



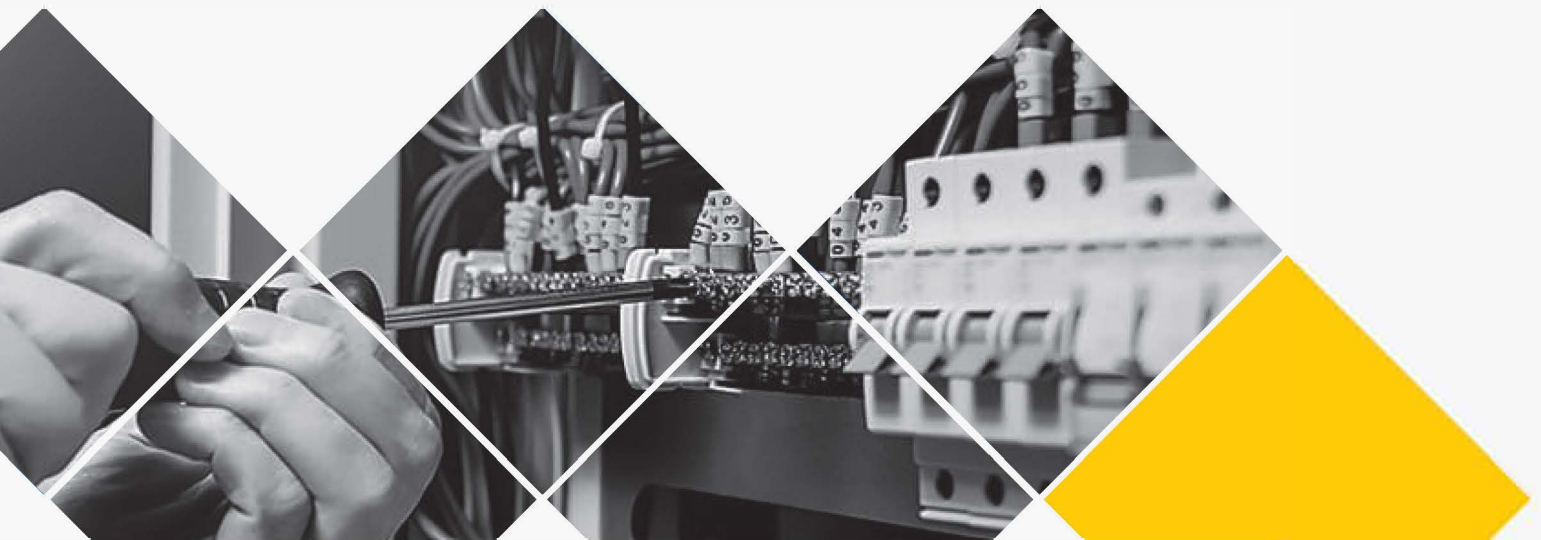
COMPETENT ELECTRICAL SAFETY PROFESSIONAL

ELECTRICAL SAFETY PROFESSIONALS CERTIFICATION SCHEME (ESPCS)

The Certification Scheme, based on ISO 17024, aims to create skilled and knowledgeable Electrical Safety Professionals who are competent in the safety requirements of IEC 60364.

Electrical Safety Regulations of most developed nations follow the structure of IEC 60364. Certified competence as per NEC's ESPCS becomes an easy way to secure international employment.

We invite Electrical Consultants, Electrical Safety Verifiers, and Installers who are professionals involved in the designing, erection, testing, audits, and maintenance of electrical installations in residential, commercial and industrial buildings to be part of the certification program.



SECTION 1

**Scheme for
Voluntary Certification of Electrical Safety
Professionals**

The Scheme Mentored

and

Owned by NFE



ELECTRICAL SAFETY PROFESSIONAL CERTIFICATION SCHEME (ESPCS)

1. INTRODUCTION:

- 1.1. The **National Federation of Engineers for Electrical Safety (NFE)** is an organization focused on raising awareness about the need to ensure electrical safety to eliminate hazards at electrical installations. The organization, headquartered in Chennai, mainly comprises of electrical engineers working in the field of electrical safety and aims to improve knowledge and skills of professionals in the field by facilitating certification of personnel.
- 1.2. NFE works closely with electrical inspectorates of central and state governments, electrical designers, electrical safety officers, and engineers in the field of quality, safety and standards to improve electrical safety scenario and reduce the number of accidents and fatality. As part of its efforts to facilitate an accreditation system for electrical engineering professionals, NFE has proposed a certification scheme for electrical safety professionals as per International Standards of Personnel Certification, ISO/IEC 17024:2012. The scheme aims to promote safe electrical installation and practices in India. As the Scheme Owner, NFE aims to promote uniformity in the implementation of the scheme by Personnel Certification Bodies (PrCB) by developing an eco-system for certification of the Electrical Safety (ES) professional.

2. THE NEED

- 2.1 Accidents due to electrical reasons such as electrocution and fire due to short circuit are high in India in comparison to the developed / developing nations. In the National Workshop on Electrical Safety organized by Central electricity Authority on 12th April, 2016, it is revealed that 723 people out of 100 million population gets electrocuted annually in India, which is the highest in the world (e.g. in Japan its 12 and UK its 45 respectively). A survey made by a Japanese organization concluded that India stands least in electrical safety out of G20 nations (Safety score is 16 % for India & 81 % South Korea). As per the records available with NCRB, CEA and other organisations, the following points are considered serious.

About 50 % of electrocution happens within a consumer premise and 48 % happens at distribution of electricity up to 33 kV.

About 80 % fire accidents in buildings are due to electricity. The main reason for accidents are electrical installations, non-compliant to standards and regulations. The main reason being the non-availability of skilled persons to carry out designing, selection, erection and verification of electrical installation.

- 2.2 The focus of the Scheme for ES Professionals, as it is being called, is to certify the competence of Electrical Safety Professionals who provide services w.r.t designing, installation and verifying the safety of Electrical systems.

3. METHODOLOGY ADOPTED

- 3.1. NFE has designed the **Scheme for Voluntary Certification of Electrical Safety Professionals** by adopting the principles and requirements laid down in the international standard, **ISO/IEC 17024:2012 (E) General Requirements for Bodies Operating Certification of Persons** especially clause 8 that describes the elements of the scheme.
- 3.2. NFE aims to certify ES Professionals using the principles of third-party assessment through the following process:
 - a. Defining the competence requirements in terms of knowledge and skills to be complied with by the ES Professionals in the form of Competence Criteria.
 - b. Defining the process of evaluation and certification in the form of the Certification Process

- c. Laying down requirements for competence and operation of assessment bodies through Provisional approval of Personnel certification bodies. The PrCB would qualify for accreditation by NABCB as per this requirement.
- 3.3. The Competence Standard was prepared by engaging group of experts having knowledge on electrical safety.
- 3.4. The scheme documents was made available for public comments for a period of one month, through NFE websites and other platforms and the comments received was reviewed by the panel of experts. Changes made and the final draft documents were presented to Steering committee constituted for the purpose of multistakeholder consultation, chaired by Mr. D Krishna Kumar, founding member NFE,(Electrical Engineer working with CPWD), and members from the Government, ES Institutions, related organizations, and individual experts for discussion and seeking concurrence from experts representing subject.
- 3.5. An **Expert Core Group** is constituted to modify the Scheme based on directions of the Steering Committee.
- 3.6. It was agreed in the meeting that this Scheme for ES Professionals will evaluate three levels of competence, namely Electrical Consultant, Electrical Installer and Electrical Safety Verifier. It was also agreed in the meeting that the local regulations for Installer will be complied with when the ES professional seeks licensing.

