Journeyman Team Events

FLORIDA LINEMAN COMPETITION Host Utility March 13-14, 2020 • Tallahassee, FL



12kV In-line Switch Change Out

Mean Time: 11 minutes Drop Dead Time: 15 minutes

Chief Judge: Dwayne Goostree, Lakeland Electric

Event Summary

This event consists of changing out an in-line switch after the 12kV line has been de-energized, tested, grounded. The team will be required to load-break open the in-line switch at pole#1. Once opened, the Groundman will open a solid blade cut-out at pole#2 with an extendo stick which represents the feed to the line they will be working on. Once there is a visible open, they will be required to test, brush and ground the line on each side of the switch at pole#1 from below the neutral.

The in-line switch will be jacked out using rated hoist or blocks, lowered to the ground, and raised back up for re-installation. After the switch is re-installed, the climbers move below the neutral where they will operate the new switch with a stick before removing the grounds and leaving the switch open. Once grounds have been removed, the Groundman can close in the solid blade cutout at pole #2 to re-energize the feed. When the last climber is on the ground and off the pole, the new switch will be closed with an extendo stick from the ground at pole#1.

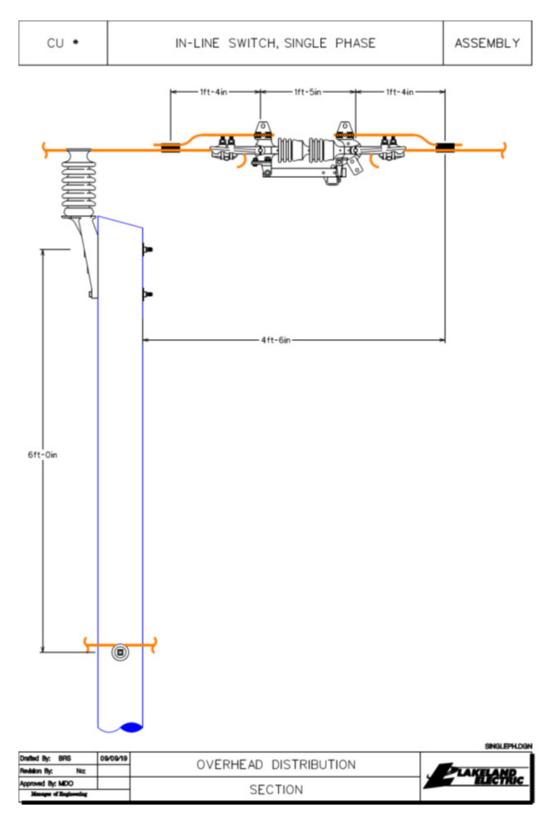
Event Specifications

- 1. Teams will have 5 minutes to set-up and ask questions.
- 2. Teams must provide own load break tool.
- 3. Climbers can start the event with their climbing tools on.
- 4. Time starts at Judge's signal with climbers one arm's length from the pole and all line working tools lying flat on the tarp .
- 5. Both sides of the neutral and spool must be covered.
- 6. All temporary and permanent connections shall be brushed, no simulations.
- 7. Cotter keys on pins must be re-installed with keys being on the neutral side.
- 8. Extendo sticks shall be fully retracted when transporting between pole#1 and pole#2.
- 9. Climbers can perform groundwork with tools on but must have all PPE on including gaff guards.
- 10. A red painted tool can be used as a tester; all tools must be fixed to sticks. No Taping.
- 11. Time stops after both climbers are on the ground, in-line switch is closed, all extendo sticks retracted and lying on the tarp.

All tools and material not in use must remain on the tarp.

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12kV In-line Switch Change Out



Journeyman Team Events

FLORIDA LINEMAN COMPETITION Host Utility March 13-14, 2020 • Tallahassee, FL



12kV Insulator Change Out

Mean Time: 12 minutes Drop Dead Time: 15 minutes

Chief Judge: David Wolfe, Kissimmee Utility Authority

Event Summary

This event consists of replacing 25kV insulator and standoff bracket in the middle position on a 3 phase pole (vertical construction). The primary conductor will be #2AAAC, and will be tied in with a pre-formed side tie with rubber grommet. The primary will be worked with rated hot sticks i.e. (wire tongs and saddles). Proper cover-up must be installed, and minimum approach distance must be maintained during event.

