

Republic of the Philippines
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY
East Service Road, South Superhighway, Taguig City

92nd TESDA BOARD MEETING
16 December 2015, Wednesday, 2:00 p.m.
7/F TESDA Board Room, Office of the Chair
TESDA Complex, South Superhighway, Taguig City

Resolution No. 2015-17
(Page 1 of 26 pages)

**APPROVING THE AMENDMENTS TO THE TRAINING REGULATIONS FOR
ELECTRICAL INSTALLATION AND MAINTENANCE NC II AND ELECTRICAL
INSTALLATION AND MAINTENANCE NC III**

WHEREAS, TESDA Board Resolution No. 2008-22 was issued approving and promulgating the Training Regulations for Electrical Installation and Maintenance NC II and Electrical Installation and Maintenance NC III last 19 September 2008 during the 65th TESDA Board Meeting;

WHEREAS, it is the policy of TESDA to review after three (3) years any Training Regulations (TRs) promulgated by the TESDA Board;

WHEREAS, industry experts and partners, headed by Engr. Pablito R. Freo of the Society of Philippine Electrotechnical Contractors and Suppliers, Inc. (SPECS) Expert Panel, with the assistance of the Qualifications and Standards Office (QSO) of TESDA, has recommended the amendments to the existing Training Regulations for Electrical Installation and Maintenance NC II and Electrical Installation and Maintenance NC III;

WHEREAS, during the 82nd Standards-Setting and Systems Development (SSSD) Committee - TESDA Board-TESDA Secretariat Consultation Meeting held on 16 November 2015, the Committee favorably endorsed the following amendments to the above-mentioned Training Regulations for Electrical Installation and Maintenance NC II;

Existing Promulgated Training Regulations (Board Resolution No. 2008-22)	Amendments
Qualification Title	
Electrical Installation & Maintenance NC II	Electrical Installation & Maintenance NC II
Job Title	
<ul style="list-style-type: none">• Building-Wiring Electrician• Residential/Commercial-Wiring Electrician• Maintenance Electrician	<ul style="list-style-type: none">• No Amendments

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Existing Promulgated Training Regulations (Board Resolution No. 2008-22)	Amendments
Section 1 - Definition of the Qualification	
The ELECTRICAL INSTALLATION and MAINTENANCE NC II Qualification consists of competencies that a person must achieve to enable him/her to install and maintain electrical wiring, lighting and related equipment and systems where the voltage does not exceed 600 volts in residential houses/buildings.	<ul style="list-style-type: none"> • No Amendments
Section 1- Units of Competency	
<u>Basic Competencies</u> (Prescribed competencies for NC II)	<u>Basic Competencies</u> (No amendments on prescribed competencies for NC II)
<u>Common Competencies</u> (Prescribed competencies for NC II)	<u>Common Competencies</u> (No amendments on prescribed competencies for NC II)
<u>Core Competencies</u>	<u>Core Competencies</u>
<ol style="list-style-type: none"> 1. Prepare electrical power and hydraulic tools 2. Perform roughing-in activities for communication and distribution systems 3. Install wiring devices for floor and ground fault current interrupting outlets 4. Install electrical protection system for lighting and grounding 5. Install electrical lighting systems on auxiliary outlets and lighting fixtures 	<ol style="list-style-type: none"> 1. Perform roughing-in activities, wiring and cabling works for single-phase distribution, power, lighting and auxiliary systems 2. Install electrical protective devices for distribution, power, lighting, auxiliary, lightning protection and grounding systems 3. Install wiring devices of floor and wall mounted outlets, lighting fixtures/switches, and auxiliary outlets
Section 2 - Competency Standards	
Updates/Changes were made consistent with the proposed amendments on Basic, Common and Core Competencies.	

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Section 3 - Training Standards	
3.1 Curriculum Design	
Nominal Training Duration	
18 hrs – Basic Competencies 24 hrs – Common Competencies 360 hrs – Core Competencies <hr/> 402 hrs - Total	18 hrs – Basic Competencies 24 hrs – Common Competencies 154 hrs – Core Competencies <hr/> 196 hrs - Total
3.2 Training Delivery	
<p>The delivery of training should adhere to the design of the curriculum. Delivery should be guided by the 10 basic principles of the competency-based TVET.</p> <ul style="list-style-type: none"> • The training is based on curriculum developed from the competency standards; • Learning is modular in its structure; • Training delivery is individualized and self-paced; • Training is based on work that must be performed; • Training materials are directly related to the competency standards and the curriculum modules; • Assessment is based in the collection of evidence of the performance of work to the industry required standard; • Training is based both on and off-the-job components; • Allows for recognition of prior learning (RPL) or current competencies; 	<p>1. The delivery of training shall adhere to the design of the curriculum. Delivery shall be guided by the principles of competency-based TVET.</p> <ul style="list-style-type: none"> • Course design is based on competency standards set by the industry or recognized industry sector; (Learning system is driven by competencies written to industry standards) • Training delivery is learner-centered and should accommodate individualized and self-paced learning strategies; • Training can be done on an actual workplace setting, simulation of a workplace and/or through adoption of modern technology. • Assessment is based in the collection of evidence of the performance of work to the industry required standards; • Assessment of competency takes the trainee's knowledge and attitude into account but requires evidence of actual