4. OUTCOME:

- 4.1. The Scheme has the following sections;
 1. Introduction,
 2. Governing Structure – the structure, components, roles and responsibilities of participating organizations and committees, if any,
 3. Competence Criteria – the standard for certification, which has been arrived at after deliberations among experts,
 4. Certification Process – application process, initial evaluation, frequency of surveillance etc,
 5. Requirements for Provisional approval of Personnel Certification Bodies including requirements for evaluators and additional requirements to ISO 17024.
- 4.2. More sections/documents would be added as the Scheme is operationalized.
- 4.3. **The Scheme is now ready for formal launch.**

SECTION 2

**Scheme for
Voluntary Certification of ES Professional**

The Scheme Mentored

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GOVERNING STRUCTURE



ELECTRICAL SAFETY PROFESSIONAL CERTIFICATION SCHEME (ESPCS)

GOVERNING STRUCTURE

1. OBJECTIVE

The objective of this document is to define the roles of various organizations / committees involved in the design and operation of the **ELECTRICAL SAFETY PROFESSIONAL CERTIFICATION SCHEME** (also referred to as 'the Scheme') owned by the **NFE**.

2. SCOPE

This document explains the governing structure of the Scheme and the roles and responsibilities of various organizations and committees involved in operating the Scheme.

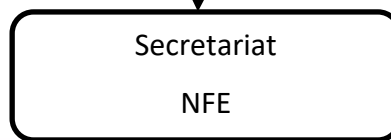
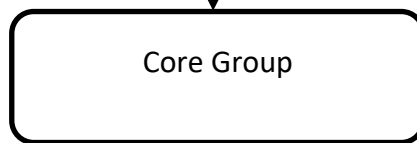
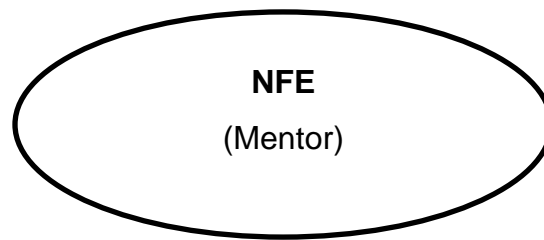
3. GOVERNING STRUCTURE

- 3.1 The governing structure of the Scheme shall have a multi-stakeholder **Steering Committee (SC)** at the apex level supported by a Core Group with secretariat in the NFE.

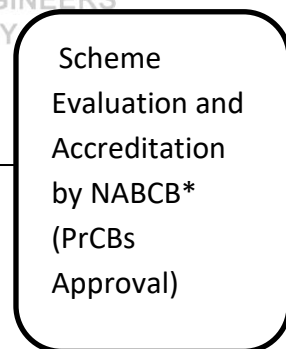
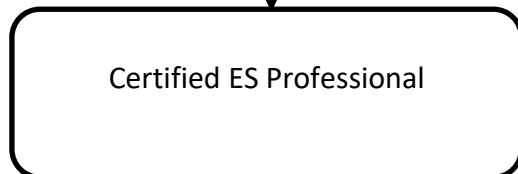
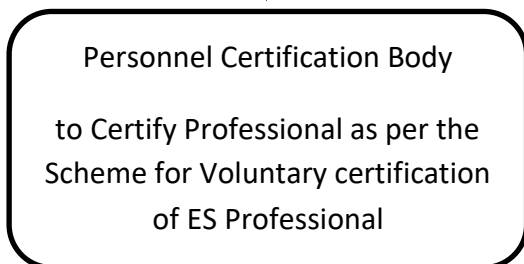
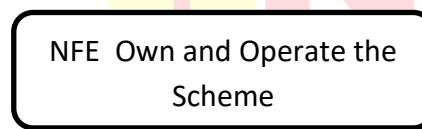
4. APPOINTMENT OF COMMITTEES – GENERAL RULES

In the appointment of various committees, the following general principles shall be kept in mind:

- a) Representation of a balance of interests such that no single interest predominates,
- b) Key interests to include representatives of governmental agencies and regulators, institutions imparting electrical safety education/training, Academic/Research Bodies, Accreditation Bodies (ABs), Personnel Certification Bodies (PrCBs), Consumer Associations, Users of certified professionals, professionals and relevant non-governmental organizations,
- c) Offer of membership to individual experts shall be made with great caution and only when a suitable person is not forthcoming as a representative of an organization,
- d) Except when a member is appointed in his personal capacity, a person vacates his membership on leaving his organization and a fresh nomination is sought from the nominating authority,
- e) The member organizations shall nominate a principal and an alternate representative on the committee (s) for ensuring continuity,
- f) The committees will normally be reconstituted every 3 years.



OPERATIONALISATION



*or any other AB approved by NFE

5. STEERING COMMITTEE (SC)

5.1 Membership - The Steering Committee (ESPCS SC) shall comprise of the following;

- a. Well Known ES Personality – Chairperson,
- b. Representatives of NFE (President or his nominee),
- c. Central Ministry or Regulator – CEA/Min of Power,
- d. State Government's Two representatives from the concerned state electrical Inspectorates,
- e. National standards body – BIS,
- f. Industry bodies (any 1): CII, FCCI, ASSOCHAM, IEEMA,
- g. User organizations (any 2) FOCUS, CAHO, AHPI, IFE, Chamber of Commerce, Consultants Association & Contractors association, Builders/Construction Industry association, CIDC,
- h. Third Party Certification/ Services: TIC, ACBI,
- i. Accreditation bodies (NABCB and/or other AB),
- j. Healthcare accreditation bodies (NABH/QAI),
- k. Academic/Research organization - CPRI,
- l. Any other technical expert(s) as invitees for specific meetings, as identified by the Secretariat,
- m. Member Secretary – NFE.

5.1.1 SC may coopt any other members.

5.2 Quorum - A quorum for the SC meeting is met when 30% of nominated representatives are present at the meeting.

5.3 Terms of reference - The SC is responsible for;

- a. Overall development, modification and supervision of the Scheme,
- b. Receiving recommendations of any Committees it may set up and deciding on them,
- c. Constituting any committees, as needed,
- d. Promotion of the Scheme,
- e. Any measures needed for enhancing the acceptability of the Scheme.

5.4 Meetings - The ESPCS SC shall meet at least once every year.

6. CORE GROUP/ COMMITTEE (CG)

6.1 Membership – The Core Group/Committee shall comprise of the following.

- a. Convener from NFE, who will head the Core group,
- b. Experts in electrical safety and accreditation/personnel certification as nominated by NFE,
- c. Any Technical expert(s) as invitees for specific meetings, as identified by the Secretariat,
- d. Member Secretary – NFE.

6.1.1 CG may coopt more members.

6.2 Quorum: A quorum is met when 30% of nominated Core Group representatives are present at the meeting.

6.3 Terms of reference - The Core Group/Committee is responsible for

- a. Developing and maintaining any standards needed for the Scheme,
- b. Defining the competence standard and certification criteria, and
- c. Receiving and resolving complaints and appeals,
- d. Resolving any related issues.

6.4 Meetings - The CG shall meet at least once every year.

7. ROLES OF ORGNIZATIONS

NFE shall be the Scheme owner and shall decide on the Governing structure for the Scheme.

It shall as a minimum set up a multi-stakeholder Steering Committee as part of the Governing structure.

NFE shall provide the secretariat to the Steering and other Committees, if constituted, unless otherwise decided.

National Accreditation Board for Certification Bodies (NABCB) (or any other AB) recognized by NFE shall be responsible for accreditation of certification bodies desirous of participating in the Scheme to appropriate international standards.

8. COMPLAINTS

NFE
NATIONAL FEDERATION OF ENGINEERS
FOR ELECTRICAL SAFETY

8.1 The entire system has provisions for entertaining complaints from any stakeholder against any component of the Scheme. The Personnel Certification Bodies approved under the Scheme, and the accreditation bodies (like NABCB), are all required to have a complaints system in place as per international standards applicable to them. Anyone having a complaint is encouraged to utilize the available mechanisms.