Event Specifications

- 1. Conductor will be # 2 AAAC.
- 2. Primary will be worked with rated hot sticks while maintaining M.A.D.
- 3. Wire tongs and saddles must be installed prior to the tie being untied, and must remain in place until new tie is installed completely.
- 4. All primary cover must be applied with rated hot sticks (No hanging shotguns) approved attached hot sticks only.
- 5. Two points of positive control must be maintained while moving energized conductor.
- 6. Standoff bracket and insulator must be made up under event time, and be broke back down before time stops.
- 7. New grommet must be installed/old grommet can be headached out.
- 8. Climbers must wear class II rubber gloves.
- 9. Neutral must be covered with rated cover.
- 10. Teams will be allowed 5 minute set up time.
- 11. Time will start on judges signal with fall arrest detached from pole.
- 12. Time will stop when last lineman has both feet on the ground.
- 13. All general rules must be followed.
- 14. All tools and equipment not being used must remain on tarp during event.
- 15. Judging will continue until area is returned back to its original form.

Journeyman Team Events

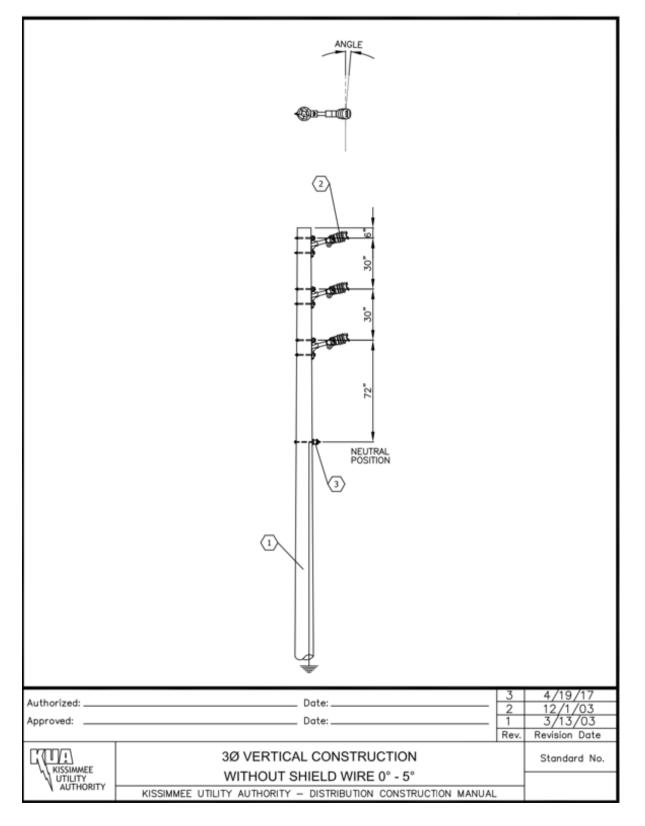
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12kV Insulator Change Out

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FLORIDA LINEMAN COMPETITION March 13-14, 2020 • Tallahassee, FL



12kV Insulator Change Out









FLORIDA LINEMAN COMPETITION Host Utility March 13-14, 2020 • Tallahassee, FL



12kV OCR Replacement

Mean Time: 10 minutes Drop Dead Time: 16 minutes

Chief Judge: Richard Boley, Orlando Utilities Commission

Event Summary

This event consists of replacing a pole mounted oil circuit recloser (OCR) on a single phase distribution line. Electric continuity must be maintained at all times. A single phase OCR with an approximate weight of 205lbs. will be used.

Event Specifications:

- 1. The OCR must be placed on no-automatic reclose ("R" switch) prior to any switching and returned to reclosing position at the completion of the event.
- 2. OCR will be equipped with a non-reclosing lever and a manual operating lever (open/close ring).
- 3. To start the event, with an extendo stick the groundman will get an "R" switch and then close the by-pass switch and open the OCR from the ground. The extendo stick must be fully retracted and placed flat on the tarp before pole can be climbed.
- 4. Neutral cover is required.(both sides and clevis).
- 5. OCR jumpers must be replaced; this may be done in the air or on the ground.
- 6. OCR jumpers are # 4 soft drawn solid copper and standard hot line clamps will be used.
- 7. New jumpers will already be cut and can be made up after event starts.
- 8. At a minimum two single-blocks shall be used to lower/raise the OCR.
- 9. The OCR must be secured by rigging at all times when it is not hanging on the mounting bolts.
- 10. The linemen on the pole may assist the ground-worker while raising/lowering the OCR.
- 11. OCR must be lowered all the way to the ground. The original OCR will be re-used. It does not have to be detached from rigging; it only has to touch the ground.
- 12. All connections must be brushed.
- 13. OCR must be tested closed prior to opening by-pass switch. This will be done by connecting the sourceside jumper then closing the OCR and testing load-side jumper while being held in shotgun stick in the clear and using a primary contact/potential tester. Teams may utilize a specific painted eye-bolt or similar item to mimic a potential tester.
- 14. After both linemen are on the ground, the groundman will open the by-pass switch and then release the "R" switch from the ground.
- 15. Time stops when the extendo stick is fully retracted and placed flat on the tarp.

