Prerequisites:

- Journeyperson Certificate preferred

Objectives: Given this module and equipment, you will be able to recall 25kV rubber glove work rules.

Rationale: You must totally understand the Class 3 rubber glove work rules and work methods to become successfully certified in 25kV rubber glove work.

Learning Objectives

- State the minimum crew complement and qualifications.
- Explain the ground-to-ground rubber glove rule.
- Explain what conditions have to be met for removal of rubber gloves.
- Identify the limits of approach on a 25kV system.
- State the 25kV rubber glove work rules.

Learning Methods

- Self-learning + On-the-job
- Self-learning + On-the-job
- Self-learning + On-the-job
- Self-learning + On-the-job
- Self-learning + On-the-job

EVALUATION METHODS

- Knowledge test
- Knowledge test
- Knowledge test
- Knowledge test
- Knowledge test
STUDENT RESOURCES

- 25kV Rubber Glove Training Manual
- 25kV video
- A stocked 25kV bucket truck
- Hard hat and gloves
- A variety of 25kV rubber glove work

Learning Steps

1. Read the Learning Guide.
2. Follow the steps outlined in the Learning Guide.
3. Clarify any questions or concerns you may have.
4. Complete the Practice and Feedback.
5. Complete the Evaluation.

Introduction

The 25kV rubber glove work rules to be covered in this module are:

- Minimum crew complement and qualifications
- Ground-to-ground rubber glove rule
- Removal of rubber gloves
- Limits of approach
- Class 3 rubber glove work rules
Lesson 1: Minimum Crew Complement and Qualifications

Learning Objective: State the minimum crew complement and qualifications.
Learning Method: Self-learning + On-the-job
Evaluation Method: Knowledge test

Introduction

The crew shall consist of three journeyperson powerline technicians or two journeyperson powerline technicians and one 4th year powerline technician who has successfully completed Level IV training (effective October 21, 1996).

Each powerline technician shall receive a minimum of 24 hours of on the job training instructed by the SaskPower live line co-ordinator or delegated instructor.

When a crew feels that they need special instruction to perform certain work, the live line co-ordinator or delegated instructor shall be made available to provide this training.

CAUTION

A Level IV apprentice must be one of the powerline technicians in the aerial device. They may not act as the observer.
Lesson 2: Ground-to-Ground Rubber Glove Rule

Learning Objective: Explain the ground-to-ground rubber glove rule.

Learning Method: Self-learning + On-the-job

Evaluation Method: Knowledge test

Introduction

If it is the intention to do any work on lines or equipment operating in this voltage range, rubber gloves shall be put on before leaving the ground and worn continuously until returning to the ground. The basic intent of the ground-to-ground rubber glove rule is to ensure that the lineman will be wearing gloves when:

- Approaching and entering an energized area.
- Work is being performed on or near energized apparatus.
- Leaving an energized area.
Lesson 3: Removal of Rubber Gloves for Specific Jobs

Learning Objective: Explain what conditions have to be met for removal of rubber gloves.

Learning Method: Self-learning + On-the-job

Evaluation Method: Knowledge test

Introduction

Certain jobs 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:

1. Measures have been taken using rubber gloves to provide a protected area to guard against any possibility of inadvertent contact with energized apparatus.
2. Permission has been obtained from the person on the work site immediately in charge.
3. Permission has been obtained from the other powerline technicians in the bucket and the observer.

---Note---

The limits of approach must be adhered to. Rubber gloves in these cases must be worn when approaching and leaving the protected area.
Lesson 4: Limits of Approach for 25kV

Learning Objective: Identify the limits of approach on a 25kV system.

Learning Method: Self-learning + On-the-job

Evaluation Method: Knowledge test

Introduction

---Note---

These limits can be reduced to .15m (6 inches) with approved rubber and insulating barriers.
Lesson 5: Class 3 Rubber Glove Work Rules

Learning Objective: State the 25kV rubber glove work rules.
Learning Method: Self-learning + On-the-job
Evaluation Method: Knowledge test

Powerline Technician

• Each powerline technician on a 25kV work unit shall be provided with a pair of Class 3 rubber gloves.
• The third powerline technician shall act as an observer and only be involved in 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. Never touch a live conductor and any part of the structure or another phase at the same time. This includes the man in the other bucket as well.