8.2 Any complaint received directly by the NFE shall be referred to the appropriate body against which the complaint is made and reported to the Core Group who would monitor it till it is decided upon.

8.3 Any complaint about functioning or decisions of NFE as scheme owner shall be placed before the Core Group for deciding appropriate course of action.

8.4 A statement on complaints as received above with their status shall be reported to the SC in each meeting.

9. APPEALS

- 9.1** There are provisions for accepting appeals from the ES Professionals' certified/desirous of certification under the Scheme. The Personnel Certification Bodies (PrCBs) approved under the Scheme, and the accreditation bodies (like NABCB) have appeals provision as per applicable international standards.
- 9.2** In case anyone is aggrieved by the decision of the PrCB or AB and escalates to NFE, it shall be treated as complaint and handled as per cl 9.3 above.
- 9.3** In case anyone aggrieved by the decision of NFE appeals, the Chairperson, SC shall appoint an independent appeals panel to look into the appeal and recommend action to him/her.
- 9.4** In handling appeals, the broad principle that the appeal is handled independently of the personnel involved in the decision appealed against shall be maintained.
- 9.5** A statement of appeals received by the NFE shall be placed before the SC in each meeting.



**Scheme for
Voluntary Certification of ES Professional**

The Scheme Mentored

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COMPETENCE CRITERIA



Electrical Safety Professional Certification Scheme

COMPETENCE CRITERIA

A. INTRODUCTION:

The National Federation of Engineers for Electrical Safety (NFE) is developing an Electrical Safety Professional Certification Scheme (ESPCS) [hereafter referred to as the Scheme] for the certification of ES professional.

The Scheme has a set of competence criteria requirements against which professional shall be evaluated in order to be certified.

B. OBJECTIVE:

The aim of establishing competence criteria is to provide a clear definition of the competencies expected in individuals seeking professional certification.

C. PURPOSE:

The scheme is for professionals involved in design and selection, erection and verification of electrical systems under the following three categories (the titles of the categories are indicative):

1. Design and Selection: NFE Certified Electrical Consultant.
2. Erection: NFE Certified Electrical Installer.
3. Verification: NFE Certified Electrical Safety Verifier.

This document is a competence standard for defining the competence of the professionals desirous of seeking certification under the Scheme.

1. Design and Selection: NFE Certified Electrical Consultant

a) Roles and Responsibilities

Designing of electrical installation in compliance with the requirements of IEC 60364 (all parts) or equivalent Indian standards such as NEC 2023 and the Central Electricity Authority Measures Relating to Safety and Electric Supply Regulations 2023 up to and including a supply voltage of 33 kV. Selection of equipment and devices conforming to IEC or equivalent Indian standards used in these electrical installations.

- I. Designing of electrical installation so as to ensure protection and safety for human beings, livestock and property by providing protection against electric shock by appropriate basic and fault protective measures suitable for the location.
- II. Designing of electrical installation so as to protect against thermal effects by minimizing the risk of damage or ignition of flammable materials due to high temperature or electric arc and ensuring no risk burns.
- III. Designing of electrical installation so as to protection against injury or damage due to excessive temperatures or electromechanical stresses caused by over currents and fault currents,
- IV. Designing of electrical installation so as to protect against voltage disturbances and electromagnetic influences such as fault between live parts of circuits supplied at different

voltages, over voltages such as those originating from atmospheric events or from switching, damage as a consequence of undervoltage and any subsequent voltage recovery and ensuring that the installation is having adequate immunity against electromagnetic disturbances so as to function correctly in the specified environment.

- V. Designing electrical equipment in the workplace while considering space requirements for installation, ensuring a safe working area around them, and facilitating their removal for maintenance in accordance with relevant industry standards

b) Prerequisite:

Abilities: Professional should possess a certificate signed by a registered medical practitioner that specifically includes assessments of hearing, sight, and colour blindness. In the event of any changes in their physical abilities, professional are required to promptly notify the PrCB.

- i) **Education:** Degree/ Diploma in Engineering.
- ii) **Experience:** Post qualification minimum two years for degree holder and five years for diploma holder in relevant field of electrical installation design.
- iii) Certified by a consumer/customer with connected load more than 100 kW, in respect of design work undertaken by the professional. The certificate shall comprise the details of work executed.(Work orders and completion certificates provided by the client will be regarded as supporting documents.)

c) Knowledge:

Knowledge about the characteristics of the supply such as voltage, current, frequency, impedance of circuits and protective provisions inherent in the supply.

Knowledge about optimising the design based on the number and type of circuits required for lighting, heating, power, control, signalling, information and communication technology, etc. determined by location and number of power demand, loads to be expected on the various circuits, daily and yearly variation of demand, any special conditions such as harmonics, requirements for control, signalling, information and communication technology, etc, anticipated future demand if specified.

Knowledge about Electric supply systems for safety services or standby electric supply systems, Environmental conditions, Cross-sectional area of conductors, Characteristics of available supply or supplies, Type of wiring and methods of installation, Protective equipment to be used, Emergency control, Disconnecting devices, Prevention of mutual detrimental influence, Accessibility of electrical equipment and Documentation for the electrical installation.

Knowledge to select electrical equipment complying to IEC or equivalent Indian standards based on

1. Characteristics such as Voltage, Current, Frequency, Load factor,
2. Conditions of installation so as to withstand safely the stresses and the environmental conditions of its location and to which it may be subjected,
3. Prevention of harmful effects such as power factor, inrush current, asymmetrical load, harmonics, transient overvoltages generated by equipment in the installation on other equipment or impair the supply during normal service.

d) Skill:

Skill in creating;

1. Electrical SLD, layout, BOM/BOQ with specification and clarity

2. Protection scheme with Relays, MCB, MCCB, Fuses, RCD's based on its characteristics and suitability to the application,
3. Relay setting and protection grading,
4. Right use of notations, symbols, abbreviations and conventions, references, instructions and notes
5. Efficient deployment of circuits and sockets to address all the equipment and installation requirements.

2. Erection: NFE Certified Electrical Installer

a) Roles and Responsibilities

Erection of the electrical installation in compliance with the requirements of IEC 60364 (all parts) or equivalent Indian standards such as NEC 2023 and the Central Electricity Authority Measures Relating to Safety and Electric Supply Regulations 2023 up to and including a supply voltage of 33 kV.

1. Good workmanship and proper materials shall be used.
2. Electrical equipment shall be installed in accordance with the instructions provided by the manufacturer of the equipment.
3. The characteristics of the electrical equipment, as specified by the electrical consultant shall not be impaired during erection.
4. Materials and components used shall not be damaged,
5. Routing, glanding and terminations of the cables are carried out for the best performance of the electrical installation.

b) Prerequisite:

Abilities: Professional should possess a certificate signed by a registered medical practitioner that specifically includes assessments of hearing, sight, and colour blindness. In the event of any changes in their physical abilities, professional are required to promptly notify the PrCB.

- i) **Education:** Professional shall have the ability to understand the scheme documents and the defined criteria.
- ii) **Experience:** Minimum two years in execution of electrical installation or operation and maintenance work including installation and commissioning of products / equipment such as UPS, Drives, Panels, BMS system.
- iii) Certified by a contractor or a consumer with more than 250 kW connected load in respect of works undertaken or maintained respectively by the professional. The certificate may comprise the details of work executed or operated and maintained or both.(Work orders and completion certificates provided by the client will be regarded as supporting documents).

c) Knowledge:

1. Conductors and terminals, if necessary, shall be identified in accordance with IEC 60445.
2. All electrical equipment shall be installed in such a manner that the designed heat dissipation conditions are not impaired.
3. All electrical equipment likely to cause high temperatures or electric arcs shall be placed or guarded so as to minimize the risk of ignition of flammable materials.
4. Exposed parts of electrical equipment is likely to cause injury to persons due to high temperature shall be so located or guarded to prevent accidental contact therewith.
5. Suitable warning signs and/or notices shall be provided if necessary for safety purposes, insulated mats to be provided in front of switch boards.
6. Where an installation is erected by using new materials, inventions or methods leading to deviations from the rules of IEC 60364 series or equivalent Indian standards such as NEC 2023,

the resulting degree of safety of the installation shall not be less than that obtained by compliance with IEC 60364 series or equivalent Indian standards such as NEC 2023.