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Existing Promulgated Training Regulations (Board Resolution No. 2008-22)	Amendments
<ul style="list-style-type: none"> • Training allows for multiple entry and exit; and • Approved training programs are nationally accredited. <p>The competency-based TVET system recognizes various types of delivery modes, both on and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities may be adopted when designing training programs:</p> <ul style="list-style-type: none"> • The dualized mode of training delivery is preferred and recommended. Thus programs would contain both in-school and in-industry training or fieldwork components. Details can be referred to the Dual Training System (DTS) Implementing Rules and Regulations. • Modular/self-paced learning is a competency-based training modality wherein the trainee is allowed to progress at his own pace. The trainer only facilitates the training delivery. • Peer teaching/mentoring is a training modality wherein fast learners are given the opportunity to assist the slow learners. • Supervised industry training or on-the-job training is an approach in training designed to enhance the knowledge and skills of the trainee through actual experience in the workplace to acquire a specific competencies prescribed in the training regulations. 	<p>performance of the competency as the primary source of evidence.</p> <ul style="list-style-type: none"> • Training program allows for recognition of prior learning (RPL) or current competencies; and • Training completion is based on satisfactory performance of all specified competencies. <p>2. The competency-based TVET system recognizes various types of delivery modes, both on-and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities and their variations/ components may be adopted singly or in combination with other modalities when designing and delivering training programs:</p> <p>2.1. Institution- Based:</p> <ul style="list-style-type: none"> • Dual Training System (DTS)/Dualized Training Program (DTP) which contain both in-school and in-industry training or fieldwork components. Details can be referred to the Implementing Rules and Regulations of the DTS Law and the TESDA Guidelines on the DTP; • Distance learning is a formal education process in which majority of the instruction occurs when the students and instructor are not in the same place. Distance learning may employ correspondence study, audio, video, computer technologies or other modern technology that can be used to facilitate

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Existing Promulgated Training Regulations (Board Resolution No. 2008-22)	Amendments
<ul style="list-style-type: none"> • Distance learning is a formal education process in which majority of the instruction occurs when the students and instructors are not in the same place. Distance learning may employ correspondence study, or audio, video or computer technologies. 	<p>learning and formal and non-formal training. Specific guidelines on this mode shall be issued by the TESDA Secretariat</p> <ul style="list-style-type: none"> • The traditional classroom-based or in-center instruction may be enhanced through use of learner-centered methods as well as laboratory or field-work components <p>2.2. Enterprise-Based:</p> <ul style="list-style-type: none"> • Formal Apprenticeship – Training within employment involving a contract between an apprentice and an enterprise on an approved apprenticeable occupation. • Enterprise-based Training - where training is implemented within the company in accordance with the requirements of the specific company. Specific guidelines on this mode shall be issued by the TESDA Secretariat. <p>2.3. Community-Based:</p> <ul style="list-style-type: none"> • Community-Based – short term programs conducted by non-government organizations (NGOs), LGUs, training centers and other TVET providers which are intended to address the specific needs of a community. Such programs can be conducted in informal settings such as barangay hall, basketball courts, etc. These programs can also be mobile training program (MTP).



