required activities	yes	no		Responsible	Parcitipative	Completion	
research and development projects carried out							/15
engineering projects performed under the sole or primary responsibility of the candidate for highly complex or innovative CP designs							/15
publisher or member of a scientific committee in technical or scientific journals							/15
presentations at conferences or training courses:							/15

participation in technical or standardization committees				/10
patented				/5
technical direction in the development of new technologies or new applications				/15
Others				/10
Total				/100

In order for the candidate's certification to be renewed, the final mark given in the candidate's file must be greater than or equal to 7/10.

The Evaluation Committee meets as soon as possible after the transmission of the applicant's application for re-certification to decide on the renewal of the certification.

In the case where the candidate meets the conditions of attribution of the re-certification the latter will not be the object of any discussion.

If the score obtained in the candidate's file between 65/100 and 70/100, there is consultation between the members of the Evaluation Committee with a view to a possible resit examination of the candidate's results.

The decisions taken are formalized in the form of a report.

The mention of the re-certification is indicated on the new certificate sent to the certified person as well as the end of the new period of validity.

The re-certification file is archived with the file of the first certification and renewal.

## 16. Certification costs for renewal and re-certification

The CFPC Board defines the amount and the conditions of payment of the expenses related to the certification.

The costs of the various certification operations are indicated in the document DT/5052 "Certification costs."

The conditions and the management arrangements for certification, renewal and recertification are defined in the procedure PR/16000 "Monitoring and certification renewal."

## 17. Confidentiality

The applicant (potentially candidate and certified) must make a decision, when he applies for a certification examination, about his assent to reveal to an unauthorized party information, others than those provided by himself or herself or gained during the certification process.

It is agreed that:

- if the applicant applied through his company, the manager of the company is not considered as an unauthorized party.
- if the applicant applied by himself, the manager of his company (if existed) is considered as an unauthorized party

The publication of the names of certified persons in the list available on the CFPC website, is not confidential.

On principle, all information obtained during the certification process other than those provided by himself, remain confidential and could not be revealed. If a request, done by an unauthorized party, is made to the Certifier Body, this one will have to check that the candidate has authorized, when he applied for the examination, the disclosure of this information.