Weather

• 25kV rubber glove work shall not be undertaken during adverse weather conditions.
• 25kV rubber glove work shall only be performed from an insulated aerial device.
• Handlines are not allowed to hang from the insulated aerial device. They must be attached to the structure and away from the work area, outside of the normal limits of approach.
• All tools and material must be kept inside the buckets, not hanging outside (eg. bypass jumpers).

Cover Up

• A crossarm guard must be used when tying or untying conductors. When placing a conductor on the crossarm or leaning it on the structure, there must be two points of protection (eg. a line hose on the conductor and a crossarm guard on the crossarm).
• All guy wires and ground wires must be removed or isolated from the work area, or be covered with protective cover up equipment.

Hotsticks

• Not more than one span of conductor or any equipment shall be connected or disconnected without the use of an approved pickup and load break tool or live line tool.
• 25kV switch risers shall be temporarily connected to the line with the use of live line tools, to check the integrity of the insulators.
• 25kV rubber glove work methods will not be used to change out defective lightning arrestors, nor will this work method be used to install new arrestors in an alive circuit. Lightning arrestors must be connected or disconnected with live line tools.

• When using a nylon ratchet hoist to relieve tension at a deadend, there must be a link stick between the hoist and the structure.

**Insulated Jumpers**

• Insulated jumpers shall be treated the same as a line hose on the line. They are not to touch any part of the body or the pole without extra protection.

• Any opening of a line while bypassing, must be done with live line tools (eg. ratchet cutters and hold stick).

• Bypass jumpers will be installed and removed by hotstick method only.

• Disconnects and cutouts in the work area must be bypassed with a jumper of adequate current rating before proceeding with any other work, to remove the lineman from the possible flash area.
Summary

To summarize this module, you have learned:

- The minimum crew complement and qualifications.
- The ground-to-ground rubber glove rule.
- The conditions which have to be met prior to the removal of rubber gloves.
- The limits of approach on a 25kV system.
- The 25kV rubber glove work rules.

Practice Feedback

Review the lesson, ask any questions and complete the self test.

Evaluation

When you are ready, complete the final test. You are expected to achieve 100%.
Review Questions

T / F  1. Two certified powerline technicians are required to perform 25kV rubber glove work.

T / F  2. Rubber gloves must be put on before leaving the ground and shall be worn continuously until returning to the ground.

3. The basic intent of the ground-to-ground rubber glove rule is to ensure the powerline technician will be wearing gloves when:
   (a) Approaching and entering an energized area.
   (b) Work is being performed on or near energized apparatus.
   (c) Leaving an energized area.
   (d) All of these

T / F  4. All men and equipment must be within the absolute limits of approach for the workers to remove their rubber gloves.

T / F  5. Only the workers in the bucket need to inform each other when they want to remove their rubber gloves.

T / F  6. The recommended working clearance for 25kV is 1 foot 6 inches.

T / F  7. The absolute limit of approach for an uninsulated aerial device is 1 foot 6 inches.

T / F  8. The absolute limit of approach for powerline technicians is 1 foot.

T / F  9. The 25kV limits of approach can be reduced to 6 inches with the use of approved rubber and insulating barriers.

T / F  10. The recommended working clearance for 25kV is 2 feet.

T / F  11. No person shall be working on or touching the structure, while 25kV rubber glove work is being performed.
12. All guy wires and ground wires must be removed and covered up with protective equipment or isolated from the work area.

13. 25kV rubber glove work methods can be used to change out energized lightning arrestors.

14. The ground person may continue to tamp the pole while 25kV rubber glove work is being performed on that pole.

15. 25kV rubber glove work shall only be performed from:
   (a) An insulated diving board.
   (b) A pole with the neutral removed.
   (c) An insulated aerial device.
   (d) All of these

16. Handlines shall be kept:
   (a) In the bucket at all times unless in use.
   (b) Hanging on the crossarm close to the work area.
   (c) Out of the work area.
   (d) None of these
Review Question Solutions

1. F
2. T
3. All of these
4. F
5. F
6. F
7. T
8. T
9. T
10. T
11. T
12. T
13. F
14. F
15. An insulated aerial device.
16. Out of the work area.