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3.3 Trainee Entry Requirements																																									
<p>To qualify as trainee for Electrical Installation & Maintenance NC II, a candidate must be:</p> <ul style="list-style-type: none"> • at least high school graduate • able communicate both orally and in writing • with good moral character • physically and mentally fit • able to perform basic mathematical computation <p>This list does not include specific institutional requirements such as educational attainment, appropriate work experience, and others that may be required of the trainees by the school or training center delivering the TVET program.</p>	<p>This section specifies the qualifications of trainees including their education/ experience. To qualify as trainee for Electrical Installation and Maintenance NC II, a candidate must:</p> <ul style="list-style-type: none"> • have completed at least 10 yrs. basic education or an ALS certificate of achievement with grade 10 equivalent holder • be able to communicate both orally and in writing • be able to perform basic mathematical computation <p>This list does not include specific institutional requirements such as educational attainment, appropriate work experience, and others that may be required of the trainees by the school or training center delivering the TVET program.</p>																																								
3.4 List of Tools, Equipment and Materials																																									
<p>Recommended list of tools, equipment and materials for the training of 25 trainees for Electrical Installation and Maintenance NC II:</p>																																									
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Existing Promulgated Training Regulations (Board Resolution No. 2008-22)		Amendments	
TOOLS		TOOLS	
QTY.	ITEM	QTY.	DESCRIPTION
5 pcs.	Jack hammer	25 pcs.	Electrician Pliers
25 pcs.	Electrician Pliers	25 pcs.	Screwdrivers set
25 pcs.	Screwdrivers set	5 pcs.	Box Wrench
25 pcs.	Wrench box	5 pcs.	Wire splicer
25 pcs.	Wire splicer	5 pcs.	Wire stripper
25 pcs.	Wire stripper	5 pcs.	Electrician knife
25 pcs.	Electrician knife	10 pcs.	Tools holster
25 pcs.	Tools holster	5 pcs.	Push-pull 0-5 mtrs
5 pcs.	Push-pull 0-5 mtrs	5 pcs.	Claw hammer
5 pcs.	Claw hammer	5 pcs.	Prick punch
5 pcs.	Ballpeen hammer	5 pcs.	Heat gun 1200 watts
5 pcs.	Prick punch	5 pcs.	Heavy-duty soldering iron
5 pcs.	Heat gun 1200 watts	5 pcs.	Flat file smooth 8"
5 pcs.	Heavy-duty soldering iron 1000 watts	5 Kgs.	#16 G.I wire
5 pcs.	Flat file smooth 8"	1 pc.	Whiteboard 4 x 8 x ¾
		1 pc.	Whiteboard 4 x 4 x ¾ with movable stand
EQUIPMENT		1 box	Whiteboard marker, assorted color
QTY.	ITEM	1 box	Push pin
5 units	Power drill	1 pc.	Pencil sharpener
5 units	Portable grinder	25 pcs.	Pencil with eraser
1 unit	Power saw	2 kgs	Rags
5 units	Fire alarm system	5 ltrs	Cleaning agent liquid
5 units	Pipe-in Music/ Paging	1 unit	First aid kit
5 units	Security equipment	2 reams	Bond paper
5 units	CCTV	5 pcs	Whiteboard eraser magnetic
5 units	MATV Master	EQUIPMENT	
5 units	Car park ramp detector	QTY.	QTY.
10 units	Multi-tester	5 units	Electric drill
5 units	Mega-ohmmeter	5 units	Portable grinder
5 units	Clamp ammeter	5 units	Multi-tester

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1 unit	Fire extinguisher KGS ABC																																																																																																																						
1 unit	OHP																																																																																																																						
5 units	Industrial Fan																																																																																																																						
MATERIALS																																																																																																																							
QTY.	ITEM																																																																																																																						
50 pcs.	RSC																																																																																																																						
50 pcs.	IMC																																																																																																																						
50 pcs.	EMT																																																																																																																						
5 pcs.	Entrance cap																																																																																																																						
125 pcs.	Locknut																																																																																																																						
125 pcs.	Bushing																																																																																																																						
250 pcs.	Metal strap																																																																																																																						
10 pcs.	Floor outlet																																																																																																																						
5 pcs.	Ground fault																																																																																																																						
5 pcs.	Current interrupting outlet																																																																																																																						
25 pcs.	Working gloves																																																																																																																						
25 pcs.	Safety shoes																																																																																																																						
25 pcs.	Proper working clothes																																																																																																																						
25 pcs.	Hard hat																																																																																																																						
25 pcs.	Safety goggles																																																																																																																						
5 boxes	Wire AWG #12																																																																																																																						
5 boxes	Wire AWG #14																																																																																																																						
5 rolls	Electrical tape																																																																																																																						
1 box	Wood screw 1/2" x 8																																																																																																																						
EQUIPMENT																																																																																																																							
QTY.	ITEM																																																																																																																						
1 set	Fire alarm system (5units detector, 1 control panel)																																																																																																																						
3 sets	Motion sensors																																																																																																																						
1 set	Security equipment Access Control																																																																																																																						
1 set	CCTV (4 cameras, 1 DVR)																																																																																																																						
5 units	Clamp-on meter																																																																																																																						
1 unit	Insulation Resistance Tester																																																																																																																						
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50 Pairs	Locknut & bushing																																																																																																																						
5 pcs.	Ground Fault Current interrupting device (GFCI)																																																																																																																						
100 pcs.	3/16' x 1" Metal Screw																																																																																																																						
50 pcs.	Conduit strap/clamp																																																																																																																						
5 sets	Wiring boards, 3/4 ft. x 4 ft. x 8 ft.																																																																																																																						
10 pcs.	Floor outlet																																																																																																																						
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Existing Promulgated Training Regulations (Board Resolution No. 2008-22)		Amendments	
MATERIALS		MATERIALS	
QTY.	ITEM	QTY.	DESCRIPTION
50 m	Circular loom (mica tubing 3/8")	1 box	Wood screw 1/2" x 8
25 pcs.	Receptacle surface type	25 pcs.	Receptacle surface type
25 pcs.	Receptacle flush type	25 pcs.	Receptacle flush type
25 pcs.	Incandescent bulb 50 w/ 250V AC	25 pcs.	Incandescent bulb 50 w/ 250V AC
25 sets	Convenient outlet (flush type) 2-gang w/ plate and cover	25 sets	Convenient outlet (grounding type/ flush type) 2-gang w/ plate and cover
10 pcs.	PVC square box, 4 x 4	10 pcs.	PVC square box, 4 x 4
100 pcs.	PVC clamp 1/2	25 m.	flexible conduit 1/2", 3/4
100 pcs.	PVC clamp 3/4	10 pcs.	PVC conduit 1/2, 3/4
50	Assorted conduit	25 pcs.	Junction box PVC
50 mtrs.	Corrugated PVC 1/2", 3/4	25 pcs.	Utility box
50	PVC conduit 1/2, 3/4	50 pcs.	Connectors PVC, 1/2
50 pcs.	Junction box PVC	50 pcs.	Connectors PVC, 3/4
50 pcs.	Junction box metal	50 pcs.	Connectors RSC, 3/4
50	Connectors PVC, 1/2	20 pcs.	Elbow PVC 1/2
50	Connectors PVC, 3/4	20 pcs.	Elbow PVC 3/4
50	Connectors RSC, 3/4	20 pcs.	Elbow RSC 1/2
20 pcs.	Elbow PVC 1/2	20 pcs.	Elbow RSC 3/4
20 pcs.	Elbow PVC 3/4	5 sets	Panel board with 70 amp main and 4 branch ckt. ■ 20 amps, 2 pcs. ■ 15 amps, 2 pcs.
20 pcs.	Elbow RSC 1/2	10 pcs.	Switch (3 way with plate and cover)
20 pcs.	Elbow RSC 3/4	10 pcs.	Switch (single pole with plate and cover)
5 sets	Panel board with 70 amp main and subcircuits ■ 20 amps, 2 pcs. ■ 30 amps, 2 pcs. ■ 15 amps, 2 pcs.		