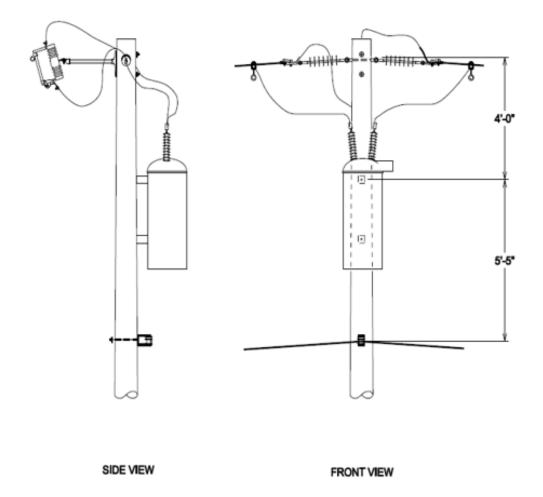
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12kV OCR Replacement



Material part numbers:

BRACKET SINGLE PHASE ARRESTER/CUTOUT FIBERGLASS 15/35KV - Alumaform F1CA-MV-H24-D3-H

CUTOUT 27KV 100A OPEN – Alumaform CPG27-100A-125-CN-8KA

HOT LINE CLAMP CU 8 - 2/0 - COPPER HOT LINE CLAMP BRONZE ALLOY BODY – Alumaform AFC20

STIRRUP AL 2 - 336 - STIRRUP, STANDARD, HOTLINE ALUMINUM - Alcon ST-560-G

INSULATOR SUSPENSION POLYMER 25KV – Alumaform DEI-28

OCR - Next page

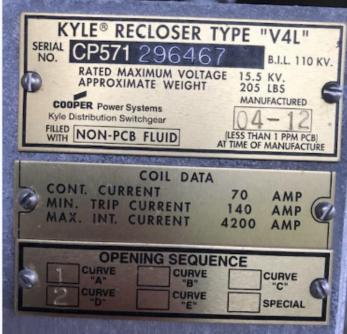
Journeyman Team Events

FLORIDA LINEMAN COMPETITION Host Utility March 13-14, 2020 • Tallahassee, FL



12 kV OCR Replacement





Journeyman Team Events

FLORIDA LINEMAN COMPETITION Host Utility March 13-14, 2020 • Tallahassee, FL



Mystery Event

Mean Time: ?? minutes Drop Dead Time: ?? minutes

Chief Judge: Jason Wright, Kissimmee Utility Authority

Event Sponsor



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Vertical Hurtman Rescue (Journeyman)

Mean Time: 4 minutes • Drop Dead Time: 8 minutes

Chief Judge: Lamar Whitaker, Beaches Energy Services

Event Summary

This team event will be run one time with all three team members participating to rescue the hurtman. Teams have 5 minutes to set up and ask questions. The switch (cutout) feeding the transformer must be opened before the climber can step onto the pole. It will be opened from the ground using an extendo stick and rubber gloves. The stick must be off the ground and the body anytime it is touching anything energized. The climber must wear rubber gloves ground to ground. Lineman will split handline and loop the hook end of handline around mannequin's legs. Then take the rope under mannequin's arms and tie three half hitches (the splice cannot be part of the knot). Once the mannequin has been tied off the climber will utilize the "OX Block" with a minimum of 2 1/2 full wraps or 3 clicks on the fiction bar. The manneguin can then be lowered to the ground while the third member of the team uses the bottom part of handline tied to the mannequin's legs to pull mannequin on to the tarp. You must attempt to keep the mannequin off of the pole and hardware. There will be **NO** gigs for incidental contact of the manneguin on the pole, neutral or service provided the tag man is making an honest attempt. The mannequin must land with all of his body on the tarp provided, and he must hit the ground gently as if it were a real person. A 10x10 tarp will be provided and placed 5' from pole centered under switch.

