Electrical Transmission & Distribution Partnership

Continuing Education Training-Cradle to Cradle and Lock to Lock

(Use of Insulating Gloves and Sleeves)

Presenter Guide

-1st Quarter 2022

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Introduction

This Safety Accountability Refresher course is a presenter lead (supervisor, safety professional) process. The presenter may choose to augment the material with videos, handouts, or other media to enhance the learning experience. The presenter may want to incorporate visual aids to enhance the presentation.

Using this material in combination with practical experience, good presentation skills and knowledge of adult learning techniques, the presenter has a greater opportunity to deliver the information.

Edgar Dale stated that 2 weeks after a learning event, adult learners remember:

- ✓ 10% of what they read
- ✓ 20% of what they hear
- ✓ 30% of what they see
- ✓ 50% of what they see and hear
- ✓ 70% of what they say
- ✓ 90% of what they say while performing a task

Microsoft® PowerPoint® combined with good instructional skills and instructor/student dialogue work strongly in the fifty to seventy percent range. PowerPoint® presents the information to the attendee and the instructor summarizes the content of the slides. It is critical to engage and involve the attendee in the process. Ask open-ended questions that will elicit conversation and discussion but be cautious to maintain control of the discussion.

Conversation and scenarios are good but can cause the discussion to run long. If it seems like the group is losing focus during the course, the presenter can direct the group back on track by using comments like “Good discussion, but let’s get back to the subject at hand”.

Another tool is the “Parking Lot” which is simply a newsprint chart or dry erase board or note pad where the presenter records questions/discussion points not answered or addressed during the meeting and that may require more research. It is vital to capture any ongoing discussions or questions on the “Parking Lot” and follow up when the information is known.

Deliver this refresher during the first quarter of 2022. Delivery time is approximately 45 minutes to 1 hour, in one setting or divided-up into two, 20–25-minute settings. The presenter may deliver the topic in a formalized meeting room setting using the PowerPoint slide deck. It is critical that the facilitator makes him or herself familiar with the material prior to delivery.

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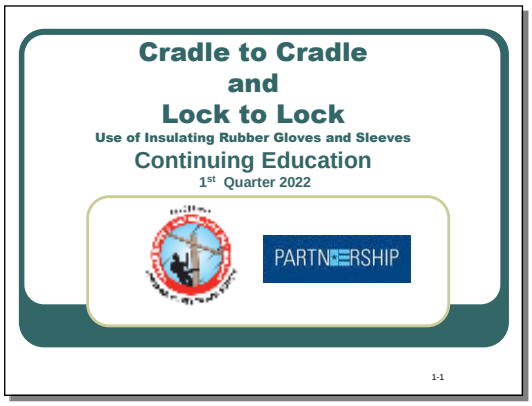
Begin session one

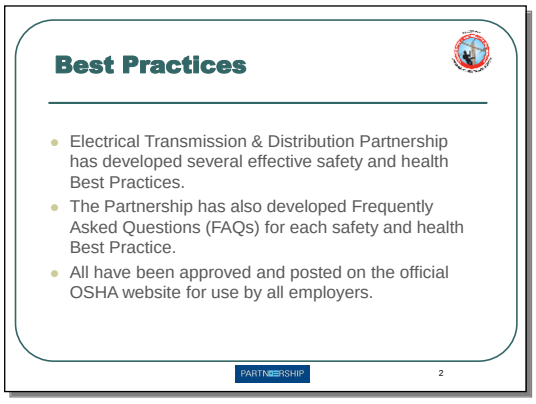
Slide 1



Introduce the module…

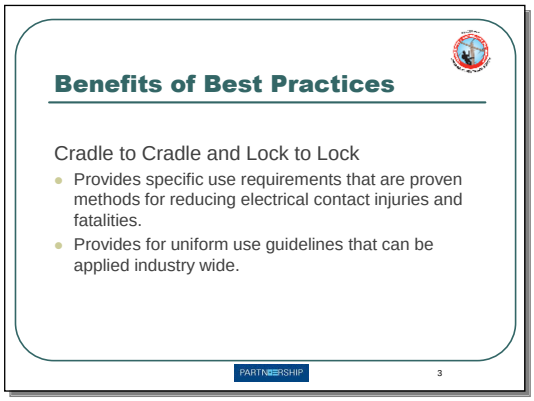
Explain that the intent of this presentation is as a continuing education training topic related to certain aspects from the **ET&D 10-Hour/20-Hour OSHA training class**, the **OSHA Partnership Best Practices**, and/or **incident trending analysis.**