7. In the case of an addition or alteration to an existing installation, it shall be determined that the rating and condition of existing equipment, which will have to carry any additional load, is adequate for the altered circumstances as specified by the electrical consultant. Furthermore, the earthing and bonding arrangements, if necessary for the protective measure applied for the safety of the addition or alteration, shall be adequate.

d) Skill:

Overall skills for an electrical Installer:

1. Connections between conductors and other electrical equipment shall be made in such a way that safe and reliable contact is ensured.
2. Protection devices are optimum and effectively deployed as per the design,
3. Circuits are deployed as per design and optimum use of cables and sockets,
4. Neat and efficiently deployed cabling, earthing, cabling accessories etc.

3. Verification: NFE Certified Electrical Safety Verifier.

a) Roles and Responsibilities:

Verification of the electrical installation in compliance with the requirements of IEC 60364 (all parts) or equivalent Indian standards such as NEC 2023 and the Central Electricity Authority Measures Relating to Safety and Electric Supply Regulations 2023 up to and including a supply voltage of 33 kV.

Initial verification of an electrical installation before being placed in service and after any important modification to confirm proper execution of the work. Periodic verification of an electrical installation as per the recommended periods and practices.

b) Prerequisite:

Abilities: Professional should possess a certificate signed by a registered medical practitioner that specifically includes assessments of hearing, sight, and colour blindness. In the event of any changes in their physical abilities, professional are required to promptly notify the PrCB.

- a. **Education:** Degree or Diploma in Electrical, Electronics or Instrumentation Engineering .
The qualification may be waived off in case the candidate provides sufficient evidence of knowledge through other means such as work experience.
- b. **Experience:** Post qualification three-year experience in the field of electrical verification works such as verification of electrical installation/cabling, earthing system, protective devices, equipment and materials as per specification given by electrical consultant / standards.
- c. Self-declaration by the professional along with filled form as per NEC 2023 part 1, section 17 annexure D of one verification completed or participated as a member in a group.

c) Knowledge:

Knowledge of all safety requirements in IEC 60364 (all parts) or equivalent Indian standards such as NEC 2023 including methods adopted for protection against electric shock by appropriate basic and fault protective measures suitable for normal and special locations, protection against thermal effects by minimizing the risk of damage or ignition of flammable materials due to high temperature

or electric arc and ensuring no risk burns, protection against injury or damage due to excessive temperatures or electromechanical stresses caused by over currents and fault currents, protection against voltage disturbances and electromagnetic influences such as fault between live parts of circuits supplied at different voltages, over voltages such as those originating from atmospheric events or from switching, damage as a consequence of undervoltage and any subsequent voltage recovery and ensuring that the installation is having adequate immunity against electromagnetic disturbances so as to function correctly in the specified environment.

Knowledge about Electric supply systems for safety services or standby electric supply systems, type of wiring and methods of installation, protective equipment to be used, emergency control, disconnecting devices, prevention of mutual detrimental influence, accessibility of electrical equipment and documentation for the electrical installation.

Knowledge in the electrical installation condition report on an electrical installation as per IEC 60364-6 Annexure E/F/G or equivalent Indian standards such as NEC 2023.

Knowledge on CEA Measures relating to safety and electric supply regulations 2023 up to and including a supply voltage of 33 kV.

d) Skill:

The electrical safety verifier is skilled in

1. Basic and additional safety and reliability requirements in normal and special locations.
2. Selection of devices based on relevant standards,
3. Inspection and Testing of LV system as per NEC,
4. Test instruments, standards, calibration, accuracy, application,
5. Application of equipment, devices and their safety requirements,
6. To identify that every circuit, cabling, socket and installation has been addressed effectively,
7. To make a clear electrical installation condition report on an electrical installation,
8. Understand and fill the model forms including the schedule of inspections and schedule of test of results as per IEC 60364-6 and to grade non-compliances into C1, C2 or C3,
9. Perform tests to measure loop impedance, insulation resistance, RCD trip times and protective conductor resistance,
10. Locate and guide to rectify faults,
11. Report of compliance and noncompliance if any also submit Punch / Snag list after verification is complete.

Bibliography: The following documents were consulted and utilized as sources of information:

1. Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2023.
2. IEC 60364 (all parts).
3. IEC 61936-1: Power installations exceeding 1 kV AC and 1,5 kV DC – Part 1: AC.
4. National Electrical Code of India 2023 (SP-30).
5. IS732: Code of Practice for Electrical wiring.

SECTION 4

Scheme for Voluntary Certification of ES Professional

The Scheme Mentored

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ELECTRICAL SAFETY PROFESSIONAL CERTIFICATION SCHEME (ESPCS)

CERTIFICATION PROCESS

Preamble: The knowledge and skills defined in ESPCS are based on applicable IEC standards and BIS standards including NEC 2023. Where IEC standards are adopted by BIS, these are available from BIS website as priced publications. Nationally made BIS standards including NEC 2023 are free downloads from BIS website.

1. INTRODUCTION

The **National Federation of Engineers for Electrical Safety (NFE)** is an organisation focused on raising awareness about the need to ensure electrical safety to eliminate hazards at electrical installations. The organisation, headquartered in Chennai, mainly comprises of electrical engineers working in the field of electrical safety and aims to improve knowledge and skills of professionals in the field by facilitating certification of personnel.

NFE works closely with electrical inspectorates of central and state governments, electrical designers, electrical safety officers, and engineers in the field of quality, safety and standards to improve electrical safety scenario and reduce the number of accidents and fatality. As part of its efforts to facilitate an accreditation system for electrical engineering professionals, NFE has proposed a certification scheme for electrical safety professionals as per International Standards of Personnel Certification, ISO/IEC 17024:2012. The scheme aims to promote safe electrical installation and practises in India. As the Scheme Owner, NFE aims to promote uniformity in the implementation of the scheme by Personnel Certification Bodies (PrCB) by developing an eco-system for certification of the Electrical Safety (ES) professionals.

The objective of this document is to define the process of certification of ES professionals under the Electrical Safety Professional Certification Scheme (ESPCS) of the NFE.

2. SCOPE

This document explains the certification process under the **Electrical Safety Professional Certification Scheme (ESPCS)** [hereafter referred to as the **Scheme**] and the stipulations for the certification of ES professionals.

The scheme is proposed for professionals involved in design and selection, erection, and verification of electrical systems under the following three categories (the titles of the categories are indicative):

Design and Selection: NFE Certified Electrical Consultant.

Erection: NFE Certified Electrical Installer.

Verification: NFE Certified Electrical Safety Verifier.

The certification under the proposed Scheme is to be carried out only by those PrCBs duly accredited as per ISO/IEC 17024:2012. However, until such time the market develops, NFE as Scheme Owner, may directly evaluate candidates. The individual certifications directly done by NFE shall be transferred to any of the approved PrCBs as soon as possible.

3. CERTIFICATION PROCESS

3.1 Registration of Application

3.1.1 The approved PrCB shall publicly display the scheme for ESPC along with the requisite format of the application with the detailed contact address/es on its website. Aspiring electrical safety professionals may apply to any of the approved PrCB in the prescribed application form.

3.1.2 The approved PrCB shall respond to all enquiries received from prospective candidates for certification with complete information regarding the certification process, appropriate to the certification Scheme (including fee structure). Enquiries maybe related to list of documents containing

the requirements for certification, the candidate's obligations and rights, and the duties of a certified person which includes a code of conduct. PrCBs are to respond to candidates within seven days of receipt of the query.