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Existing Promulgated Training Regulations (Board Resolution No. 2008-22)	Amendments
3.6 Trainer's Qualification	
<p>Electrical Installation and Maintenance NC II Trainer's Qualification II (TQ II)</p> <p>To qualify as trainer for Electrical Installation & Maintenance NC II level, a person must:</p> <ul style="list-style-type: none"> • have undergone training on Training Methodology II (TM II) • be a holder of at least National Certificate Level III, Electrical Installation & Maintenance or its equivalent • be of good moral character • be a holder of CSC Professional eligibility (for government position) or appropriate professional license issued by PRC • be computer literate • be physically and mentally fit • * have 1 year relevant industry experience and/or teaching experience <p><i>*Optional: Only when required by the hiring institution Reference: TESDA Board Resolution No. 2004-03</i></p>	<p>Electrical Installation and Maintenance NC II</p> <p>To qualify as trainer for Electrical Installation & Maintenance NC II level, a person must:</p> <ul style="list-style-type: none"> • Must be a holder of National TVET Trainer's Certificate (NTTC) I in Electrical Installation and Maintenance NC II (or higher) • Must have at least two (2) years relevant industry experience and or teaching experience related with the qualification
3.7 Institutional Assessment	
<p>Institutional assessment is undertaken by trainees to determine their achievement of units of competency. A certificate of achievement is issued for each unit of competency.</p>	<p>Institutional assessment is undertaken by trainees to determine their achievement of units of competency. A certificate of achievement is issued for each unit of competency.</p> <p>The result of the institutional assessment may be considered as evidence for the assessment for national certification. As a matter of policy, graduates of programs registered with TESDA under these training regulations are required to undergo mandatory national competency assessment upon completion of the program.</p>