Slide 2



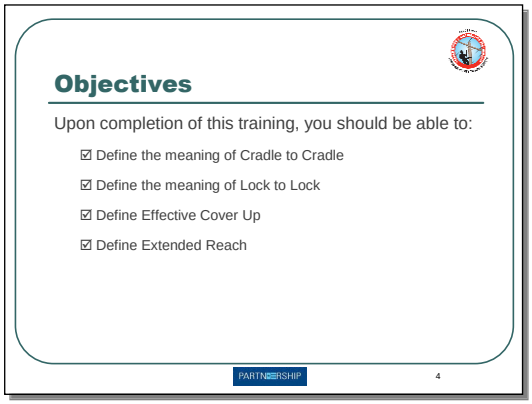
The ET&D partnership has created the best practices to help prevent serious injuries and fatalities in the electrical industry as well as to create uniform guidelines to the industry.
To see all the ET&D best practices, visit https://www.neca-neis.org/powerlinesafety/best-practices.

Slide 3



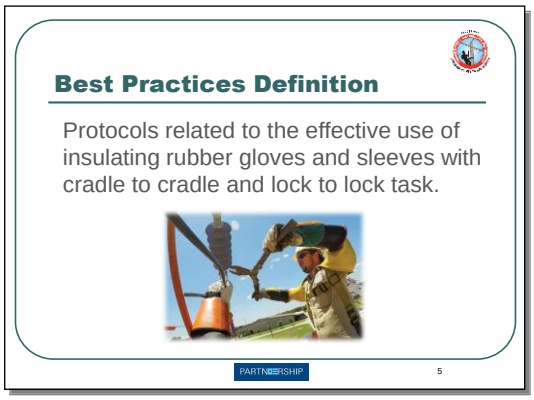
Benefits of this best practice include providing specific use required that are proven methods for reducing electrical contact injuries and fatalities.
Provides for uniform use guidelines that can be used industry wide.

Slide 4



Review the objectives.

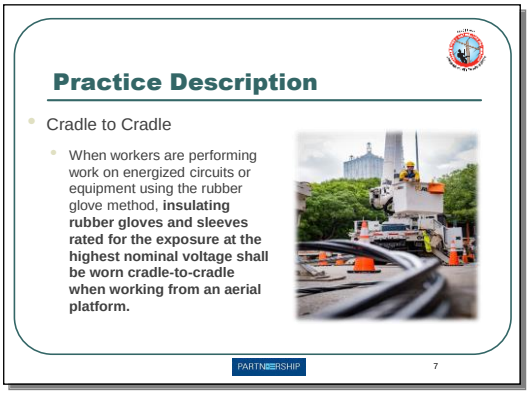
Slide 5



This purpose of this best practice is to ensure that workers understand protocols related to effective use of insulating rubber gloves and sleeves.