3.1.3 The candidate shall declare whether he/she has been a candidate for the Scheme to any other PrCB and, if yes, shall provide details of the status of application/certification, scope, and period of the certification.

3.1.4 The candidate shall declare any pending judicial proceedings concerning his/her conduct, and/or any pending proceedings by any regulatory body, concerning electrical safety related activities. Application from such a candidates shall not be entertained.

3.1.5 All applications for certification shall be reviewed for their completeness and adequacy. Deficiencies, if any, shall be informed to the candidate within seven days of receipt of the application. PrCBs are to maintain all records of the review of application.

3.1.6 All complete applications, shall be registered within seven days of receipt of application/additional information. Registrations shall be done in the order of receipt of applications, each with a unique identification number, acknowledgement, and updated records.

3.1.7 Applications of candidates found to be violating the terms and conditions of the Scheme while their application is being processed shall not be processed any further and shall be rejected after due notice of 15 days.

3.1.8 Applications of candidates whose previous certification was cancelled or rejected because of violation of terms and conditions shall not be taken up for certification within one year of cancellation of the certificate/rejection of the application.

3.1.9 All requests for certification, including applications from candidates who received certification previously, shall be processed afresh as in a new application in accordance to the procedure for grant of certification (described in 3.7).

3.1.10 The PrCB shall reject or close all applications under the following conditions:

If deficiencies observed in the application are not completed within one month,

If the candidate does not take the assessment within three months of registration of the application,

Misuse of the scheme logo/certification mark, if any,

Evidence of malpractice,

Voluntary withdrawal of the application,

Any other (namely, non-payment of fees among others).

3.1.11 In the event of closure/rejection of an application, the application fee submitted with the application may be refunded as per policy of PrCB.

3.2 Competence Assessment Process

3.2.1 The criteria for assessment shall be corresponding with the roles and responsibilities in the specific domain for which the ES professional has applied certification for, and in accordance with requirements prescribed in the document Competence Criteria for Electrical Safety Professional.

3.2.2 NFE, as Scheme Owner, shall prepare the question bank and provide to PrCBs.

3.2.3 The assessment shall be planned and structured in a manner that ensures that the scheme requirements are objectively and systematically verified with documented evidence to confirm the competence of the candidate.

3.2.4 The PrCB shall verify and accommodate special needs, within reasonable limits while ensuring the integrity of the assessment is not violated, taking into account government and other laws and regulations.

3.3 Assessment Method

3.3.1 The assessment can be either online or face to face.

3.3.2 Examination process: The examination method shall be a combination of a) written examination and b) demonstration accompanied by oral evaluation (interview). Details of how the scores are to be assigned for the examinations are provided in this document.

The duration of the written examination shall not exceed three hours and demonstration with oral evaluation (interview) shall not exceed two hours.

3.4 Written Examination

3.4.1 Setting of Test Papers : The PrCB shall use the services of competent persons to prepare question papers for the written examination, from the question banks received from SO.

3.4.2 Assessment of knowledge will be based on written test with the use of multiple-choice questions. PrCB must ensure that the question bank is deployed in rotation and multiplicity so that there is least predictability.

3.4.3 To begin with the entire examination process will be in English only. (The provision of local Indian languages may be made in future subject to the expansion of the scheme). The language used for the evaluation shall be stated on the certificate issued to successful candidates.

3.4.4 Demonstration and oral evaluation (interview):

3.4.4.1 The PrCB shall have documented guidelines for the examiner(s) and a structured evaluation record for evaluation of each demonstration.

3.4.4.2 This shall be accompanied by oral interview.

3.4.4.3 There shall be a minimum of three examiners with one of them being the lead examiner and a representative of the PrCB in the team. Each examiner shall individually evaluate the candidates but provide a single final score.

3.4.4.4 The PrCB shall have a written procedure for scoring of candidates including normalisation of scores.

3.4.5 The PrCB shall ensure that the questions for written, oral evaluation, and the guidelines for demonstration, overall the assessment and certification process are such that they are fair, valid, and reliable across test centres, across time zones, and across examiners.

3.4.6 Skills will be assessed by the evaluation panel either onsite or through practical demonstration by the candidate.

3.4.7 Verification of Knowledge and skills:

1. Written examination: Answer 60 questions within a specific time (Maximum 3 hours) (online – open book).
Note: Sl. no 1 is an open book examination. The professional can refer the standards (no consultation with others or answers from the internet are allowed).
2. Demonstration of area specific skills and its evaluation followed by interview by a committee consisting of at least 3 persons with expertise on different subjects and general aptitude, and a representative of the PrCB in the team.
3. Skill evaluation for three categories include:

a) Consultant:

1. Create an electrical design with specifications, showing cable routes and calculate minimum cable sizes for current carrying capacity, voltage drop and fault-current withstand conditions,
2. Verification of the facility designed by the professional as stated in the prerequisite by examiner.

Note: Sl. No 2 Prerequisites are defined in documented ESPCS Competence Criteria.

b) Installer:

1. Verification of the installation, carried out by the professional as stated in the prerequisite-
Note: Sl. No 3 Prerequisites are defined in documented ESPCS Competence Criteria.

c) Verifier:

1. Verification of the works carried out by the professional, based on the filled form submitted as a part of prerequisite, perform an electrical installation condition report on the same electrical installation.

3.4.8 The minimum required percentage for passing the examination for all the three categories of professionals will be 70% for both knowledge and skill component.

3.4.9 There will be no negative marking for the basic level assessment.

3.5 Assessment Process

3.5.1 The assessment of the candidates shall be conducted within three months of registration of the application.

3.5.2 The PrCB shall schedule the assessments as and when the number of candidates is optimal as a minimum. The PrCB at its discretion may assess with a smaller number of candidates. The PrCB shall ensure that the certification process is completed within 15 days from the date of the actual assessment.

3.5.3 The PrCB shall inform all eligible candidates, including those appearing for a re-assessment, dates of the assessment and the means of assessment at least 15 days before the assessment. The PrCB shall announce the dates for the assessment and the names of the candidates through its website.

3.5.4 The names of the candidates shall be communicated at least two days in advance to the examiners and the examination centre (if any) for identification of conflict of interest, if any. Any conflict of interest identified concerning the candidates shall be eliminated, minimised, or managed by the PrCB.

3.5.5 The PrCB shall inform the Candidates the name and address of the assessment centre where the assessment is scheduled to be held. Invigilators may be non-technical and not versed with the subject so as not to influence or support any candidate during the examination process. If the candidate has any conflict of interest and voluntarily decides not to undergo the assessment, the PrCB shall provide them with the option for another assessment or reimburse the application fee.

3.5.6 The decision of the examiners shall be communicated to the candidate by the PrCB. The PrCB shall maintain an updated register of candidates and certified ES professionals with the scope and status of certification.

3.5.7 The PrCB shall have documented procedure regarding use of suitable premises, including examination sites, equipment, and resources for carrying out their certification activities.

3.5.8 The written examination shall be conducted under the supervision of an invigilator. The PrCB shall identify and nominate invigilators for the purpose. The invigilator shall at the end of every written examination collect all the question-and-answer sheets, seal immediately, and forward them to the PrCB's office within one working day of completion of the evaluation.

3.5.9 The demonstration and oral evaluation (interview) shall be conducted by a team (minimum of three examiners) of independent examiners and a representative of the PrCB. The names of the candidates shall be communicated in advance to the evaluation team for identification of conflict of interest, if any. Any conflicts identified with respect to the candidates shall be suitably addressed by the PrCB.

3.6 Checking of Evaluation Papers and Demonstration Report

3.6.1 The evaluation of written test answer sheets shall be carried out by competent examiner/s. The assessment of the demonstration and interview shall be by a competent three-member team, as already specified.

3.6.2 Written: The examiner shall check the written answer sheets and consolidate the results within seven days of the evaluation.