* Video will be posted on www.publicpower.com under the Judge's Q&A section on how to do this event. (Note you will use the OX Block and not wrap the pole like the video)

Event Specifics

- 1. Time starts at judges signal with all team members at least an arm's length from pole and extendo stick.
- 2. All rubber gloves will be in glove bag cuffs down with no fingers protruding.
- 3. Lineman's belt and hooks will be on the ground opposite the switch side of the pole.
- 4. Extendo stick will be lying flat on tarp fully retracted.
- 5. All three team members must be used. One must climb, one must open switch, and one must tag the mannequin.
- 6. Mannequin must be lowered smoothly to the ground without coming into contact with the pole and must be completely stopped within 5 feet of the ground then laid gently on the tarp. If the manneguin is not **completely stopped** there will be a 2 point deduction.
- 7. Time will stop when mannequin is on the tarp with **slack** on the handline, and extendo stick is fully retracted and back on tarp.
- 8. Climber will stay on pole and help hang mannequin.
- 9. Team will close switch back after time stops. Any team member can close it back and work gloves can be used.
- 10. You must use the eye to open and close switch.
- 11. When time starts extendo stick will be lying flat on tarp and must be back on tarp fully retracted before time will stop.



Journeyman Team Events

City of Tallahassee

FLORIDA LINEMAN COMPETITIO

March 13-14, 2020 • Tallahassee, FL

Vertical Hurtman Rescue (Journeyman)

- 12. Climber must stay in 5-foot circle while he has his gaffs on.
- 13. Rubber gloves or work gloves must be worn anytime you are working or handling tools and equipment.
- 14. You must cut the orange safety rope. There will be a 10-point deduction for cutting the belt in the wrong place
- 15. The blade of the climber's knife must not be exposed while climbing.
- 16. Judges will use a 4" PVC conduit between the rope and the mannequin to evaluate the rope knot, the eye splice can not be in any part of the knot.
- 17. You may use any standard knot or hitch on the mannequin's legs that can be easily removed. (including placing the rope through the hook, but it must not come off)

Teams will provide their own:

Extendo Stick

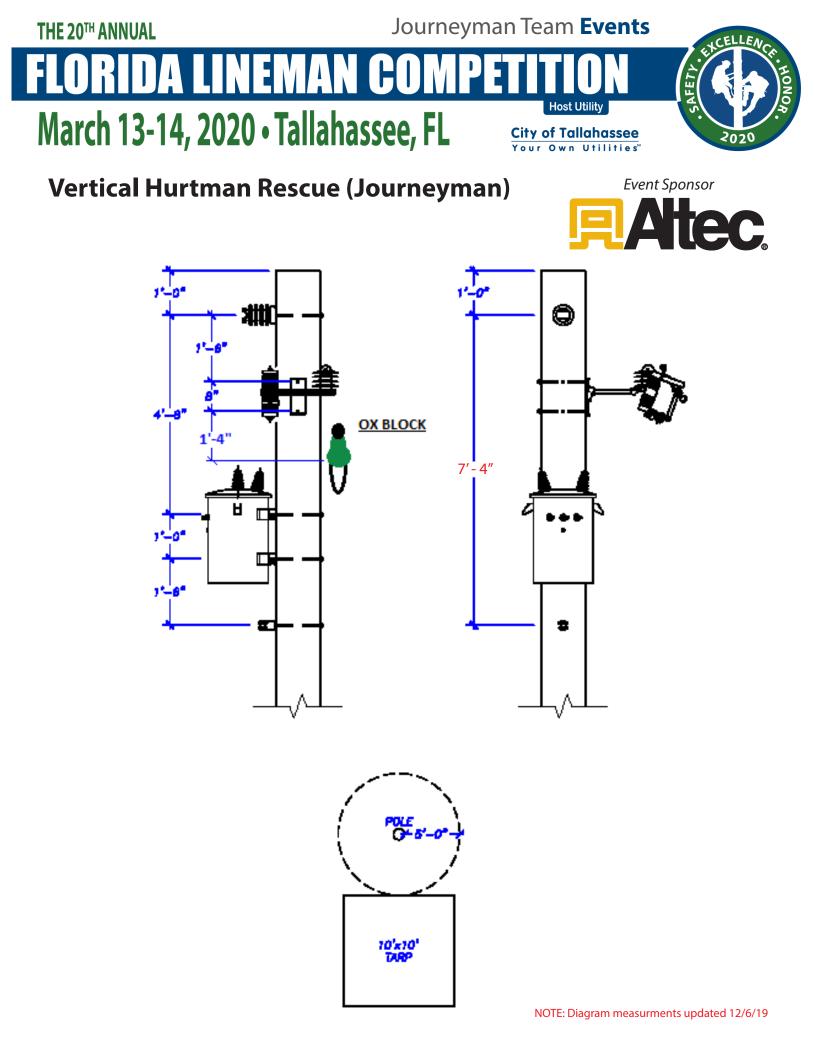
Judging Guidelines

The Hurtman Rescue event focuses on strict safety guidelines. All rules or safety infractions will be enforced as stated in the event specs. No leniency on the stated rules will be tolerated.

- The OX Blocks: A minimum of 3 clicks or two and a half wraps on the friction bar will be used. This ensures a timely but safe rescue for the fallen Lineman. This is simulating a rescue, mannequins hitting the ground with excessive force or coming in contact with the pole, will be a deduction and is at the discretion of the judge.
- **Mannequins**: Mannequins will be tied under the arms with 3 half hitches. **Any** part of the eye splice in the knot will be a deduction. **A 4-inch** pipe will be used to ensure tightness of the knot. If the pipe can slide in-between the mannequin and the knot it is a deduction. This to ensure the fallen lineman can be safely lowered to the ground.
- Insert: The Belt insert must be cut during the rescue.
- **Stop Time:** Time will stop when mannequin is on the ground and **the handline is slack.**
- Climbing: One gaff must be in the pole at all times. Belt must be properly adjusted.
- Class II Rubber Gloves: In this event Class II Rubber Gloves are required ground to ground.
- Extendo stick: Must use rubber gloves to operate, keeping stick off the ground and body while in contact with anything energized.

Our goal is to have a safe and timely rescue for the fallen lineman. It does little good if you become a victim while doing a rescue. Please understand that all rules will be enforced to ensure safety.





FLORIDA LINEMAN COMPETITION Host Utility March 13-14, 2020 • Tallahassee, FL



3 Phase Fuse Replacement

Mean Time: 10 minutes Drop Dead Time: 15 minutes

Chief Judge: Chris Henry, Ocala Electric Utility

Event Summary

This will be a simulated energized 12kV event using an extendo stick from the ground. All cutouts must be opened prior to refusing and then closed only after all fuses have been replaced. This sequenced must be followed due to any simulated backfeed.

Event Specifications

- 1. Apprentice will have 5 minutes to set-up.
- 2. Time starts at the judge's signal.
- 3. Extendo must be fully retracted at start time and on tarp.
- 4. Time will stop when extendo is fully retracted and back on tarp.
- 5. Apprentice must de-energize all fuses prior to re-fusing.
- 6. All three fuse barrels will be re-fused and re-hung prior re-energizing.
- 7. Must use the eye of fuse barrel for de-energizing and re-energizing.
- 8. Dropping a fuse barrel will be a 2-point deduction for each time a barrel is dropped.
- 9. Re-energizing a fuse barrel prior to hanging all fuse barrels will result in a 10-point deduction.
- 10. General rules apply.