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Existing Promulgated Training Regulations (Board Resolution No. 2008-22)	Amendments
Section 4 National Assessment and Certification Arrangements	
<p>4.1 To attain the National Qualification of Electrical Installation and Maintenance NC II, the candidate must demonstrate competency in all the units listed in Section 1. Successful candidates shall be awarded a National Certificate II signed by the TESDA Director General.</p> <p>4.2 The qualification Electrical Installation and Maintenance NC II may be attained through:</p> <p>4.2.1 Accumulation of Certificates of Competency (COCs) in all the following units of competencies:</p> <ul style="list-style-type: none"> • Performing roughing-in activities • Installing wiring • Installing electrical protection systems • Installing lighting systems <p>4.2.2 Demonstration of competence through project-type assessment covering all the required units of the qualification.</p> <p>Successful candidates shall be awarded a Certificate of Competency (COC) in each of the core units.</p> <p>4.3 Accumulation and submission of all COCs acquired for the relevant units of competency comprising a qualification, an individual shall be issued the corresponding National Certificate.</p> <p>4.4 Assessment shall focus on the core units of competency. The basic and common units shall be integrated or assessed concurrently with the core units.</p>	<p>4.1 To attain the National Qualification of Electrical Installation and Maintenance NC II, the candidate must demonstrate competency in all the units listed in Section 1. Successful candidates shall be awarded a National Certificate II signed by the TESDA Director General.</p> <p>4.2 The qualification of Electrical Installation and Maintenance NC II can be attained through project-type assessment covering all the units of competency required in the qualification.</p> <p>4.3 Assessment shall focus on the core units of competency. The basic and common units shall be integrated or assessed concurrently with the core units.</p> <p>4.4 The following are qualified to apply for assessment and certification:</p> <p>1.4.1 Graduate of formal, non-formal, and informal including enterprise-based education/training programs/courses.</p> <p>1.4.2 Experienced workers (wage employed or self-employed)</p> <p>4.5 For those holders of existing National Certificate (NC) of individuals in Electrical Installation and Maintenance NC II, automatic conversion will be implemented</p> <p>4.6 Clustering of competencies is not applicable.</p>

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Existing Promulgated Training Regulations (Board Resolution No. 2008-22)	Amendments
<p>4.5 The following are qualified to apply for assessment and certification:</p> <ul style="list-style-type: none"> • Graduate of formal, non-formal and informal including enterprise-based training programs. • Experienced workers (wage employed or self-employed) <p>4.6 The guidelines on assessment and certification are discussed in detail in the "Procedures Manual on Assessment and Certification" and "Guidelines on the Implementation of the Philippine TVET Qualification and Certification System (PTQCS)".</p>	<p>4.7 Individuals who already possess Certificate of Competency (COC) in Electrical Installation and Maintenance NC II are advised to take the NC assessment for this amended TR upon expiration of their COCs.</p> <p>4.8 The guidelines on assessment and certification are discussed in detail in the "Procedures Manual on Assessment and Certification" and "Guidelines on the Implementation of the Philippine TVET Competency Assessment and Certification System (PTCACS)</p>

WHEREAS, during the 82nd Standards-Setting and Systems Development (SSSD) Committee TESDA Board-TESDA Secretariat Consultation Meeting held on 16 November 2015, the Committee favorably endorsed the following amendments to the above-mentioned Training Regulations for Electrical Installation and Maintenance NC III;

Existing Promulgated Training Regulations (Board Resolution No. 2008-22)	Amendments
Qualification Title	
Electrical Installation & Maintenance NC III	Electrical Installation & Maintenance NC III
Job Title	
<p>A person who has achieved this qualification is competent to be:</p> <ul style="list-style-type: none"> • Assistant Supervising Technician • Assistant Electrical Supervisor • Assistant Electrical Foreman • Electrical Leadman 	<p>A person who has achieved this qualification is competent to be:</p> <ul style="list-style-type: none"> • Industrial Electrician • Electrical Leadman • Electrical Foreman

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Existing Promulgated Training Regulations (Board Resolution No. 2008-22)	Amendments
Section 1 - Definition of the Qualification	
The ELECTRICAL INSTALLATION & MAINTENANCE NC III qualification consists of a set of competencies that a candidate for this qualification must achieve in order to obtain a national certificate for this qualification as specified by TESDA requirements. This particular set of competencies excludes core technical competencies required for related highly specialized vocational skilled workers such as linemen, substation technicians, electrical motors/generators repair technicians, etc	<ul style="list-style-type: none"> • No Amendments
Section 1- Units of Competency	
<u>Basic Competencies</u> (Prescribed competencies for NC III)	<u>Basic Competencies</u> (No amendments on prescribed competencies for NC III)
<u>Common Competencies</u> (Prescribed competencies for NC III)	<u>Common Competencies</u> (No amendments on prescribed competencies for NC III)
<u>Core Competencies</u> <ol style="list-style-type: none"> 6. Prepare electrical and hydraulic tools 7. Perform roughing-in and wiring for activities for bus and underfloor ducts 8. Perform installation of wiring devices for floor and ground fault current interrupting outlets 9. Perform installation of standard electrical protection system for lightning and grounding 	<u>Core Competencies</u> <ol style="list-style-type: none"> 4. Perform roughing-in and wiring activities for three-phase distribution system for power, lighting and motor control panel 5. Perform installation of data measurement and control system on electrical and auxiliary equipment 6. Install, assemble, test and maintain motor control system