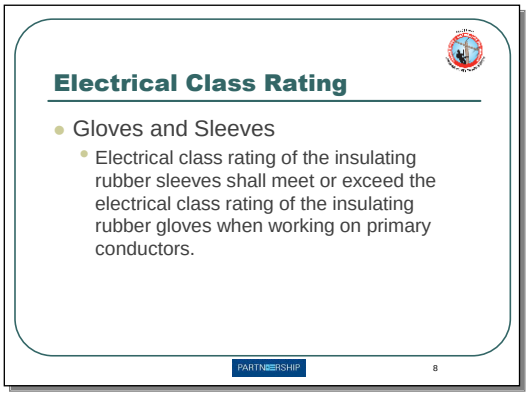
Slide 6

Slide 7



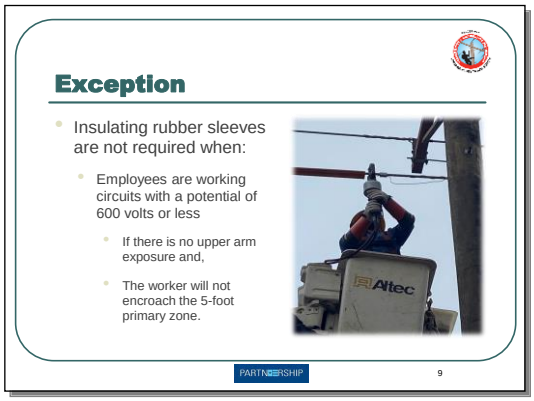
Before leaving the cradle, when the plan is to work on energized equipment, rubber gloves and sleeves must be worn before the boom leaves the cradle.

Slide 8



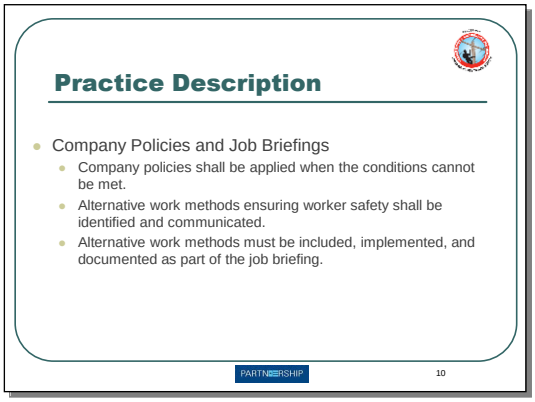
Glove class rating: explain to workers that the electrical class rating of rubber gloves and sleeves shall at minimum meet the electrical class rating of the gloves when working on energized primary conductors.

Slide 9



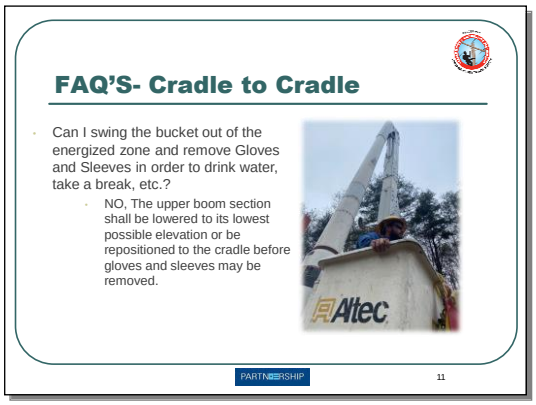
Rubber sleeves must be worn when the employee is within reaching distance, located above, or moving past equipment energized at 600 volts or above.

Slide 10



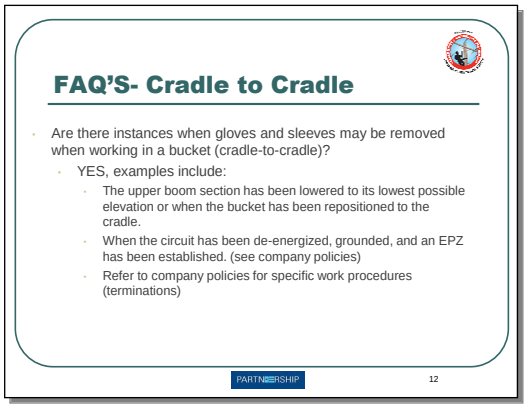
Company policies and Job Briefings both must reflect the most effective way for utilization of the best practice. Given work conditions and environment, it is understandable and recognized alternative work methods will have to be implemented. All alternative work methods must be effectively communicated and documented in the job briefing.

Slide 11



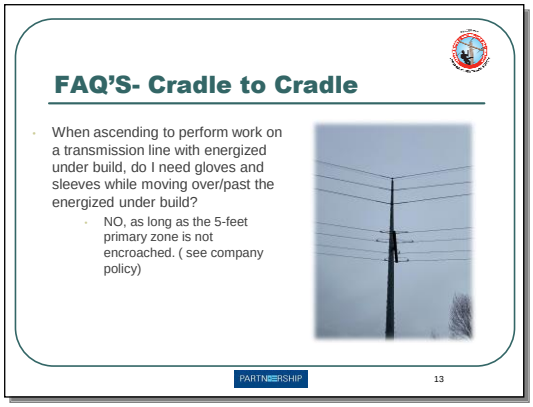
FAQ's for those questions that often come up about use of the best practice during certain activities.