3.6.3 Demonstration and Oral: Each member of the team of examiners shall record his/her results for each of the questions on the structured evaluation sheet for each candidate. The individual evaluation result for each candidate shall be discussed by the team. The lead examiner shall at the end of the oral evaluation (interview) collect all the evaluation results from each of the team members, collate the results, and calculate the average score for each question asked, seal and thereafter submit the same to the PrCB's office within one working day of completion of the evaluation.

3.6.4 Evaluation: The evaluation team shall evaluate the demonstration report for each of the broad headings of the Body of Knowledge within a week of the demonstration by the candidate.

(The candidates are required to score a minimum of 70% each in the written and demonstration (with interview) evaluations for qualifying as an ESCP.

3.7 Decision on Certification

3.7.1 The decision on granting certification shall be based on the information gathered during the evaluation process and shall ensure the following:

The assessment result of the candidate is not below the minimum score specified,

Necessary documentation is available as proof of the means used to assess the candidate,

Any other requirements prescribed by the Scheme Owner.

3.7.2 The decision to grant certification shall be taken by an independent person(s) who has/have neither been involved in assessing the candidate who is seeking the certification.

3.7.3 Decisions regarding granting, maintaining, recertifying, extending, reducing, suspending, and withdrawing certification shall not be outsourced.

There shall be no conditional grant of certification.

3.7.4 Candidates, who have failed to meet the acceptance criteria for assessment, may take another assessment with the same or another PrCB but would have to declare their previous performance while reapplying.

3.7.5 The Scheme Owner and PrCB shall maintain a database of certified ES professionals. If a certified ES professional relocates to a different place /state, he/she shall be required to inform the PrCB of the change in address, and the PrCB in turn shall inform the Scheme Owner of the same. The Scheme Owner and PrCB shall ensure that the database and website with information on certified ES professionals remains updated.

3.7.6 The effective date of certification shall not be prior to the date of the decision to grant the certification.

3.7.7 The validity of the ESPCS certificate shall be for five years.

3.7.8 The candidates must follow a prescribed code of conduct when certified as an ES professional.

3.7.9 If any change takes place in the standards or regulatory requirements relevant to the scheme, the Scheme Owner may modify the scheme criteria and processes as needed and shall inform all PrCBs accordingly. It may also prescribe a transition policy, and the deadline for completing the process of transition with or without additional assessment.

4. CERTIFICATE

4.1 The PrCB shall provide a certificate to all certified ES professionals. The PrCB shall maintain sole ownership of the certificates. The certificate shall be in digital format, signed or authorised by a responsible member of the PrCB. The certificate shall contain, as a minimum, the following information:

The name of the certified person,

A unique identification,

The name of the PrCB,

A reference to the certification scheme, standard, the language used for the evaluation or any other relevant documents, including issue date, if relevant,

The scope of the certification including validity conditions and limitations, if applicable,

The effective date of certification and date of expiry,

Other unique identification marks (namely, certification mark and accreditation symbol, among others) may be used, provided they are not misleading or ambiguous,

Any other information required by the certification criteria used for certification,

In the event of issuing any revised certification documents, a means to distinguish the revised documents from any prior obsolete documents.

4.2 The certificate format shall be as approved by the Scheme Owner. The certificate shall be designed to reduce the risks of counterfeiting.

4.3 The formal certification document shall be uploaded on the PrCB website from where all certified professionals can download their certificate.

5. SURVEILLANCE

5.1 For continuation of certified professional status, the PrCB shall conduct surveillance every certification cycle. One surveillance assessment shall be conducted in the third year of certification cycle (validity for five years is subject to successful surveillance within this period).

5.2.For the Surveillance assessment of certified personnel

- Consultant: Review of actual design services provided by the certified professional in the last 2 years.
- Installer: Review of actual installation services provided by the certified professional in the last 2 years
- Safety Verifier Review of actual verification services provided by the certified professional in the last 2 years

5.3 Those who are unable to provide any or sufficient evidence of working in the field of electrical safety and wish to continue with their certified status shall have to undergo reevaluation (similar to the initial certification process)

5.4 Certified professionals shall provide testimonies of continuous professional development activities of minimum 40 hours over a period of three years.

6. RECERTIFICATION (initial and surveillance methods to be similar)

6.1 Recertification will be through an assessment process similar to the initial certification as laid out in this scheme.

6.2 The PrCB shall send a renewal notice to the certified ES professionals registered email ID and/or to the registered postal address at least six months prior to the expiry of the certificate.

6.3 The certified ES professional shall apply for renewal in the prescribed format along with a fee (if any) at least four months before the expiry of certification.

6.4 The PrCB shall review the performance of the certified ES professional seeking recertification in accordance to procedures compliant to the certification criteria during the entire certification cycle before a decision on the renewal is taken.

6.5 The performance of the certified ES professional shall be reviewed based on the following recertification assessment factors:

The surveillance assessment report(s),

Corrective actions taken on any feedback given during surveillance,

Any suspension of the certificate during the previous validity period,

Complaints received, if any,

Feedback obtained by the PrCB on the services provided by the ES professional, if available,

Feedback reports obtained by the PrCB from the institution where the ES professional is employed, as applicable,

Adverse information, if any,

Abilities to be verified.

6.6 Certified professionals shall provide testimonies of continuous professional development activities of minimum 40 hours over a period of three years.

6.7 Recertification shall be based on the satisfactory performance of the certified ES professional during the previous certification period and satisfactory process of reassessment and shall be completed before the expiry of the certification.

6.8 The PrCB shall not recertify an ES professional conditionally based on future compliance verification. There shall be no conditional certification of the ES professional.

6.9 The PrCB shall not recertify any certified ES professional whose certification is under suspension.

6.10 When the performance of the certified ES professional is not satisfactory, the PrCB shall withhold the recertification of the ES professional, clearly stating the reasons and give time to effect corrective actions. The verification and decision on recertification shall be taken within three months of the expiry date.

6.11 The PrCB shall verify corrective actions and provide clear results.

6.12 The recertification shall be come into effect from the date of the expiry of the previous certificate and the intervening period shall be treated a period of suspension. The certified ES professional shall not claim certification during this period.

6.13 In case the certified ES professional is needed to take corrective actions on their part for the recertification to be done and he/she does not complete the steps satisfactorily within six months, a show-cause notice of 15 days shall be served with a chance to respond or a personal hearing regarding any adverse decision that may be taken. After 15 days, the certificate shall stand expired from the date of expiry of previous validity.

6.14 When a certificate is not renewed, it expires at the end of the validity period.

7. CHANGE OF LEVEL OF CERTIFICATION (This is for the future prospect of the Scheme, and only a proposal at this stage)

7.1 Change to a higher level of certification is possible based on an application request by an ES professional. The PrCB shall ascertain the competence required, and shall follow the defined evaluation process.

7.2 The candidate shall be issued a fresh certificate after the defined process of evaluation and certification is confirmed and approved.

8. SUSPENSION OF CERTIFICATION

8.1 The PrCB shall issue suspension of certification, with due notice of 15 days after giving the ES professional a chance to respond and additionally give a personal hearing, if desired by the professional, when:

The surveillance shows unsatisfactory performance,

Any serious complaint/feedback, which is found to be valid,

Any administrative requirement like payment of a fee or timely provision of information,

Any violation of terms and conditions of certification,

Any conduct that may bring disrepute to the Scheme.

8.2 On receiving instructions for suspension of certification, the certified ES professional shall, with immediate effect, remove any reference to certification in all of his/her communication.

8.3 The certified ES professional shall be advised to identify and initiate necessary corrective actions for resolving the same.

8.4 The PrCB shall display on its website suspension of certificates and the status of the certified professionals.

8.5 The suspension shall not exceed six months, provided it is still within the validity period of the certificate. The certified ES professional's failure to resolve issues relating to suspension within this period will result in cancellation of certification.