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10. Perform installation of electrical lighting systems, auxiliary outlets and lighting fixtures 11. Perform installation of data measurement and control system on electrical and auxiliary equipment 12. Assemble and install electrical lighting and motor control systems 13. Perform maintenance and troubleshooting works	
<p>Section 2 - Competency Standards</p> <p>Updates/Changes were made consistent with the proposed amendments on Basic, Common and Core Competencies.</p>	
<p>Section 3 - Training Standards</p>	
<p>3.1 Curriculum Design</p>	
<p>Nominal Training Duration</p>	
20 hrs – Basic Competencies 32 hrs – Common Competencies 344 hrs – Core Competencies <hr/> 396 hrs - Total Course Description: This course is designed to equip individual with operational skills required for Electrical Installation & Maintenance III with learning outcomes, methodology and assessment approach as listed herein. <i>Trainees who have completed training in or are holders of Electrical Installation & Maintenance NC II may forego training in core units of competency (1) to (5).</i>	32 hrs – Basic Competencies 32 hrs – Common Competencies 96 hrs – Core Competencies <hr/> 160 hrs - Total Course Description: This course is designed to develop & enhance the knowledge, skills, & attitudes of an electrical, mechatronics and automation technician, in accordance with industry standards. It covers the basic & common competencies in addition to the core competencies as enumerated in section 1 of this training regulation.

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<p>3.2 Training Delivery</p> <p>The delivery of training should adhere to the design of the curriculum. Delivery should be guided by the 10 basic principles of the competency-based TVET.</p> <ul style="list-style-type: none"> • The training is based on curriculum developed from the competency standards; • Learning is modular in its structure; • Training delivery is individualized and self-paced; • Training is based on work that must be performed; • Training materials are directly related to the competency standards and the curriculum modules; • Assessment is based in the collection of evidence of the performance of work to the industry required standard; • Training is based both on and off-the-job components; • Allows for recognition of prior learning (RPL) or current competencies; • Training allows for multiple entry and exit; and • Approved training programs are nationally accredited. 	<p>3. The delivery of training shall adhere to the design of the curriculum. Delivery shall be guided by the principles of competency-based TVET.</p> <ul style="list-style-type: none"> • Course design is based on competency standards set by the industry or recognized industry sector; (Learning system is driven by competencies written to industry standards) • Training delivery is learner-centered and should accommodate individualized and self-paced learning strategies; • Training can be done on an actual workplace setting, simulation of a workplace and/or through adoption of modern technology. • Assessment is based in the collection of evidence of the performance of work to the industry required standards; • Assessment of competency takes the trainee's knowledge and attitude into account but requires evidence of actual performance of the competency as the primary source of evidence. • Training program allows for recognition of prior learning (RPL) or current competencies; and • Training completion is based on satisfactory performance of all specified competencies.

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<p>The competency-based TVET system recognizes various types of delivery modes, both on and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities may be adopted when designing training programs:</p> <ul style="list-style-type: none"> • The dualized mode of training delivery is preferred and recommended. Thus programs would contain both in-school and in-industry training or fieldwork components. Details can be referred to the Dual Training System (DTS) Implementing Rules and Regulations. • Modular/self-paced learning is a competency-based training modality wherein the trainee is allowed to progress at his own pace. The trainer only facilitates the training delivery. • Peer teaching/mentoring is a training modality wherein fast learners are given the opportunity to assist the slow learners. • Supervised industry training or on-the-job training is an approach in training designed to enhance the knowledge and skills of the trainee through actual experience in the workplace to acquire a specific competencies prescribed in the training regulations. 	<p>4. The competency-based TVET system recognizes various types of delivery modes, both on-and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities and their variations/ components may be adopted singly or in combination with other modalities when designing and delivering training programs:</p> <p>2.4. Institution- Based:</p> <ul style="list-style-type: none"> • Dual Training System (DTS)/ Dualized Training Program (DTP) which contain both in-school and in-industry training or fieldwork components. Details can be referred to the Implementing Rules and Regulations of the DTS Law and the TESDA Guidelines on the DTP; • Distance learning is a formal education process in which majority of the instruction occurs when the students and instructor are not in the same place. Distance learning may employ correspondence study, audio, video, computer technologies or other modern technology that can be used to facilitate learning and formal and non-formal training. Specific guidelines on this mode shall be issued by the TESDA Secretariat • The traditional classroom-based or in-center instruction may be enhanced through use of learner-centered methods as well as laboratory or field-work components