Slide 12



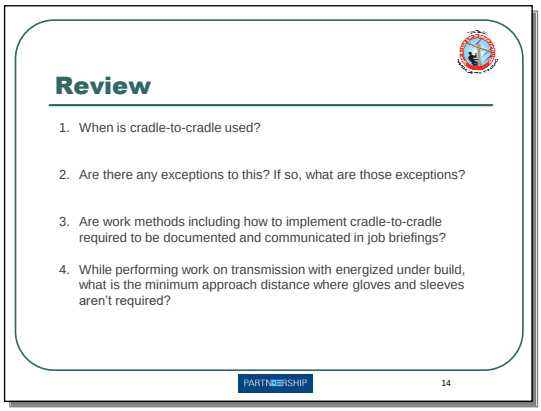
There are instances when gloves and sleeves may be removed, but each of those circumstances should be fully vetted before that process is followed. This should also be documented in your job briefing and clearly communicated with all workers.

Slide 13



Ensure workers understand that as long as the five-foot MAD is not encroached while accessing the energized transmission above the distribution under build, gloves and sleeves would not be required.

Slide 14

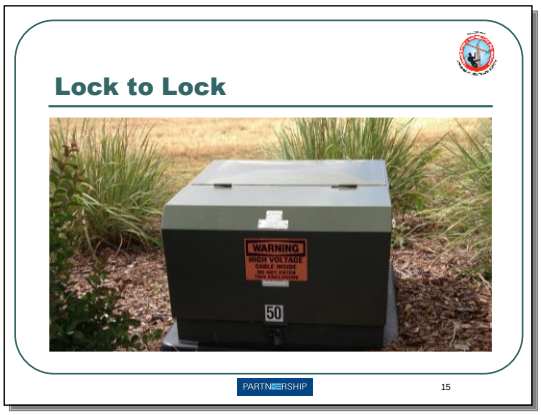


- When is cradle-to-cradle used?
  - When working energized circuits from an aerial platform-minus exceptions which are clearly defined in the Best Practice.
- Are there any exceptions to this? If so, what are those exceptions?
  - Yes, when working 600 volts or less if there is no upper arm exposure and the MAD (5 ft.) will not be encroached.
- Are work methods including how to implement cradle-to-cradle required to be documented and communicated in job briefings?
  - Yes
- While performing work on transmission with energized under build, what is the minimum approach distance where gloves and sleeves aren't required?
  - 5 feet

End session one

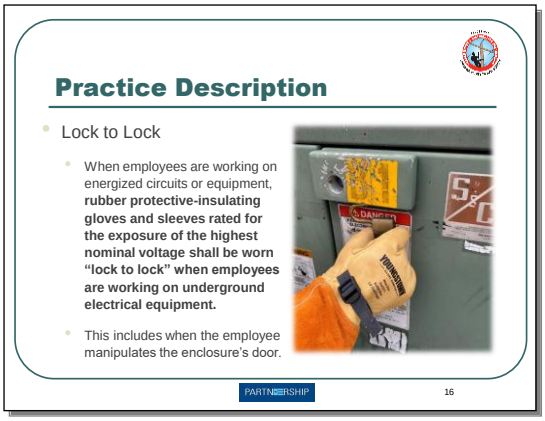
Begin session two

Slide 15



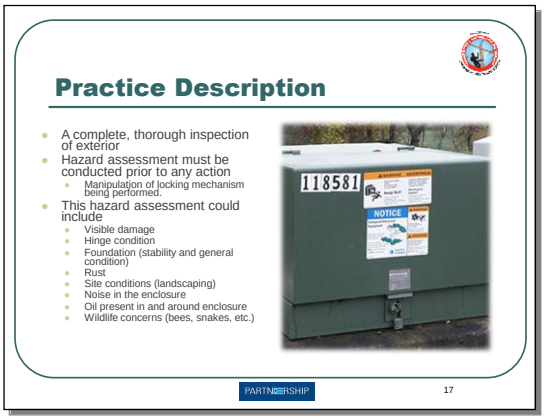
Lock-to-Lock is used to describe the utilization of rubber gloves and sleeves, when required, prior to the time the pad mounted equipment is unlocked until work is complete and the pad mounted equipment is relocked.