9. CANCELLATION OF CERTIFICATION

9.1 PrCB shall cancel the certificate when:

Certified ES professional contravenes the terms and conditions of certification and violates the provisions of the certification scheme. Violation of terms include claiming or displaying the scope of certification other than that granted and any fraud that is established,

The corrective actions taken do not ensure compliance, or the proposed plan for corrective actions will take a considerable time beyond three months for implementation in case of a suspended certificate,

Any administrative requirement like non-payment of a fee, or not providing requested information, or any other breach of the Scheme's requirements,

Any conduct that may bring disrepute to the Scheme,

An opportunity will be given to the professional to give an explanation before such cancellation in cases which do not attract any criminal procedure.

9.2 PrCB shall cancel the certificate at the request of the certified ES professional

9.3 In the event of cancellation, the PrCB shall advise the certified ES professional to return the certificate issued by the PrCB.

9.4 Any cancellation of certification shall be made public on the websites of the Scheme Owner and PrCB.

10. FEE

10.1 An ES professional seeking certification may be charged a fee, without any discrimination.

10.2 The fee structure shall be publicly accessible and be provided on request.

10.3 The PrCB shall notify and obtain consent regarding the fee structure from the candidate before processing of application and granting of certification. As and when the fee changes, the same shall be communicated to all including the candidate and obtain his/her consent.



SECTION 5

Scheme for Voluntary Certification of ES Professional

The Scheme Mentored



PROVISIONAL APPROVAL SYSTEM FOR PERSONNEL CERTIFICATION BODIES

ELECTRICAL SAFETY PROFESSIONAL CERTIFICATION SCHEME (ESPCS)

PROVISIONAL APPROVAL SYSTEM FOR PERSONNEL CERTIFICATION BODIES

1. Introduction

The **National Federation of Engineers for Electrical Safety (NFE)** is developing a provisional approval system for personnel certification bodies (PrCBs). This system aims to facilitate the operation of these bodies under the **Electrical Safety Professional Certification Scheme (ESPCS)**.

2. Objective

The objective of this document is to define the criteria and process of provisionally approving personnel certification bodies under the Electrical Safety Professional Certification Scheme for Professionals to promote uniformity in its implementation among the Personnel Certification Bodies (from now on PrCBs),

The personnel certification bodies (PrCBs), in order to operate under the **Electrical Safety Professional Certification Scheme (ESPCS)**, hereinafter referred to as the **Scheme**, are required to eventually comply with the requirements specified in ISO 17024 and the additional requirements prescribed by the Scheme owner, NFE.

The PrCBs would not be able to offer certification to any electrical safety professional or offer their process for witnessing as part of accreditation process to the accreditation body to get accreditation, or to get the relevant scope added in their accreditation, if already accredited, unless they are approved under the Scheme.

Further, in order to launch the Scheme, it is necessary that some PrCBs are available at the beginning.

Consequently, it is necessary to establish a procedure for provisional approval of PrCBs under the Scheme until such time that they can get the scope added in their accreditation or get formal accreditation from the **National Accreditation Board for Certification Bodies (NABCB)** and approval from the Scheme owner, **NFE**.

Note: Until such time the market develops, NFE, as Scheme owner, may directly evaluate candidates. The individual certifications directly done by NFE shall be transferred to any of the approved PrCBs as soon as possible.

3. Scope

This document defines the system for provisional approval for PrCBs to enable them to operate under the Scheme pending formal accreditation of the PrCBs for the Scheme by NABCB as per the prescribed international standard(s) and approval by NFE.

This approval shall be valid for a period of two years within which the provisionally approved PrCB shall have to obtain formal NABCB accreditation and approval from NFE.

4. Criteria for Approval

The PrCB desirous of operating under this Scheme shall meet the criteria as prescribed in this document.

5. General Requirements

5.1 Legal Entity: The PrCB shall be a legal entity or shall be a defined part of a legal entity, such that it can be held legally responsible for all its certification activities. A governmental PrCB is deemed to be a legal entity on the basis of its governmental status. A PrCB that is part of an organisation involved in functions other than certification shall be separate and identifiable within that organisation.

5.2 Impartiality:

- a) The PrCB shall be impartial.
- b) The PrCB shall be so structured and managed as to safeguard their impartiality.
- c) The PrCB and its personnel shall not engage in any activity that may conflict with their impartiality.
- d) The PrCB shall require personnel involved in the certification process to sign a contract or other document by which they commit themselves to declare any prior and/or present association (which may cause conflict of interest).
- e) The PrCB and any part of the same legal entity or entities under its organisational control shall not be the designer, implementer, operator, or maintainer of any service or product related to electrical safety, or offer or provide training or consultancy on electrical safety to professionals.
- f) The PrCB shall ensure that activities of separate legal entities, with which the PrCB or the legal entity of which it forms a part has links, do not compromise the impartiality of its certification activities. In particular, the PrCB shall not certify any professional who may have received training from such a linked entity.
- g) The PrCB shall act impartially in relation to its applicants, candidates, and certified persons.
- h) The PrCB shall have a process on an ongoing basis to identify, analyse, evaluate, monitor, and document the threats to impartiality arising from its activities including any conflicts arising from its relationships.
- i) This shall include those threats that may arise from its activities, or from its relationships, or from the relationships of its personnel. In case of any threats to impartiality, the PrCB shall document and demonstrate how it eliminates or minimises such threats and document any residual risk. The demonstration shall cover all potential threats that are identified, whether they arise from within the PrCB, or from the activities of other persons, bodies, or organisations.
- j) Top management shall review any residual risk to determine if it is within the level of acceptable risk. When a relationship poses an unacceptable threat to impartiality, then certification shall not be provided.
- k) The risk assessment process shall include identification of and consultation with appropriate interested parties to advice on matters affecting impartiality including openness and public perception.

NOTE 1 Sources of threats to impartiality of the PrCB can be based on ownership, governance, management, personnel, shared resources, finances, contracts, training, marketing, and payment of a sales commission, or other inducement for the referral of new clients, among others.

NOTE 2 One way of fulfilling the consultation with the interested parties is by the use of an impartiality committee.

l) The PrCB shall have a process to ensure that the examiner is free of any conflict of interest with the applicant(s) by means of being a teacher in the recent past. A separation of two years is considered acceptable for the purpose.

6. Liability and financing

6.1 The PrCB shall have the financial resources necessary for the operation of a certification process and have adequate arrangements (e.g. insurance or reserves) to cover associated liabilities.

7. Organisational Structure

7.1 The PrCB shall define and document the duties, responsibilities, and reporting structure of its personnel and any committee and its place within the organisation.

7.2 When the PrCB is a defined part of a legal entity, documentation of the organisational structure shall include the line of authority and the relationship to other parts within the same legal entity.

8. Publicly Available Information

8.1 The PrCB shall maintain a website for providing information about the Scheme and its certification activities under the Scheme.

8.2 The PrCB shall maintain and make public relevant information describing its certification processes for granting, maintaining, extending, renewing, reducing, suspending or withdrawing certification, and about the certification activities and geographical areas in which it operates.

8.3 The PrCB shall make public relevant information about applications registered and certifications granted, suspended, or withdrawn.

8.4 The PrCB shall make its processes for handling appeals and complaints available publicly on its website..

9. Confidentiality

9.1 The PrCB shall ensure confidentiality of information obtained in the course of its certification activities by having a suitably secure system.

10. Security

10.1 The PrCB shall develop and document policies and procedures to ensure security throughout the certification process.

11 Use of Certificates and Marks of Conformity (Refer document on Use of certificates, logos and mark)

12. Technical Requirements

12.1 Personnel

a) The PrCB shall have, as part of its own organisation, personnel, either employed or on contract, having sufficient competence for managing the certification operations for this Scheme.

b) The PrCB shall have defined processes for selecting, training, and formally authorising and monitoring the performance of its personnel involved in carrying out the various certification activities and for selecting technical experts, if needed, as per the requirements of this Scheme.

