

NOTE ON PERFORMANCE TESTING

Performance Profile Sheet(s) are included in a format that can be easily photocopied for each trainee. This examination is designed to measure competency in the tasks taught in each module.

Please note the number of tasks to be tested while teaching each module. Each trainee should be tested on all the tasks listed on the Performance Profile Sheet(s). Before performance testing, the instructor should brief the trainees on:

- Test objectives and criteria
- Safety precautions
- Procedures for each task to be tested

The instructor administering the performance testing should also do the following:

- Ensure that all of the needed equipment is available and operating properly.
- Set up the testing stations.
- Organize and administer the test in a way that allows for optimal performance.
- Complete the Performance Profile Sheet(s) for each trainee by assigning a pass/fail score for each listed task. Also, include the testing date, and start and end times for each task in the rating boxes.
- Monitor adherence to all safety regulations and precautions.
- Provide adequate supervision to prevent injuries.
- Take immediate and effective action to remedy any emergency.

Performance Testing

If Performance Testing is done as part of the NCCER Standardized Craft Training Program, the following conditions must be met:

1. The Craft Instructor must hold valid NCCER instructor certification.
2. The training must be delivered through an Accredited Training Sponsor recognized by NCCER.
3. The specific performance testing must be completed successfully.
4. The results of the testing must be recorded on the Registration of Training Modules Form. This form must be provided to the local Accredited Training Sponsor to be forwarded to the NCCER Registry.

**Module 64102-02 has no Performance Profile Sheet;
no performance testing is required for this module.**

**Module 64103-02 has no Performance Profile Sheet;
no performance testing is required for this module.**

Craft: Pipeline Electrical & Instrumentation

Module Number: 64104-02

Module Title: Electrical Theory



TRAINEE NAME: _____

TRAINEE SOCIAL SECURITY NUMBER: _____

CLASS: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Also, list the date the testing for each task was completed.

Recognition: When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

Certified Plus Credential: Trainees who successfully complete these performance tasks may be eligible for a Certified Plus Credential. Refer to the Note on Performance Testing of this Performance Profile for eligibility requirements, or contact NCCER for more information.

Objective	TASK	RATING
2	1. Use the formula for Ohm's law to calculate unknown values for current, resistance, and voltage.	
2, 7	2. Given different resistors, identify the correct resistance value and tolerance using the color code.	
3	3. Draw basic voltmeter and ohmmeter circuits and explain how they operate.	

continued

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Craft: Pipeline Electrical & Instrumentation

Module Number: 64104-02

Module Title: Electrical Theory



Objective	TASK	RATING
4	4. Use the power formula to calculate the amount of power used by a circuit.	
4	5. Use a variation of the power formula to calculate the maximum current a resistor can carry based on the resistor's value and power rating.	
5, 7	6. Calculate the total resistance for selected series, parallel, and series-parallel circuits.	
6	7. Use Kirchhoff's current law to calculate the total and unknown currents in parallel and series-parallel circuits.	
6	8. Use Kirchhoff's voltage law to calculate voltage drops in series, parallel, and series-parallel circuits.	

Craft: Pipeline Electrical & Instrumentation

Module Number: 64105-02

Module Title: Tools of the Trade



TRAINEE NAME: _____

TRAINEE SOCIAL SECURITY NUMBER: _____

CLASS: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Also, list the date the testing for each task was completed.

Recognition: When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

Certified Plus Credential: Trainees who successfully complete these performance tasks may be eligible for a Certified Plus Credential. Refer to the Note on Performance Testing of this Performance Profile for eligibility requirements, or contact NCCER for more information.

Objective	TASK	RATING
1	1. Identify a given hand tool, state its application, and describe its safe use and maintenance.	
1	2. Demonstrate the use of a given hand tool, according to the standards given by the instructor.	
2	3. Identify a given power tool, state its application, and describe its safe use and maintenance.	

continued

Craft: Pipeline Electrical & Instrumentation

Module Number: 64105-02

Module Title: Tools of the Trade



Objective	TASK	RATING
2	4. Demonstrate the use of a given power tool, according to standards given by the instructor.	
3	5. Identify a given kind of test equipment, state its application, and describe its safe use and maintenance.	
3	6. Demonstrate the use of a given kind of test equipment, according to standards given by the instructor.	
4	7. Identify a given kind of portable communication equipment, state its application, and describe its safe use and maintenance.	
4	8. Demonstrate the use of a given kind of portable communication equipment, according to standards given by the instructor.	

Craft: Pipeline Electrical & Instrumentation

Module Number: 64107-02

Module Title: Pipeline E&I Drawings



TRAINEE NAME: _____

TRAINEE SOCIAL SECURITY NUMBER: _____

CLASS: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Also, list the date the testing for each task was completed.

Recognition: When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

Certified Plus Credential: Trainees who successfully complete these performance tasks may be eligible for a Certified Plus Credential. Refer to the Note on Performance Testing of this Performance Profile for eligibility requirements, or contact NCCER for more information.

Objective	TASK	RATING
1, 2, 3, 4, 5	1. Identify a given type of drawing, state its application, and describe its use.	
1	2. Identify common drawing components, such as the title block, legend, and drafting lines, and describe their use.	
2	3. Read and interpret electrical drawings.	

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Craft: Pipeline Electrical & Instrumentation

Module Number: 64107-02

Module Title: Pipeline E&I Drawings



Objective	TASK	RATING
3	4. Read and interpret piping and instrumentation diagrams.	
4	5. Read and interpret special drawings and diagrams.	
5	6. Read and interpret pipeline maps and alignment sheets.	

Craft: Pipeline Electrical & Instrumentation

Module Number: 64108-02

Module Title: Understanding the National Electrical Code®



TRAINEE NAME: _____

TRAINEE SOCIAL SECURITY NUMBER: _____

CLASS: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Also, list the date the testing for each task was completed.