Slide 16



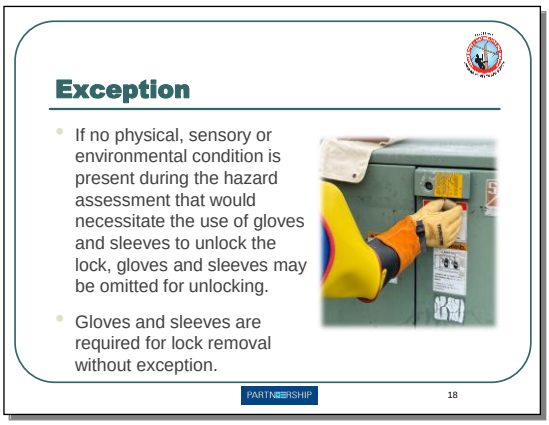
This purpose of this best practice is to ensure that workers understand protocols related to effective use of insulating rubber gloves and sleeves.

Slide 17



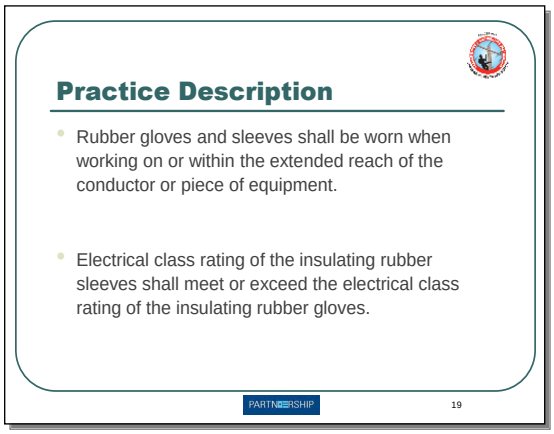
Perform a hazard assessment prior to any action such as manipulation of the lock.

Slide 18



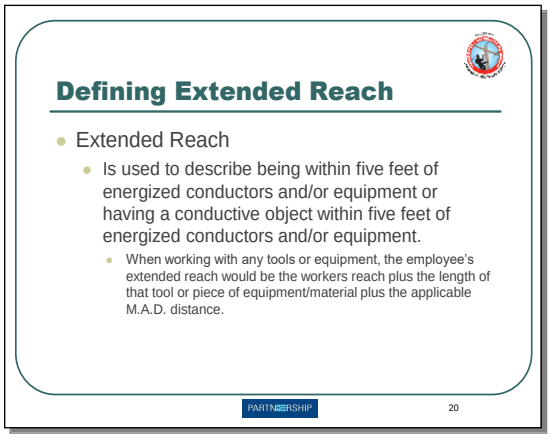
Read bullets

Slide 19



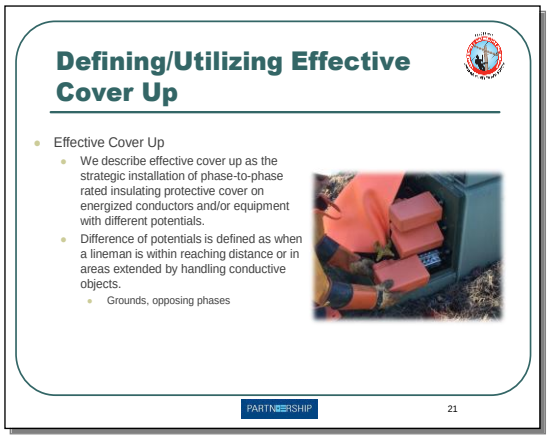
Extended Reach is used to describe being within five feet of energized conductors and/or equipment or having a conductive object within five feet of energized conductors and/or equipment.

