



# 2024 Power Line Competition

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## FACT SHEET

### **Project Manager**

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For questions relating to the power line competition contact Jonathan Sacks at [jsacks@cianbro.com](mailto:jsacks@cianbro.com). For all event questions contact Jarrell Jackson, National Craft Championships director, at (202) 595-1789 or [jackson@abc.org](mailto:jackson@abc.org).

### **Specific Competition Eligibility**

The power line competition requires competitors to climb and perform work on poles and operate an aerial bucket lift. Competitors must be able to demonstrate that they have acquired these skills in order to safely participate in the competition. Please refer to overall eligibility requirements for all additional requirements.

### **Online Exam**

The online exam must be completed before competitors arrive on site, at a local NCCER Accredited Training Sponsor or Assessment Center. Accommodations will be made for extreme circumstances with prior approval of the NCC director. All competitors must sit for the online exam or face disqualification from the NCC. The online exam continues to make up 25% of one's overall competition score. It is the responsibility of the sponsor organization to schedule test sessions directly with NCCER. Test registration and guidelines will be available in January 2024.

### **Practical Performance Test Description**

Each competitor will rotate through three workstations. Each competitor will have two hours to complete assigned tasks, utilizing knowledge and skills at each station. Unsafe behavior will disqualify a competitor from completing a task. Each activity will require a competitor to read and interpret drawings and specifications, build as per specs and demonstrate a basic knowledge of distribution systems and equipment.

#### **Task #1: Structure framing on hooks**

Competitors will frame out a 15-foot structure as per standard drawings, which will be issued before the start of competition.

#### **Task #2: Wiring 3-phase transformer banks**

Each competitor will wire a three-phase transformer bank and associated equipment for the configuration assigned per standard drawings. The transformers will be mounted approximately six feet from the ground, work will be done from the ground or step ladder.

#### **Task #3: Terminating medium voltage cable and connecting riser to aerial line**

Each competitor will terminate medium voltage termination and on bottom end of riser and make up a high-side termination and land and tie into aerial line according to given specifications. The riser will be mounted on a 6-foot pole, all work will be done from the ground or step ladder.

### **Knowledge and Skills Required**

The knowledge and skills for this competition are based on the NCCER Line Curriculum Level One Power Line, Level Two and Three Distribution. Competitors should be in at least the third year of an apprenticeship program and should have experience operating and working out of

buckets as well as climbing and working on hooks. Though there will be no actual exposure to live line lines, familiarity with live line techniques will be part of the assessment.

**Knowledge and skills which will be assessed include:**

- Pole framing techniques
- Basic components of 15kV distribution line
- Basic knots
- Rigging techniques
- Communication
- Development of STA
- Reading and following standard drawings
- Medium-voltage underground cable terminations
- Use of shotgun stick
- Three-phase transformer wiring diagrams and wiring techniques
- Pole climbing
- Understanding of basic electrical concepts and terms
- Understanding of common tools and equipment used for distribution line work
- Safe operation of bucket truck
- Electrical safety in energized space
- Application of cover
- Riser

**Tools required to bring:**

- Lineman body belts with a positioning strap
- Pole climbers

**Tools provided by the NCC:**

- 10- and 12-inch adjustable wrenches
- High-leverage side cutters
- Insulating water pump pliers
- Wire skinning knife
- Tool bag
- Lineman's Double-Face Hammer
- Fiberglass folding rule
- ½-inch and ¾-inch ratcheting box wrenches
- Square shank screwdrivers

All tools will be inspected before the contest. Any tools deemed to be unsafe will be taken out of service. Additional tools required will be provided by the National Craft Championships committee.

**Competitors should bring their own personal fall protection device for pole climbing and body harness for bucket work.** Fall restraint/protection equipment will be inspected prior to competition; if equipment is not in safe working order it will be removed from service and competitor will use an NCC-provided Buckingham SuperSqueeze for climbing and a standard harness. Hard hats and safety glasses will be provided and must be worn during the competition; competitors must furnish prescription safety glasses or will be required to wear over glasses. Competitors will be assessed as to their safe operation of the bucket. Unsafe operation will not be permitted.

**Sample Score Sheet**

The following sample score sheet is provided to give competitors an **example** of the criteria that may be included in the practical performance test. **However, this score sheet is only a sample and not intended to act as a study guide in preparation or to imply specific criteria that will be judged during the actual practical performance test.**

## ABC National Craft Championships Power Line Sample Score Sheet

| Judging Criteria                   | Competitor Identification Numbers |  |  |  |  |
|------------------------------------|-----------------------------------|--|--|--|--|
|                                    | Maximum Points                    |  |  |  |  |
| <b>Task One</b>                    |                                   |  |  |  |  |
| Communication with general manager |                                   |  |  |  |  |
| Rigging                            |                                   |  |  |  |  |
| Knots                              |                                   |  |  |  |  |
| Selection of hardware              |                                   |  |  |  |  |
| Climbing                           |                                   |  |  |  |  |
| Tool use                           |                                   |  |  |  |  |
| Arm installation                   |                                   |  |  |  |  |
| Hardware installation              |                                   |  |  |  |  |
| Deconstruction                     |                                   |  |  |  |  |
| Use of hand line                   |                                   |  |  |  |  |
| Use of PPE                         |                                   |  |  |  |  |
| Safety                             |                                   |  |  |  |  |
| <b>SUBTOTAL:</b>                   | <b>50</b>                         |  |  |  |  |
| <b>Task Two</b>                    |                                   |  |  |  |  |
| Grounding                          |                                   |  |  |  |  |
| Correct configuration              |                                   |  |  |  |  |
| Wire stripping                     |                                   |  |  |  |  |
| Wire routing                       |                                   |  |  |  |  |
| Connections                        |                                   |  |  |  |  |
| Workmanship                        |                                   |  |  |  |  |
| Completion %                       |                                   |  |  |  |  |
| Safety/housekeeping                |                                   |  |  |  |  |
| <b>SUB TOTAL:</b>                  | <b>50</b>                         |  |  |  |  |
| <b>Task Three</b>                  |                                   |  |  |  |  |
| Cable installation                 |                                   |  |  |  |  |
| Wire stripping                     |                                   |  |  |  |  |
| Grounding                          |                                   |  |  |  |  |
| Top term                           |                                   |  |  |  |  |
| Bottom term                        |                                   |  |  |  |  |
| Crimp connections                  |                                   |  |  |  |  |
| Workmanship                        |                                   |  |  |  |  |
| Safety/housekeeping                |                                   |  |  |  |  |
| <b>SUB TOTAL:</b>                  | <b>50</b>                         |  |  |  |  |
| <b>GRAND TOTAL:</b>                | <b>150</b>                        |  |  |  |  |

SAMPLE