Recognition: When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

Certified Plus Credential: Trainees who successfully complete these performance tasks may be eligible for a Certified Plus Credential. Refer to the Note on Performance Testing of this Performance Profile for eligibility requirements, or contact NCCER for more information.

Objective	TASK	RATING
2, 3	1. Use NEC Article 90 to determine the scope of the NEC, and state what is covered by the NEC and what is not.	
2, 3	2. Find the definition of the term <i>feeder</i> in the NEC.	
2, 3	3. Look up the NEC specifications one would need to follow in installing an outlet near a fire pump or water pump house.	
2, 3	4. Find the minimum wire bending space required if two No. 1/0 AWG conductors were to be installed in a junction box or cabinet.	

Craft: Pipeline Electrical & Instrumentation

Module Number: 64109-02

Module Title: Fasteners and Anchors



TRAINEE NAME: _____

TRAINEE SOCIAL SECURITY NUMBER: _____

CLASS: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Also, list the date the testing for each task was completed.

Recognition: When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

Certified Plus Credential: Trainees who successfully complete these performance tasks may be eligible for a Certified Plus Credential. Refer to the Note on Performance Testing of this Performance Profile for eligibility requirements, or contact NCCER for more information.

Objective	TASK	RATING
1	1. From a selection of threaded fasteners, select the correct fasteners(s) for one or more applications specified by the instructor.	
1	2. From a selection of nonthreaded fasteners, select the correct fastener for one or more applications specified by the instructor.	

continued

Craft: Pipeline Electrical & Instrumentation

Module Number: 64109-02

Module Title: Fasteners and Anchors



Objective	TASK	RATING
3	3. Install a nut and bolt and torque them to a torque value specified by the instructor.	
3	4. Install a blind rivet using a rivet gun.	
3	5. Drill a hole and install a toggle bolt.	

Craft: Pipeline Electrical & Instrumentation

Module Number: 64201-02

Module Title: Electrical Installations in Classified Areas



TRAINEE NAME: _____

TRAINEE SOCIAL SECURITY NUMBER: _____

CLASS: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

- Rating Levels:**
1. Passed: performed task.
 2. Failed: did not perform task.

Recognition: When testing for the NCCER Standardized Training Program, be sure to record Performance testing results on NCCER Training Report Form 200 and submit the results to the Training Program Sponsor.

Objective	TASK	RATING
1, 2, 3, 4	1. Determine if a fitting would be usable in a classified area.	
2, 3	2. Using two rigid metal conduit nipples, a sealing fitting, three pieces of No. 12 THHN conductors, and a packing fiber/sealing kit, perform the following operations: <ul style="list-style-type: none"> • Secure a conduit nipple in each end of the seal. • Make sure the required amount of threads are engaged. • Pull the three THHN conductors through the nipples and seal so that about 6" are protruding from each nipple. • Pack the fiber as per instructions furnished with the sealing kit. • Mix the sealing compound. • Position the unit in the required location and pour in the sealing compound. 	

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Craft: Pipeline Electrical & Instrumentation

Module Number: 64201-02

Module Title: Electrical Installations in Classified Areas



Objective	TASK	RATING
3	3. Identify a minimum of three different covers for explosion-proof fittings.	
3	4. Remove the inspection cover on an explosion-proof fitting and check for moisture.	
2	5. Install a barrier system.	

Craft: Pipeline Electrical & Instrumentation

Module Number: 64202-02

Module Title: Use of Meters and Test Equipment



TRAINEE NAME: _____

TRAINEE SOCIAL SECURITY NUMBER: _____

CLASS: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

- Rating Levels:**
1. Passed: performed task.
 2. Failed: did not perform task.

Recognition: When testing for the NCCER Standardized Training Program, be sure to record Performance testing results on NCCER Training Report Form 200 and submit the results to the Training Program Sponsor.

Objective	TASK	RATING
1, 2	1. Use a clamp-on ammeter to measure current.	
1, 2, 3, 4	2. Use an analog or digital multimeter to measure AC/DC voltage, AC/DC current, and resistance.	
1, 5	3. Use a HART digital communicator to configure and calibrate a smart-capable device.	

continued

Craft: Pipeline Electrical & Instrumentation

Module Number: 64202-02

Module Title: Use of Meters and Test Equipment



Objective	TASK	RATING
1, 5	4. Use a calibrator to zero and spin a current-loop device.	
1, 5, 6	5. Use an oscilloscope to measure various waveforms and electrical signals.	

Craft: Pipeline Electrical & Instrumentation

Module Number: 64203-02

Module Title: Grounding



TRAINEE NAME: _____

TRAINEE SOCIAL SECURITY NUMBER: _____

CLASS: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

- Rating Levels:**
1. Passed: performed task.
 2. Failed: did not perform task.

Recognition: When testing for the NCCER Standardized Training Program, be sure to record Performance testing results on NCCER Training Report Form 200 and submit the results to the Training Program Sponsor.

Objective	TASK	RATING
5, 6, 7	1. Using the proper fittings, connect one end of a No.4 AWG bare copper grounding wire to a copper ground rod and the other end to the correct terminal in a main panelboard.	
11, 12, 13	2. Measure the resistance of ground electrodes using the fall-of-potential method.	
1, 2, 3, 4, 11	3. Explain and properly terminate an equipment ground.	

continued

Craft: Pipeline Electrical & Instrumentation

Module Number: 64203-02

Module Title: Grounding



Objective	TASK	RATING
1, 2, 3, 4, 5, 6	4. Explain and properly terminate a shield.	
5, 6, 7	5. At an existing installation, point out the bonding between noncurrent-carrying metal parts.	