Slide 20



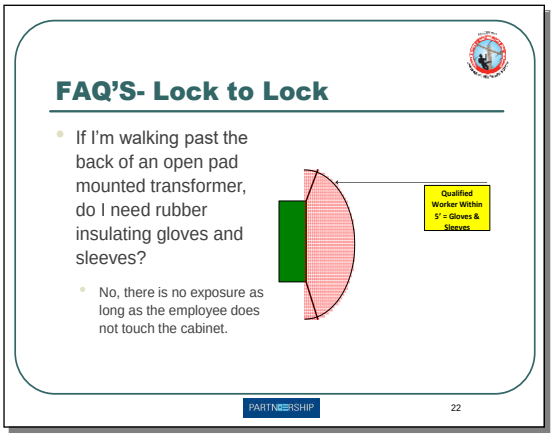
Electrical workers need to take into consideration that any conductive object in the hands will extend the reach.

Slide 21



Effective cover up is used to describe the installation of phase-to-phase rated insulating protective cover on energized conductors and/or equipment of different potentials when the lineman is within reaching distance or in areas extended by handling conductive objects.
Cover up is only designed for brush contact. Cover up is not designed for direct contact between differences of potential.

Slide 22



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Slide 23

FAQ'S- Lock to Lock

- Can insulating rubber gloves and sleeves be removed when terminating primary cable?
  - YES, under the following conditions:
    - After secondary bushings and primary terminations have been effectively covered
    - The cable being terminated has been tested & grounded on other end, or is not inside of an energized cabinet or transformer

The cable then can be pulled beyond the face of the transformer and rubber gloves and sleeves may be removed.

PARTNERSHIP 23

Read slide

Slide 24

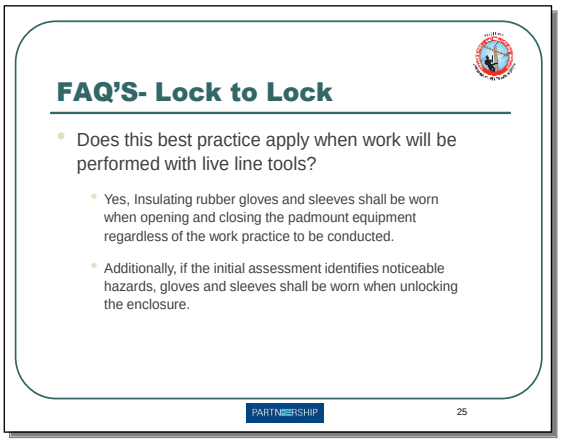
FAQ'S- Lock to Lock

- Can I pull elbow terminations off by hands if I wear insulating rubber gloves and sleeves.
  - No, Live line tools shall be used for pulling elbows and switching in underground primary enclosures.

PARTNERSHIP 24

Read slide

Slide 25



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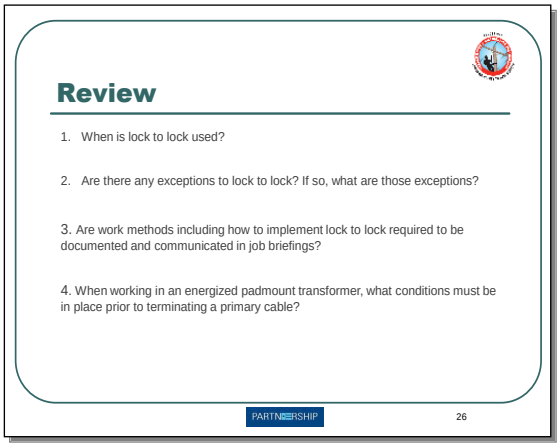
Slide 26



- When is lock to lock used?
    - When employees are working on underground electrical equipment. This includes when the employee manipulates the enclosure's door.

- Are there any exceptions to lock to lock? If so, what are those exceptions?
    - If no physical, sensory or environmental condition is present during the hazard assessment that would necessitate the use of gloves and sleeves to unlock the lock, gloves and sleeves may be omitted for unlocking.

- Are work methods including how to implement lock to lock required to be documented and communicated in job briefings?
    - Yes.

- When working in an energized padmount transformer, what conditions must be in place prior to terminating a primary cable?
    - The secondary bushings and primary terminations have been effectively covered and the cable being terminated has been tested & grounded and the cable has been pulled beyond the face of the transformer

End session two