



4kV Lightning Arrester Change Out

Mean Time: 8 minutes

Drop Dead: 12 minutes

Chief Judge: Richard Boley, Orlando Utilities Commission

Event Summary:

This event consists of replacing 2 bad 5kA surge arresters mounted a 10' wood cross arm with flat steel braces.

Event Specifics:

1. The conductor will be 1/0 AAAC.
2. 10' wood cross arm with steel flat braces will be used mounted 12" from the top of the pole.
3. The neutral will be 7' down from the cross arm bolt.
4. "L" brackets will be mounted 12" in from the steel pin and insulator.
5. All grounds and jumpers will be #4 soft drawn copper (there will be new 24" jumpers precut for teams to pick up when entering the event).
6. Hotline clamp and Aluminum saddles will be used, changed out, and there will be a new set at the event station.
7. The arresters will be Hubbell IEC 5kA mounted on steel L-brackets (L-brackets will not be changed out).
8. All connections must be properly brushed with an approved brush.
9. All material will be made up after the time starts and broken down before the time stops.
10. Arresters must be untapped and tapped with approved hot stick method.
11. All NESC Safe Work Practices must be followed.
12. See General Rules and Additional General Rules.
13. Teams will be allowed a five-minute setup time before starting the event.
14. Time will start when the judge signals to go.
15. Time will stop when the last climber has both feet on the ground or the team calls time due to breaking down the material.
16. Climbers must wear class II or higher rubber gloves ground to ground.
17. The neutral must be covered with rated cover.
18. The primary must be covered with rated cover.
19. M.A.D. must be maintained from all uncovered conductor.
20. All material, tools, and equipment must be sent up and down using the handline with a material bag.

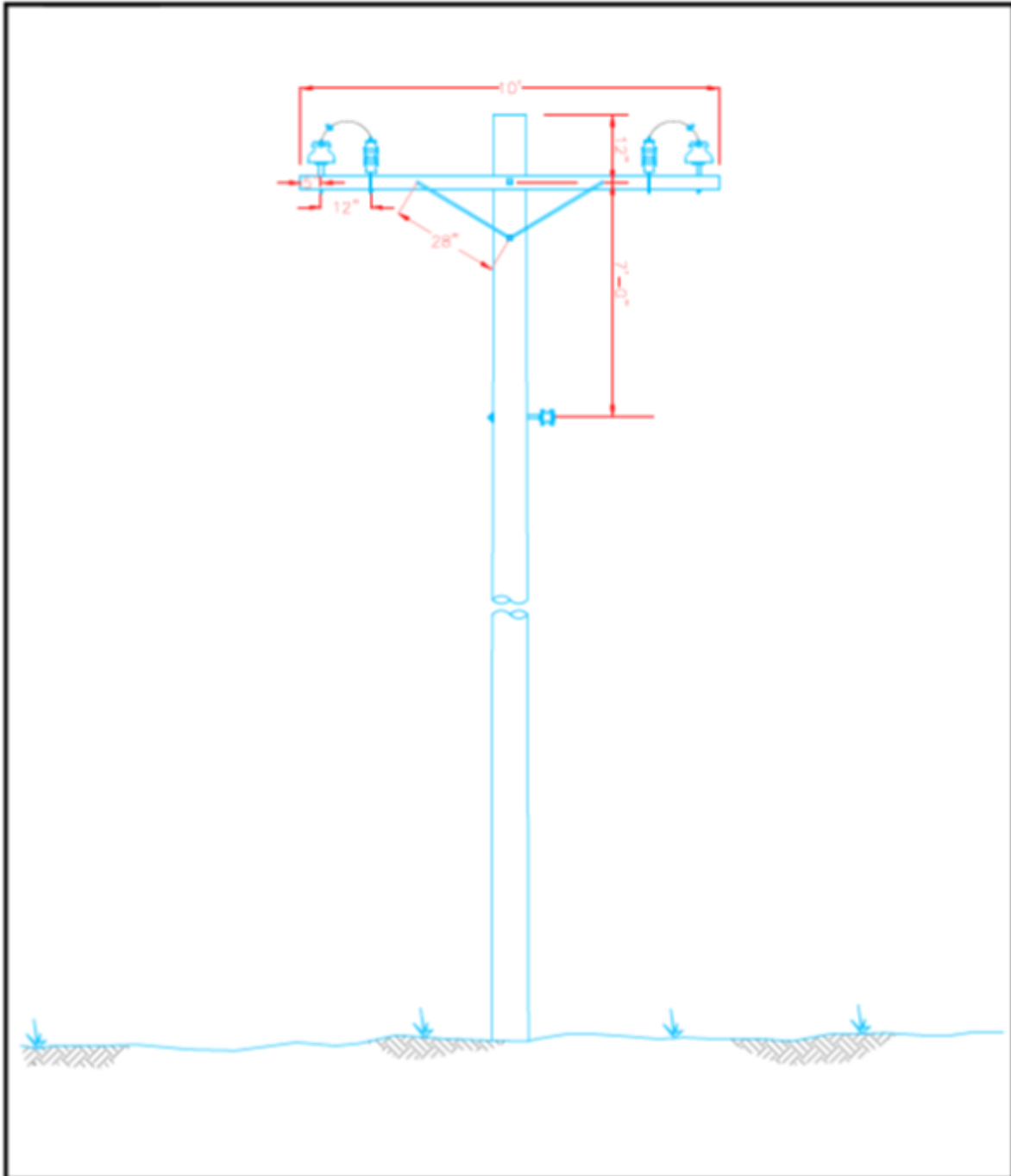
Teams will provide their own:

- Handline
- Nose bags
- Hot Sticks
- Hand tools
- Cover
- Tarp

FLORIDA LINEMAN COMPETITION



4kV Lightning Arrester Change Out



Engineer: <u>MH</u>	SUBJECT: <u>OVERHEAD DISTRIBUTION</u>		
Drawn: <u>CG</u>	DETAIL: <u>GENERAL</u>		
Checked: <u>JA</u>	<u>PHASE CLIP IN 8' WOODARM W/ FLATBRACES</u>		
Approved: _____	NO.	DATE	REVISION
Date: <u>10-30-18</u>	1		
	2		
	3		
		Orlando Utilities Commission	OH103018



12kV Dead End Insulator Change Out

Mean Time: 12 minutes

Drop Dead: 15 minutes

Chief Judge: David Wolfe, *Kissimmee Utility Authority*

Event Summary:

This event consists of replacing a poly dead end insulator on a 12kV single phase line, using rated hot sticks. Primary will be double dead ended on the pole with a #4 coated CU jumper on a standoff bracket. Teams will only be required to replace one poly bell of their choice.

Event Specifics:

1. Conductor will be #2 AAAC.
2. Primary will be worked with rated hot sticks while maintaining M.A.D.
3. A rated link stick must be used on conductor hoists/blocks.
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 (Two Hands) at all times while handling energized jumper.
6. Rated cover must be applied to opposite side of bell that's being changed.
7. New bell must be sent up in a grunt bag.
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.

