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COURSE INFORMATION

Alternate Title: Fiber Optic Splicing & Testing

Description:

10-451-203 FIBER OPTIC SPLICING & TESTING PROCEDURES ...introduces how power systems work differently in the telecommunications industry.

Instructional Level: 10

Total Credits: 2

Total Hours: 54

COURSE HISTORY

Status: Active

Active Date: 5/23/2021

Last Revision Date: 9/15/2023

Revised By: Kristina Wendricks (15002977)

Last Approval Date: 9/15/2023

Approved By: Kristina Wendricks (15002977)

COURSE COMPETENCIES

1. Demonstrate proper use of safety precautions and safe tool use without instructor guidance.

Status: Active

Assessment Strategies

- 1.1. Observations
- 1.2. Project

Criteria

Learners will be successful when they are able to:

- 1.1. Apply all the required safety precautions without guidance from the from the instructor
- 1.2. Demonstrate the proper use of PPE without guidance from the instructor
- 1.3. Use traffic control devices in work areas while splicing, testing, and troubleshooting
- 1.4. Use and care for hand tools without instructor guidance
- 1.5. Use and care for power tools and equipment without instructor guidance

Learning Objectives

- 1.a. Demonstrate proper safety precautions without instructor guidance.
- 1.b. Demonstrate proper tool and equipment use without instructor guidance.

2. Examine plans, schematics and installation instruction manuals.

Status: Active

Assessment Strategies

- 2.1. Observations
- 2.2. Project

Criteria

Learners will be successful when they are able to:

- 2.1. Interpret project schematics, specs, organize documentation and create an installation plan
- 2.2. Interpret splice case instructions
- 2.3. Interpret termination panel instructions
- 2.4. Interpret project specifications

Learning Objectives

- 2.a. Comprehend fiber optic splicing and termination schematics.
- 2.b. Comprehend fiber optic splice case and termination panel instructions.
- 2.c. Comprehend project specifications for installation, splicing, and testing.

3. Carry out splice case prep, fiber optic fusion splicing, and splice case installation.

Status: Active

Assessment Strategies

- 3.1. Observations
- 3.2. Project

Criteria

Learners will be successful when they are able to:

- 3.1. Construct splice case
- 3.2. Label fiber optic cables and enter ends into splice case
- 3.3. Carry out cable prep, buffer tube organization, and labeling in splice case
- 3.4. Carry out cable splicing, heat shrinking, and splice organization in splice trays
- 3.5. Document splicing inside of case and take photos of work

Learning Objectives

- 3.a. Carry out splice case prep.
- 3.b. Carry out cable jacket removal.
- 3.c. Carry out splice case fusion splicing.

4. Carry out termination panel installation and fiber optic fusion splicing.

Status: Active

Assessment Strategies

- 4.1. Observations
- 4.2. Project

Criteria

Learners will be successful when they are able to:

- 4.1. Construct termination panel
- 4.2. Label fiber optic cables and enter ends into termination panel
- 4.3. Carry out cable prep, buffer tube organization, and labeling on termination panel
- 4.4. Carry out cable splicing, heat shrinking, and splice organization in splice trays
- 4.5. Document splicing inside of panel and take photos of work

Learning Objectives

- 4.a. Carry out termination panel installation in equipment rack.
- 4.b. Carry out cable jacket removal.
- 4.c. Carry out termination panel fusion splicing.

5. Carry out fiber optic testing to validate installation adherence to specifications and acceptable losses.

Status: Active

Assessment Strategies

- 5.1. Observations
- 5.2. Project

Criteria

Learners will be successful when they are able to:

- 5.1. Carry out Bi-Directional OTDR testing to ensure loss budgets are acceptable
- 5.2. Carry out Bi-Directional PMLS testing to ensure continuity and true overall losses
- 5.3. Carry out fiber optic connector and coupler scopes to ensure clean error free connections

Learning Objectives

- 5.a. Carry out OTDR Testing
- 5.b. Carry out Power Meter and Light Source Testing
- 5.c. Carry out fiber optic connector and coupler fiber scopes

6. Organize, compile, and deliver final documentation.

Status: Active

Assessment Strategies

- 6.1. Observations
- 6.2. Project

Criteria

Learners will be successful when they are able to:

- 6.1. Organize and distribute splicing documentation and pictures to customer
- 6.2. Organize and compile OTDR and PMLS test results

Learning Objectives

- 6.a. Organize and distribute splicing documentation.
- 6.b. Organize and distribute fiber optic test results.