Hardware Supplied

- 1. Eaton # S9D2POA Cutouts
- 2. 2.0 SF Fuse

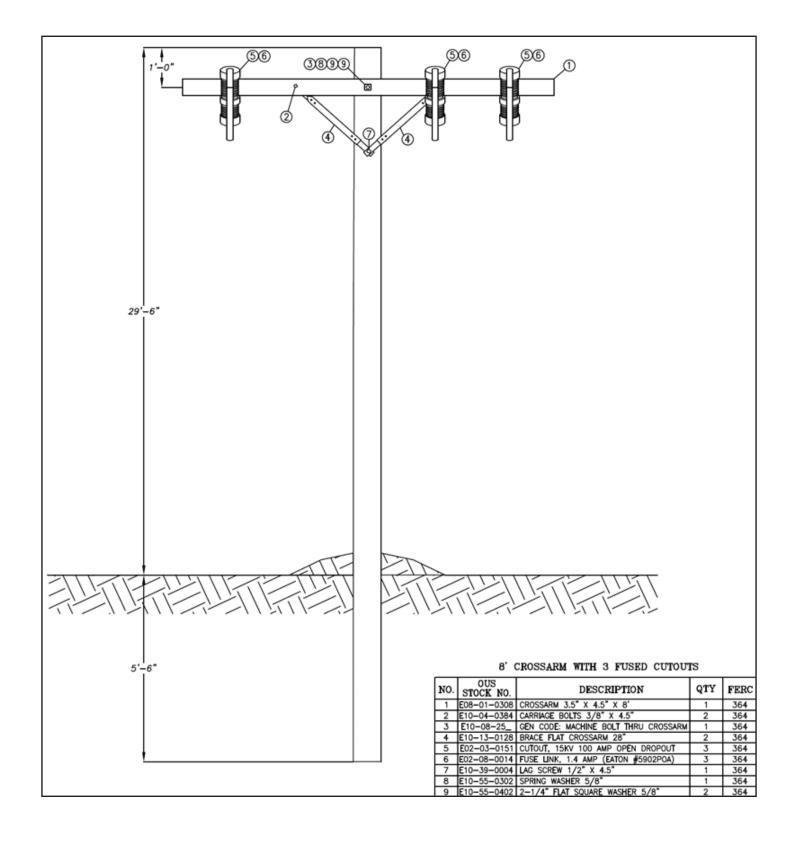
Tools Needed

- 1. Extendo Stick
- 2. Lineman Pliers (Klein's)

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3 Phase Fuse Replacement



FLORIDA LINEMAN COMPETITION Host Utility March 13-14, 2020 • Tallahassee, FL

Hurtman Rescue (Apprentice)

Mean Time: 4 minutes Drop Dead Time: 6 minutes

Chief Judge: Dewey Harvey, Orlando Utilities Commission

Event Summary

This event will be simulated dead. Time starts at the judge's signal with apprentice standing at least an arm's length from pole in any direction.

Note: The lineman's belt, hooks and rubber gloves in bag will be lying on the ground at arm's length from the pole. (You may tool up bare handed)

Event Specifications

- 1. Looking at the pole from the 8' cross arm side, the hand line will be hung on the right side simulating an injury to a right-handed person. The hurt man will hang on the cross arm side of the pole with both ends of the safety straps through the braces. The Neutral will be on the same side of the pole where the hand line will be hung. Note: The "OX Block" will be utilized with a minimum of two and a half wraps or three clicks on the fiction bar. The OX Block will be attached to the arm just outside of the cross arm brace.
- 2. Mannequin should be tied under arms with three half hitches. Note: (eye splice should not be used as part of the hitches). The half hitch is the only acceptable knot. A 4"conduit will be used to measure tightness of knot.
- 3. Be sure to call out "headache" loudly when you drop out the split hand line.
- 4. A Buckingham rescue trainer safety will be used on the mannequin. You must cut the orange safety rope. There will be a 10-point deduction for cutting the belt in the wrong place.
- 5. Mannequin must be lowered smoothly to the ground without coming into contact with the pole and must be completely stopped within 5 feet of the ground then laid gently on the trap. If the mannequin is not **completely stopped** there will be a 2 point deduction.
- 6. Time will stop when the mannequin is on the ground and there is slack in the hand line. Note: There must be one gaff in the pole at all times when climbing down the pole and proper belt adjustment maintained as you will be judged until you leave the event.
- 7. The mean time for this event is 4 minutes. The drop dead time is 6 minutes.
- 8. The apprentice must use the hand-line provided.
- 9. Rubber gloves will be required for this event. Gloves must be worn ground to ground.
- 10. Deductions will be subtracted from 100, resulting in the final score.



Apprentice **Events**

FLORIDA LINEMAN COMPETITION Host Utility March 13-14, 2020 • Tallahassee, FL



Hurtman Rescue (Apprentice)



City of Tallahassee

LORIDA LINEMAN COM March 13-14, 2020 • Tallahassee, FL



Phase Change: Open/Close 100 Amp Disconnect (no load)

Mean Time: 5 minutes Drop Dead Time: 9 minutes

Chief Judge: Maurice Bacon, Fort Pierce Utilities Authority

Event Summary

Apprentice will open the closed cutout (cutout #1), untap hot line clamps from stirrups, remove fuse barrel and stirrups. You will then transfer stirrups to the other phase at cutout #2, tap up hot line clamps, hang fuse barrel and close. Apprentice MUST alert the judge "coming hot" before closing the cutout! Hand line must be made up before leaving event area.