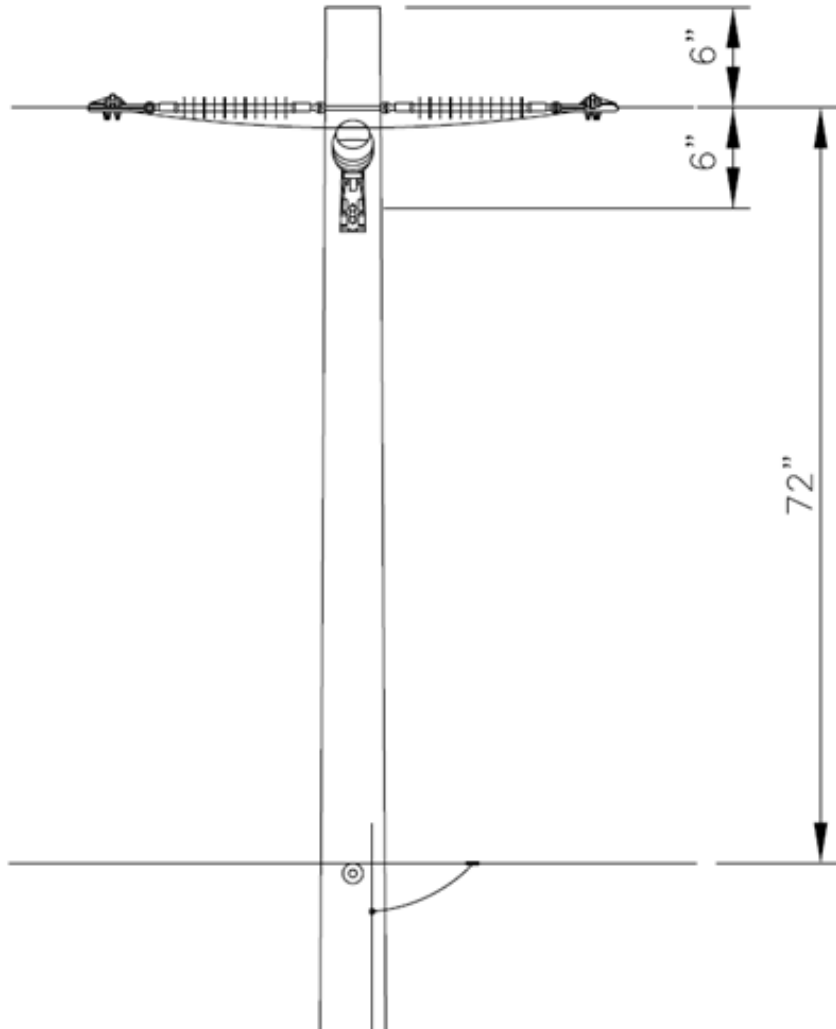
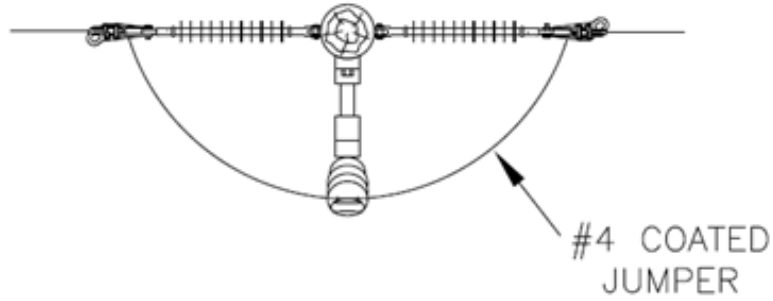
Minimum List of Tools for Event:

- Handline
- Grunt Sack
- Slack blocks or hoists and grip

FLORIDA LINEMAN COMPETITION



12kV Dead End Insulator Change Out



FLORIDA LINEMAN COMPETITION



115kV Transmission Line Bell Change Out

Mean Time: 10 minutes

Drop Dead: 12 minutes

Chief Judge: Mike Hatcher, *City of Tallahassee*

Event Summary:

Teams will be changing out the center bell on a string of seven 10 inch ball & socket 30K transmission line bells. The construction will be a 25 degree running angle built with 477 ACSR conductor sagged at 2K. The bell to be changed will be clearly marked. The line will be grounded on each end of the event. Teams will also install their own personal ground at the event pole they are working on, proper means and methods will be used at all times during the event. All rigging shall be rated and in good working order.

Event Specifics:

1. Conductor will be 477 ACSR.
2. Teams must maintain MAD at all times when installing the personal ground.
3. Improper rigging will not be allowed, all rigging equipment shall be rated and in good working order.
4. Broken or chipped bells will be a 10 point deduction.
5. Bells will be 30K Ball & socket with a 30K Y-Ball on the top end and a 30K socket clevis with a 477 angle shoe on the armor rodded conductor.
6. Teams will be allowed 5 minute set up time.
7. Time will start on judges signal with fall arrest detached from pole.
8. Time will stop when last lineman has both feet on the ground.
9. All general rules must be followed.
10. All tools and equipment not being used must remain on tarp during event.
11. Judging will continue until area is returned back to its original form.