12.2 Competence

Competence is defined for examiner, invigilator, and decision maker:

a. Examiner: The examiner shall meet the following requirements:

i) Education – Degree in electrical engineering.

ii) Work Experience – The examiner shall have at least 15 years of working experience of which at least two years is in the field in which the candidate is being examined.

The PrCB shall have a process of qualifying the examiners by a more senior professional. The PrCB shall also define the competence requirements of the senior professional who will qualify the examiners as per the internal evaluation by the PrCB against the competence criteria prescribed under this Scheme.

b. Invigilator: At least a graduate, who does not have the knowledge of electrical safety as defined in the Scheme.

c. Decision maker: The individual, or the team, which makes the decision shall have the competence of the examiner but has not taken part in the examination process.

The PrCB shall have a documented description of the responsibilities and qualifications of other personnel involved in the assessment process.

12.3 Selection of Evaluation Team

The evaluation team may consist of one or more members. The PrCB shall ensure the competence of the evaluation team as stated below:

- a. The PrCB may include evaluators who do not have the requisite qualifications as prescribed above, as part of the evaluation team, provided they are supported by technical experts (TEs) who meet the aforementioned qualifications.
- b. The time spent by the TE on an evaluation shall be in addition to the evaluation time which the PrCB is expected to spend.
- c. In case of an evaluation team having more than one member, one of the evaluators shall be designated as team leader.

13. Personnel Records

The PrCB shall maintain up-to-date personnel records, as per requirements of the Scheme, of each of its personnel involved in its certification/ inspection activities.

14. Outsourcing/Subcontracting - The PrCB operating the ESP Certification Scheme shall not outsource any activity other than conducting physical or online tests.

15. Certification Process

15.1 The PrCB shall manage the process of certification as per the documented “ESPCS - Certification Process” prescribed under the Scheme.

15.2 The PrCB shall maintain records to demonstrate that the certification process is effectively fulfilled.

15.3 The PrCB shall ensure the requirements of the Scheme are fulfilled.

15.4 The PrCB shall certify ES professionals only under the Scheme and shall use the logo of the Scheme in the certificates issued to the certified professionals as prescribed under the Scheme.

15.5 The PrCB shall have written agreement with the certified professionals on the use of the certificate and the Scheme logo.

15.6 The PrCB shall have a process to handle appeals against any decision by the candidates.

15.7 The PrCB shall have a process to handle complaints from the users of the services of the PrCB or any other stake holder.

16. Approval Process

16.1 Application

a) Any organisation interested in approval as a PrCB for the purpose of this Scheme may apply to the NFE in the prescribed application format along with the prescribed application fee. The applicant shall also enclose the required information and documents as specified in the application form.

b) The filled in application form for approval shall be duly signed by the CEO/authorised representative/s of the PrCB seeking approval.

c) On receipt of the application form, it shall be scrutinised at NFE and those found complete in all respects will be processed further.

16.2 Assessment Process

- a. On acceptance of the application after review, an assessment team comprising a team leader and member(s)/technical expert(s) shall be nominated by NFE for the purpose of assessment at the applicant's office and other locations, if required. Under normal circumstances, the assessment at the applicant's head office will be for a total of two man days including the TE. In case the applicant PrCB already holds an accreditation as per ISO 17024, the assessment duration may be reduced by half a day.
- b. The names of the members of the assessment team along with their CVs shall be communicated to the applicant PrCB, giving them adequate time to raise any objection against the appointment of any of the team member(s), which will then be dealt by NFE on merit basis. All assessors/technical experts nominated by NFE shall have signed undertakings regarding confidentiality and conflict of interest.
- c. NFE may decide, based on the report of office assessment or otherwise, to undertake witness assessment(s) of actual evaluation or any part of the certification process by the applicant PrCB.

- d. The assessment team leader shall provide an assessment plan to the applicant PrCB ahead of the assessment.
- e. The date(s) of assessment shall be mutually agreed upon between the applicant PrCB and the NFE/assessment team.
- f. The office assessment shall begin with an opening meeting for explaining the purpose and scope of assessment and the methodology of the assessment. The actual assessment process shall cover review of the documented system of the organisation to assess its adequacy in line with the assessment criteria as specified. It will also involve verification of the implementation of the system including scrutiny of the records of personnel competence and other relevant records and demonstration of personnel competence through means like interviews, etc. In short, it will be an assessment for verifying technical competence of the applicant PrCB for operating under the Scheme.
- g. At the end of the office assessment, through a formal closing meeting, all the nonconformities and concerns observed in the applicant PrCB's system as per the assessment criteria and the assessment team's recommendation to NFE, shall be conveyed to the applicant PrCB.

16.3 Decision:

Based on the assessment report and the action taken by the applicant on the nonconformities/concerns, if any, NFE shall take a decision on whether to

- a) grant provisional approval to the applicant as PrCB under the Scheme, or
- b) undertake witness assessments(s) for reasons to be communicated prior to granting of provisional approval,

16.4 Validity of Approval

- a. The approval shall be valid for a period of two years, after ensuring
 - i) complete compliance to these provisional approval criteria based on evaluation reports,
 - ii) certification scheme requirements, and
 - iii) satisfactory resolution of nonconformities and concerns raised, if any
- b. The PrCB shall obtain formal accreditation as per ISO 17024 from NABCB within one year of approval by NFE.
- c. Based on the request of PrCB and review of previous approval status, it may be decided to extend the period of validity; in such situations, the PrCB shall be assessed covering both office and witness assessments, as decided by NFE, prior to such an extension.

16.5 Maintaining provisional approval:

- a. The provisional approval is granted for two years subject to annual on-site assessment along with at least one witness assessment per year.
- b. The approved PrCB shall inform NFE without delay about any changes relevant to its approval, in any aspect of its status or operation relating to;
 - i) Its legal, commercial, ownership or organisational status,
 - ii) The organisation, top management, and key personnel,

iii) Main policies, resources, premises, and scope of approval, and

iv) Other such matters that may affect the ability of the PrCB to fulfil requirements for approval.

NFE shall examine such information and decide on the issue on merits with or without an on-site verification.

- c. The provisional approval shall be subject to suspension/withdrawal with due notice of 15 days in the event of any noncompliance to the requirements of the Scheme.
- d. The PrCB shall send data of the candidates certified/rejected immediately after issue of the certificate/conclusion of evaluation to the scheme owner. The data should be sent in the specified format for maintaining the registry of the professionals.

17. Fee

17.1 The following fee structure shall apply:

- a. Application fee - INR 20,000/-
- b. Man-day charges - INR 20,000/-
- c. Travel / stay - On actuals
- d. The PrCB shall pay NFE an amount of INR 25,000/- as an annual fee.
- e. The PrCB shall pay NFE an amount of INR 1,000/- per candidate certified for the certificates issued to the certified professionals.

17.2 Payments shall be made in favor of

NATIONAL FEDERATION OF ENGINEERS FOR ELECTRICAL SAFETY
Bank : Axis Bank, Ashok Nagar Branch, Chennai
Ac No : 923010000618042
IFSC Code : UTIB0000285

17.3 NFE at its discretion may revise/ levy any other fee necessary with due notice to the PrCB.

----- END OF DOCUMENT -----



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- 13 seminars
- More than 100 Webinars
- Knowledge Forum

NFE Certified Competent Electrical Safety Professional (based on ISO17024)

- **NFE Certified Electrical consultant**
- **NFE Certified Electrical Installer**
- **NFE Certified Electrical Safety Verifier**

NFE is developing an Electrical Safety Professional Certification Scheme (ESPCS) for the certification of competency of professionals working in the field of Electrical Design, Selection, Erection and Verification of electrical installation based on IEC 60364.

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