FirstEnergy
Power Systems Institute

TECHNICAL EVALUATION DESCRPTION

The **Overhead Lines** technical evaluation will consist of various activities that will determine a candidate's ability to perform each task in which they will be evaluated and ranked.

- Knot Tying – The candidate will be given instruction on the proper format for tying a variety of knots. Your instructor will evaluate your ability to follow directions and also how quickly you catch on to this learning. Reference knot tying sheet in your folder.
- Cross Arm Raising – To test upper body strength, candidate will be required to raise and lower a 50 lb. cross -arm that is tied to a hand line three (3) times, without dropping it.
- Cross Arm Mounting – The candidate will be required to install a cross arm on a pole at ground level. They will be wearing a line belt and will lean back in the belt as if in the air. They will be using a pair of channel locks to perform this exercise, which allows our instructors to view mechanical ability using simple tools.
- Climbing – The candidate will watch a climbing safety video and will then be fitted for their climbing belt and harness. They will be given a demonstration of the proper technique of various styles of climbing with instructional guidance from the Training Instructors. Candidates, while in full fall arrest, will climb to various heights of 10, 20 and 30 feet on a wooden pole. After practicing the proper technique by climbing up and down, students will then position themselves to circle to the left and then to the right on the pole. This is done by placing one foot slightly higher than the other. The higher leg will be bent at the knee almost touching the pole, and the lower leg will be locked straight at the knee. This movement will be completed at the 10, 20 and 30 foot level on the pole. Candidates will then position themselves in the same manner in order to "boom" out at a 45 degree angle with both hands outstretched above their heads. This will also be done at all three levels on the pole.

The **Lines Qualification School** will consist of:

- Belted and unbelted climb in fall arrest – The candidate will demonstrate the proper technique for inspecting wood poles prior to climbing in accordance with FirstEnergy's Accident Prevention Handbook (APH); will also explain the purpose of the test, how to make a visual inspection and what constitutes an un-climbable pole. The candidate will demonstrate the proper donning of a full body harness, climbing belt and safety strap with 100% accuracy.

- Climbing over cross-arm – The candidate will demonstrate the safe and proper technique of climbing over a cross-arm in accordance with FirstEnergy's APH.

- 360-degree rotation (right and left) on pole – The candidate will practice circling the pole, left and right. The candidate will be expected to maintain the same level or height on pole while circling.

- Hanging/dismantling ten-foot cross-arm(s) with pins and insulators – The candidate will be able to explain and demonstrate the proper technique for assembling and disassembling a single and double set of cross-arms in accordance with FirstEnergy's construction standards.

- Knot Tying – The candidate will demonstrate their ability to tie four basic knots with 100% accuracy to facilitate safe work practices while performing work activities.

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TECHNICAL EVALUATION DESCRIPTION

The **Substation** technical evaluation will consist of various activities that will determine a candidate's ability to perform each task in which they will be evaluated and ranked.

- Nut/Bolt Assembly – The candidate will be given various sized nuts and bolts and will have to correctly assemble the components. A three minute timeframe will be given to complete the exercise.

- Hoist a Tool Bag – The candidate will be asked to raise and lower a 25lb bag five (5) consecutive times to an elevated height of 20-25ft. using a hand-line. A minor obstruction will be placed in the path of the tool bags to gauge the candidate's ability to maneuver the bag around the obstruction and complete the lift without dropping it or banging into an obstruction. A ten minute timeframe will be given to complete the exercise.

- Wire Identification – The candidate will be asked to correctly identify each wire color or color scheme of approximately 10 different colored controlled wires. A three minute timeframe will be given to complete the exercise.

- Enclosed Space Entry and Measurement – Candidate will be introduced to a semi-dark confined space (simulation of an OCB or transformer vessel). Given a flashlight, they will be required to either read a switching order or take measurements.

- Ruler Measurements – The candidate will be asked to make up to 10 measurements using a standard carpenter's ruler. A ten minute timeframe will be given to complete the exercise.

- Tool Identification – The candidate will be asked to identify 20 various hand tools. A three minute timeframe will be given to complete the exercise.

- Rope Blocks – Make up a set of 2 to 2 rope blocks. Candidate will be given a set of new blocks and length of rope to reeve thru the pulleys. A set of made-up blocks will be available to the candidate for reference. The time limit on this activity is 7 minutes.

The **Substation** qualification school will consist of:

- Climbing – The candidate will climb a structure to a specific height, belt off using a body belt, and demonstrate the use of various fall arrest systems (rope grab, shepherd's hook, and pelican hooks) and successfully descend. This task is not timed.

- Extension Ladder – The candidate must carry, set up, climb, and work from an extension ladder. This task is not timed.

- Insulator – The candidate must install a bus insulator on a steel structure from an extension ladder. This task is not timed.

- Drilling – The candidate must lay out, center punch and drill two holes in a steel plate. This task is not timed.

- Grounding – The candidate must install and remove portable, personal grounds within 15 minutes.

- Knots – The candidate must demonstrate six basic knots. This task is not timed.

- PPE – The candidate must demonstrate the proper way to test, inspect and store Personal Protective Equipment (PPE). This task is not timed.

- Handline – The candidate must successfully identify parts of a handline, make up various knots, raise and lower various loads and return the handline to storage. This task is not timed.

- Bag Lift – Hoist a weight of 40lbs three times to a 40ft level within five minutes.

- Wire ID – The candidate must identify various wires and conductors. This task is not timed.