Event Specifications

- 1. See general rules.
- 2. Apprentice will have a five-minute setup time.
- 3. Hardhat, safety glasses, and class II rubber gloves are required.
- 4. Time starts on judges signal an arm's length away from the pole.
- 5. Apprentice must apply one piece of neutral cover on the side being worked.
- 6. The grab-all end of the shotgun stick cannot be used to open or close fuse barrel.
- 7. Fuse barrel must be open before untapping or tapping up
- 8. ALL connections must be brushed.
- 9. Apprentice must call out "coming hot" before closing cutout.
- 10. Time stops when first foot hits the ground.
- 11. Judge will hook any dropped items; 2-point deduction each.

Tools Required

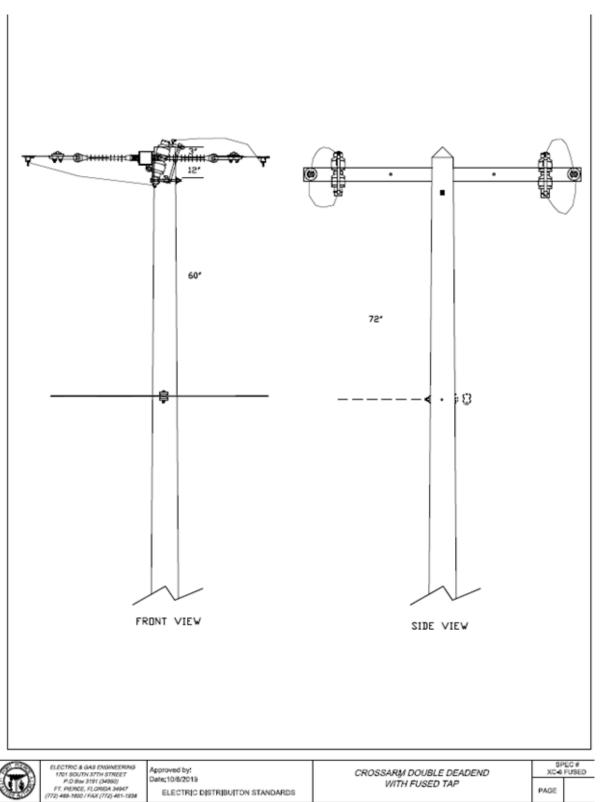
- 1. Hand line
- 2. Stick & nose bags of choice
- 3. One piece of neutral cover (blanket, line hose, hard cover, etc.)
- 4. Shotgun stick
- 5. Stick with disconnect prong
- 6. Wire brush

Event Layout

Primary is double dead end on an eight-foot fiberglass arm with cutouts mounted on each end. Cutouts
will have jumpers and hot line clamps installed. Jumpers will be poly covered #4 solid copper. Neutral
will be in a clevis with six-foot spacing.



Phase Change: Open/Close 100 Amp Disconnect (no load)



FLORIDA LINEMAN COMPETITION Host Utility March 13-14, 2020 • Tallahassee, FL



Pole Top Pin Change Out

Mean Time: 6 minutes Drop Dead Time: 9 minutes

Chief Judge: Nick Short, Lakeland Electric

Event Summary

Apprentice will be required to change out a pole top pin and insulator. Primary conductor will be simulated de-energized and NOT grounded. A new preformed tie and grommet must be used. Old grommet can be dropped as long as headache is called. Apprentice must use an approved/rated lay out arm to support the conductor while changing the pin and insulator. Class II rubber gloves shall be worn when working from the pole. Time will start on the judge's signal and end when first foot is on the ground. Handline must be made up and material broke down before leaving event area.

Event Specifications

- 1. Apprentice will have a 5 minute set up time.
- 2. Leather gloves shall be worn while working on the ground.
- 3. All work on the pole shall be performed in class II rubber gloves
- 4. All materials shall be sent up or down the pole with a handline
- 5. Knives shall not be used on preform ties.
- 6. Conductor must be placed in holder on lay out arm.
- 7. 5/8" hardware must be reused.
- 8. Conductor must be tied back in with new tie and grommet.
- 9. Handline must be made up and material broke down.