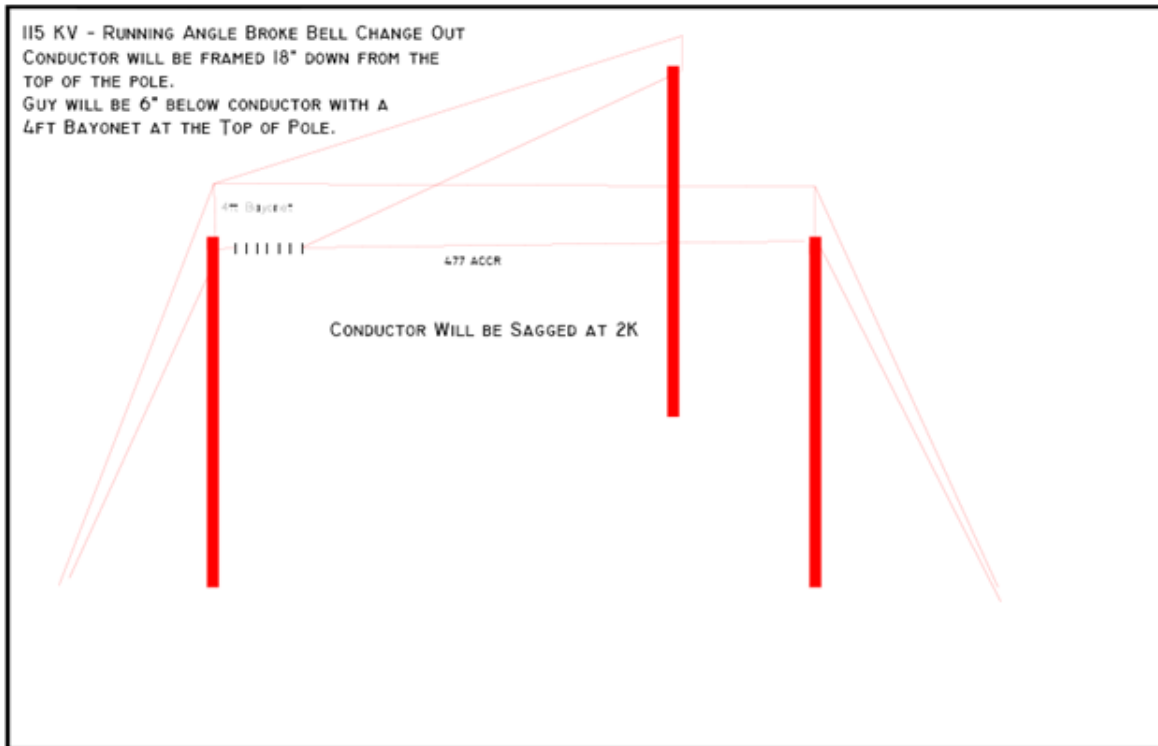
Minimum List of Tools for Event:

- Handline
- Grunt Sack
- Slack blocks or hoists and grip
- 9/16" wrench

FLORIDA LINEMAN COMPETITION



115kV Transmission Line Bell Change Out



FLORIDA LINEMAN COMPETITION



Mystery Event

Mean Time: ? minutes

Drop Dead: ? minutes

Chief Judge: Jason Wright, *Kissimmee Utility Authority*

Event Summary:

Event summary and specifics will be presented to all competitors after registration on March 1.

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Vertical Hurtman Rescue

Mean Time: 4 minutes

Drop Dead: 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 bottom part 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 ½ full wraps or 3 clicks on the fiction bar. The mannequin 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 hard-ware. There will be NO gigs for incidental contact of the mannequin on the pole, neutral or service provided the tag man is making an honest attempt. The mannequin must land with all of this body on the tarp provided, and he must hit the ground gently as if it where 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 Competition 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 trap. If the mannequin 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.
12. Climber must stay in 5-foot circle while he has his gaffs on.



Vertical Hurtman Rescue

13. Rubber gloves or work gloves must be worn anytime you are working or handling tools and equipment.
14. You must cut the Bashlin 57-A insert. 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:

- Extendo stick

Judging Guidelines

This year's lineman competition will be focusing 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 2 clicks or one full wrap 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.
- **Headache** : You must **loudly callout headache** when you drop out the split handline.
- **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.
- **Rubber Gloves**: In this event **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.



Vertical Hurtman Rescue