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Existing Promulgated Training Regulations (Board Resolution No. 2008-22)	Amendments
<ul style="list-style-type: none"> • Distance learning is a formal education process in which majority of the instruction occurs when the students and instructors are not in the same place. Distance learning may employ correspondence study, or audio, video or computer technologies. 	<p>2.5. Enterprise-Based:</p> <ul style="list-style-type: none"> • Formal Apprenticeship – Training within employment involving a contract between an apprentice and an enterprise on an approved apprenticeable occupation. • Enterprise-based Training - where training is implemented within the company in accordance with the requirements of the specific company. Specific guidelines on this mode shall be issued by the TESDA Secretariat.
3.3 Trainee Entry Requirements	
<p>To qualify as trainee for Electrical Installation & Maintenance NC III, a candidate must be:</p> <ul style="list-style-type: none"> • a holder of Electrical Installation & Maintenance NC II or equivalent experience and training • able communicate both orally and in writing • physically and mentally fit • with good moral character • can perform basic mathematical computation <p>This list does not include specific institutional requirements such as educational attainment, appropriate work experience, and others that may be required of the trainees by the school or training center delivering the TVET program.</p>	<p>The trainees who wish to enter the course should possess the following requirements:</p> <ul style="list-style-type: none"> • Must be a holder and/or have undergone training in Electrical Installation & Maintenance NC II or Mechatronics Servicing NC II <p>This list does not include specific institutional requirements such as educational attainment, appropriate work experience, and others that may be required of the trainees by the school or training center delivering the TVET program.</p>

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Existing Promulgated Training Regulations (Board Resolution No. 2008-22)	Amendments																																																																																		
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EQUIPMENT		EQUIPMENT	
QTY.	ITEM	QTY.	DESCRIPTION
5 units	Power supply - Automatic Voltage Regulator (AVR) - Un-interruptible power supply (UPS)	3 units	Motors, 3-phase, 220 volts
5 units	Generators and motors	5 units	Electric drill
5 units	Transformer	5 units	Portable grinder
5 units	Capacitors	2 units	Automatic Voltage Regulator (AVR)
5 units	Inverters/Rectifiers	3 units	Clamp-on meter
5 units	Controllers	1 unit	Insulation Resistance Tester
10 sets	- Motor controls	1 unit	Earth resistance tester
		1 unit	Labeling machine
		1 unit	Fire extinguisher KGS ABC
		1 unit	LCD Projector
MATERIALS		PPEs	
QTY.	ITEM	QTY.	DESCRIPTION
5 pcs.	Circuit breakers/Fuses (Din rail type)	25 pcs.	Working gloves
5 pcs.	PLC materials	10 pairs	Safety shoes
5 pcs.	Relays (Din rail type)	10 pcs.	Hard hat
5 pcs.	Timers (Din rail type)	10 pcs.	Safety goggles
5 pcs.	Terminal Blocks/Lugs (Din rail type)		
5 pcs.	Pilot lamps	MATERIALS	
5 pcs.	Actuators	QTY.	QTY.
20 pcs.	Push buttons (panel type)	5 pcs.	Circuit breakers/Fuses (Din rail type)
20 pcs.	Selector Switches (panel type)	15 pcs.	Controller/Contactors
5 lengths	Cable duct	10 pcs.	Relays (Din rail type)
4 lengths	Din rail	5 pcs.	Timers (Din rail type)
3 packs	Wire Strap	5 pcs.	Terminal Blocks/Lugs (Din rail type)
20 pcs.	Wire Markers	15 pcs./color	Pilot lamps (red, green, yellow)
5 pack	Cable Tie	5 pcs.	Actuators/solenoids
20 m.	Cable (Royal cord)		

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Existing Promulgated Training Regulations (Board Resolution No. 2008-22)	Amendments
MATERIALS	MATERIALS
QTY.	QTY.
ITEM	ITEM
10 pcs.	5 pcs.
Glands/Grommet	NO Push buttons (panel type)
2 boxes	5 pcs.
Conductors	NC Push buttons (panel type)
5 rolls	5 pcs.
Insulators	Selector Switches (panel type)
20 pcs.	5 lengths
Proper working clothes	Cable duct
	4 lengths
	Din rail
FORMS/MANUALS	3 packs
QTY.	Wire Strap
ITEM	5 pcs.
	Wire Markers
	5 pack
	Cable Tie
	20 m.
	Cable (Royal cord)
	10 pcs.
	Glands/Grommet
	2 boxes
	Conductors
	5 rolls
	Insulators
	5 pcs.
	Proper working clothes
	300 m
	TF (75m or 150m per box) or automotive wires, (30m)
	5 sets
	Wiring boards, ¾'x4'x8'
	25 pcs.
	RSC/IMC
	5 pcs.
	Entrance cap
	50 Pairs
	Locknut & bushing
	100 pcs.
	3/16' x 1" Metal Screw
	50 pcs.
	Conduit strap/clamp
	5 boxes
	Wire AWG #12, (3.5mm ²)
	5 boxes
	Wire AWG #14(2.0mm ²)
	5 rolls
	Electrical tape
	5 Kgs.
	#16 G.I wire
	1 pc.
	Whiteboard 4 x 8 x ¾