Tools Required

- 1. Handline
- 2. Hand tools
- 3. Rated layout arm with a chain or strap binder
- 4. Bags of choice

Materials Provided

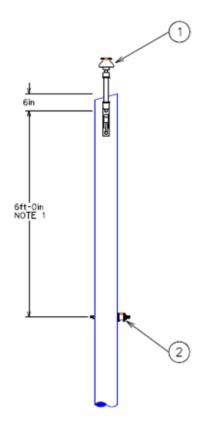
- 1. Preform tie with grommet
- 2. Pin insulator
- 3. Pole top pin

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Pole Top Pin Change Out

E12VTA1W14 TANGENT, 0-3 DEG, 1-PH W/ NEUTRAL, POLE TO PIN INS W/ FG BRKT, #6CU-1/0AAAC, WOOD PO	P, ASSEMBLY
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NOTES:

1. POLES LOCATED IN REAREASMENTS SHALL HAVE A PHASE TO NEUTRAL SPACING OF 60-IN (5-FT).

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Revision By: BRS Mix 1	012109	OVERHEAD DISTRIBUTION	LAKELAND
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Manager of Engineering	-	107A	_
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FLORIDA LINEMAN COMPETITION Host Utility March 13-14, 2020 • Tallahassee, FL



Street Light Head Change

Mean Time: 5 minutes Drop Dead Time: 8 minutes

Chief Judge: Kevin Griffin, Clay Electric

Event Summary

Apprentice will be required to change bulb, photocell, and 100W HPS cut-off style street light head mounted to a 3' arm on a 35' pole. Old photocell and bulb must be removed before removing the head. The head will be removed from the arm and sent to the ground. Head must touch the ground gently (or the bag it is in), hoisted back up and reinstalled. The new bulb and photocell can be installed once head is tight. This event does not require rubber gloves.

Event Specifications

- 1. Apprentice will have a five-minute setup time and can ask questions.
- 2. Leather gloves can be worn for entire event.
- 3. Time will start on the judge's signal with competitor an arm's length from the pole.
- 4. Bulb and photocell must be raised in a tool or nose bag of choice.
- 5. Photocell must be removed before bulb.
- 6. Head can be removed after bulb has been removed.
- 7. Head (or the bag it is in) must touch the ground gently, void of bulb and photocell.
- 8. Head must be reinstalled straight and properly tightened.
- 9. Once tightened, the new bulb can be installed, then the photocell.
- 10. Old bulb and photocell must be sent down the handline, then railroad the block avoiding the old bulb.
- 11. Handline must be made up before time stops; handline can be made up wearing tools as long as gaff guards are on gaffs.
- 12. Time will stop when handline is made up and apprentice calls time.

Tools Required

- 1. Handline
- 2. Nose/tool bags of choice
- 3. Hand tools

Materials Provided

- 1. New 100W HPS bulb
- 2. New photocell

FLORIDA LINEMAN COMPETITION Host Utility March 13-14, 2020 • Tallahassee, FL



Written Test

Mean Time: 20 minutes Drop Dead Time: 60 minutes

Chief Judge: David Sparks, Gainesville Regional Utilities - Retired

Event Summary

- 1. IMPORTANT UPDATE: FMEA Lineman's Competition "Competitors packet" general rules and deductions have been added to the study guide for the Apprentice written test event.
- 2. Apprentices must report to the testing room at 3:45 PM Friday afternoon, the written test will begin promptly at 4:00 PM.
- 3. The written test will be a 25 question multiple choice test taken from the following manual:

16th Edition APPA Safety Manual

Definitions 100 General Rules 400 Personal Protective Equipment 500 Electric Utility Operations

This will not be an open book test.

- 4. No notes, cell phones or other electronic devices will be allowed.
- 5. You will be able to find out your score on Saturday after completing your events.
- 6. Your test score will not be averaged in with the events on Saturday, however; a perfect field score of 500 will be the only way for the bonus points to exceed 500.
- 7. Competitors with less than a perfect 500 field score can only be brought up the 500 mark.
- 8. Ties at 500 will then go back to time for breaking ties.

Example – A competitor with a 498 field score can only be brought up to 500 even if he makes the top grade. If a competitor scores 500 he can receive the 3 bonus points, 2 or 1 bonus above 500.

The top Three written test scores will be awarded as follows.

- 1st place will be awarded five points toward their overall score on Saturday.
- 2nd place will be awarded four points toward their overall score for Saturday.
- 3rd place will be awarded three points toward their overall score for Saturday.

If the apprentices' utility does not currently use the APPA Safety Manual, copies may be purchased by contacting APPA's publications department at (202) 467-2926 or by visiting APPA's Product Store at www.PublicPower.org/Store.