

Nov 3rd, 2016

25kV Rubber Glove Work Rules

Note: The Arc Flash Hazard at the work location shall dictate levels of PPE required and/or work methods.

A 25kV rubber glove crew shall consist of three journeyman power line technicians or two journeyman power line technicians and one 4th year power line technician who have successfully completed Level IV training (effective October 21, 1996).

Each power line technician shall receive a minimum of 24 hours of on the job training instructed by the SaskPower live line co-ordinator or delegated instructor. A Level IV apprentice must be one of the power line technicians in the insulated aerial device. They shall not act as the dedicated observer.

The Dedicated Observer shall view the 25kV rubber glove work being performed and will not participate in any additional work while the rubber glove work is in progress. Duties and responsibilities include, but are not limited to:

- Must hold a current 25KV rubber glove certification and be knowledgeable in the work procedure being performed.
- Ensure Minimum Approach Distances (MAD) are adhered to;
- Observe and communicate any hazardous or changing situations to the PLT's in the insulated aerial device.
- Ensure other crew members and/or the public remain out of the work area.
- Perform emergency operation of the insulated aerial device
- Being trained and suitably equipped to carry out an emergency response.
- Be capable of operating the Aerial device, including the override function from the lower controls.
- Have immediate access to the third pair of field tested Class III Rubber Gloves for any type of emergency response situations.
- Monitor and communicate site conditions, including weather, that may impact work

Minimum Tools and Equipment:

- Class 3 Rubber Gloves
- Class 4 flexible protective cover
- Class 4 Insulated Bypass Jumpers
- Certified Insulated Sticks (using live Line Stick methods)
- Class 3 or 4 Rigid Protective Cover (to be used as a second point of cover only)
- Class B Insulated Aerial Device
- Approved Insulated Access Devices (For emergency truck access)

25kV Rubber Glove Work Rules:

1. Minimum approach distances (MAD) will not be the only barrier used while performing 25kV rubber glove work.
2. Approved (Electrically Tested) electrical insulating protective equipment shall be the only acceptable method used to create a safe work zone.
3. Approved electrical insulating protective equipment must be inspected daily, and have a current test date before use (example: rubber gloves, flexible cover, live line tools, etc).
4. Approved electrical insulating protective equipment will extend beyond the reach of PLTs in the aerial device in all directions within the safe work zone.
5. Rubber Gloves shall be put on before leaving the ground and worn continuously until returning to the ground. Certain jobs may present undue difficulty in performing the work while wearing rubber gloves. Rubber gloves may be removed and other appropriate hand protection used during this interval of the specific job if the following conditions are met:
 - Measures have been taken using rubber gloves to provide a protected area to guard any possibility of inadvertent contact with energized apparatus
 - Permission has been obtained from the other PLT in the bucket and the dedicated observer
6. Each PLT on a 25kV work unit shall be provided with a pair of Class 3 rubber gloves.
 - The third power line technician shall act as the dedicated observer and only be involved in observing the 25kV work being performed.
 - No person shall be working on or touching the structure while 25kV rubber glove work is being performed.
 - Avoid the second point of contact. The PLT's within a 25kV work unit shall never touch a live conductor and any part of the structure, or another phase, at the same time.
7. 25 kV Rubber glove work shall not be performed in adverse weather conditions.
8. 25 kV Rubber glove work shall only be performed from a certified, Class B insulated aerial device. An electrical leakage test shall be performed daily (Maximum 5 Micro Amps), or more often if conditions require. Insulated Aerial Devices equipped with an insulated insert in the lower boom shall have the approved jumper across the lower insert and meter cable removed after testing of the boom and before 25kV rubber glove procedures can commence.

9. Insulated aerial device must be barricaded, have an insulated access device and grounded.
10. Hand-lines are not to be hung from insulated aerial device during 25kV rubber glove work. Should hand-lines be required, they shall be attached to the structure, away from the safe work zone and outside the minimum approach distance.
11. The qualified designated observer must have an audible alarm device which will be tested daily in conjunction with the boom leakage test.
12. All tools and materials must be kept in the bucket(s). Tools and materials are not to be attached on the external portion of the bucket(s).
NOTE: The **only exception** to this rule will be the use of approved Non-Conductive hooks to hang Certified Rubber Hoses on for the transportation to and from the work zone.
13. Conductor(s) and/or any apparatus shall not be connected or disconnected without the use of approved live line tool/tools (Insulated Sticks).
14. 25kV switch risers shall be temporarily connected to the line with the use of live-line tools (Insulated Sticks) to ensure integrity of switch insulators. Once the integrity of the switch insulators is confirmed, 25kV Rubber Glove work methods may be used to complete the connection(s).
15. Any live-line rigging for tensioning live conductor from a structure (i.e. timber or pole) must have an insulating stick between the structure and the nylon ratchet hoist. Avoid shunting hardware insulation (i.e. bells, epoxilators, etc.)
16. Insulated bypass jumpers shall be treated the same as a conductor covered by a line hose on the line. They are not to touch any part of the body or the structure without a second point of cover using approved electrical insulating protective equipment.
17. Insulated bypass jumpers will be installed and removed by insulating stick method only. Any opening of a line while bypassed with insulated jumpers must be done with live line Sticks (i.e. ratchet cutters and hold stick).
Note: An amperage reading must be taken on the line conductor before jumper is installed. Once jumper is installed a reading must be taken on the jumper and it should be carrying approximately 30% of the line load. Once confirmed, the conductor may be cut open through the use of live line Sticks.
18. Insulated bypass jumpers shall not be used to make or break current carrying (Load) connection in an individual circuit or between two different station feeders.
19. Disconnects and cut-outs in the work area must be bypassed with a bypass jumper of adequate current rating and installed using an Insulated stick method to safeguard against

non-intentional operation of the apparatus being by-passed. This will remove the PLT from a possible flash area and ensure uninterrupted service to customers.

20. Grounded apparatus in work area shall have the ground connection removed, (example: GOPT switch grounds). Guy wires and/or hardware shall be covered using electrical insulating protective equipment or isolated using a Jack and an insulating stick, such as a link stick.
21. Positive control of energized conductors shall be maintained at all times. Workers shall not normally rely on their own strength but instead use approved electrical insulating devices with appropriate strength ratings to handle energized conductors. All unattended energized conductors must be placed in approved, insulated, locking conductor support devices.
22. In emergent situations and only when safe to do so, the observer or any member of the crew may be permitted to access the deck of the insulated aerial device via an insulated access device (platform) and Class III Rubber Gloves. (i.e. to operate lower controls to bring elevated personnel down; to clear a hazard in case of equipment failure or other any other emergency situation.)

Note: Please direct questions, comments or suggestions to your Live Line Working Group (LLWG) Representative. LLWG membership and contact information can be found on the SafetyNet [here](#):

REFERENCES

Distribution Operating Directive (DOD) – 25kV Rubber glove work rules
25kV Rubber Glove Training Manual
Directive on Wire Holder Insulators
SaskPower Safety Rulebook
Best Practices – Qualified Observer