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I. Learning resource area	4 x 5	20	20																																																										
J. Tool/storage area	4 x 5	20	20																																																										
K. Wash, toilet and locker room*	2 x 2	4	4																																																										
Sub-Total			124																																																										
L. Facilities/Equipment/ Circulation** (30% of space requirements)			38																																																										
TOTAL AREA			162																																																										

Republic of the Philippines
 TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY
 East Service Road, South Superhighway, Taguig City

92nd TESDA BOARD MEETING
 16 December 2015, Wednesday, 2:00 p.m.
 7/F TESDA Board Room, Office of the Chair
 TESDA Complex, South Superhighway, Taguig City

Resolution No. 2015-17
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**APPROVING THE AMENDMENTS TO THE TRAINING REGULATIONS FOR
 ELECTRICAL INSTALLATION AND MAINTENANCE NC II AND ELECTRICAL
 INSTALLATION AND MAINTENANCE NC III**

Existing Promulgated Training Regulations (Board Resolution No. 2008-22)	Amendments
3.6 Trainer's Qualification	
<p>Electrical Installation & Maintenance NC III</p> <p>The trainer who will handle the course must have the following qualifications:</p> <ul style="list-style-type: none"> • Be a graduate of BS in Industrial Education, Major in Electrical Technology or its equivalent • Must have undergone training on Training Methodology III • He must be a holder of at least Electrical Installation & Maintenance NC IV • Good moral character • Must be computer literate • Must be physically and mentally fit • Minimum of three (3) years relevant job/industry experience* <p><small>*Optional: Only when required by the hiring institution Reference: TESDA Board Resolution No. 2004-03</small></p>	<p>Electrical Installation & Maintenance NC III</p> <p>The trainer who will handle the course must have the following qualifications:</p> <ul style="list-style-type: none"> • Must be a holder of NTTC I in Electrical Installation & Maintenance NC III or higher • Must have at least three (3) years relevant industry experience and or teaching experience related with the qualification
3.7 Institutional Assessment	
<p>Institutional assessment is undertaken by trainees to determine their achievement of units of competency. A certificate of achievement is issued for each unit of competency.</p>	<p>Institutional assessment is undertaken by trainees to determine their achievement of units of competency. A certificate of achievement is issued for each unit of competency.</p> <p>The result of the institutional assessment may be considered as evidence for the assessment for national certification. As a matter of policy, graduates of programs registered with TESDA under these training regulations are required to undergo mandatory national competency assessment upon completion of the program.</p>

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**APPROVING THE AMENDMENTS TO THE TRAINING REGULATIONS FOR
ELECTRICAL INSTALLATION AND MAINTENANCE NC II AND ELECTRICAL
INSTALLATION AND MAINTENANCE NC III**

WHEREAS, during the 92nd TESDA Board Meeting on 16 December 2015 at 2:00 p.m., the TESDA Board considered the amendments and approved the promulgation of the amended Training Regulations for Electrical Installation and Maintenance NC II and Electrical Installation and Maintenance NC III;

NOW, THEREFORE, BE IT RESOLVED, AS IT IS HEREBY RESOLVED, that the TESDA Board in its meeting today, 16 December 2015 at 2:00 p.m., approves the aforementioned amendments to the Training Regulations for Electrical Installation and Maintenance NC II and Electrical Installation and Maintenance NC III, as herein appended;

BE IT RESOLVED, FINALLY, that (1) copies of this Resolution and the accompanying Training Regulations be published and disseminated to all concerned, and the same shall be effective fifteen (15) days upon publication;

(2) All programs registered under the current Training Regulations for Electrical Installation and Maintenance NC II and Electrical Installation and Maintenance NC III must comply with requirements of the aforementioned Training Regulations as amended. The one-year period of registration under this amended Training Regulations shall commence on the date of effectivity of the Implementing Guidelines/TESDA Circular for the deployment of the Training Regulations to be issued by the TESDA Secretariat; and

(3) Graduates of TVET programs covered by the aforementioned Training Regulations shall be required to undergo mandatory assessment under the national assessment and certification program.



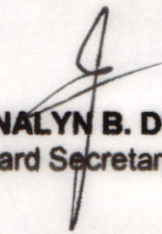
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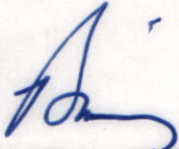
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**APPROVING THE AMENDMENTS TO THE TRAINING REGULATIONS FOR
ELECTRICAL INSTALLATION AND MAINTENANCE NC II AND ELECTRICAL
INSTALLATION AND MAINTENANCE NC III**

Adopted this 16th day of December 2015.


RINALYN B. DUMOL
Board Secretary VI

Attested by:


BR. ARMIN A. LUISTRO FSC
Co-Chairperson, TESDA Board
Secretary, Department of Education