



PARTNERSHIP BEST PRACTICES

May 2012



LEADER NOTES FOR MAY 2012 STAND-DOWN

BEST PRACTICES PHILOSOPHY

Properly executed Insulate and Isolate (“I&I”) techniques allow line workers to safely work on and/or around energized parts. The Best Practices are a culmination of this philosophy, information gained from previous incidents and the expertise of experienced line workers. They are more than cover-up policies or a PPE requirement.

These procedures have been devised in an effort to create a culture of awareness and prevention among Partnership company employees. When planning, performing or reviewing tasks, these ideologies must become more than a consideration – they must be habit.

The Partnership has chosen this day to have all employees “stand down” and review the practices and think ahead to their application on a daily basis.

THE BEST PRACTICES

- Administrative Controls
- Pre-Use Inspection of Rubber Protective Equipment
- Insulate & Isolate Safety Performance Check
- Cradle-to-Cradle Use of Insulating Rubber Gloves/Sleeves
- Lock-to-Lock Use of Insulating Rubber Gloves/Sleeves
- Rubber Insulating PPE for the Live Line Tool Method on Distribution Lines
- Job Briefings
- Qualified Observer
- Safety at Heights

STAND-DOWN CONTENT/FLOW

We will provide a brief overview of each of the Best Practices. Meeting leaders are encouraged to input personal experiences, ask questions of the audience or even (if possible) bring up a crew member that may have pertinent information regarding one or more of the Best Practices. The idea is to prompt thought and awareness throughout the crews across the country and make safe work practices the primary focus of the task.

Finally, have workers print and sign their names on the back page of this document and return to assigned company representative for compilation.



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ADMINISTRATIVE CONTROLS

Engineering controls always are the primary focus of hazard elimination. Unfortunately, not all hazards are able to be engineered out of the equation. When this situation arises, it becomes vital that we identify the type and quantity of I&I components present in our task area.

There are several methods we can employ to ensure all hazards are addressed:

- **Pre-Planning** – This is to start at the pre-bid meeting and continue right up until the point hands-on work begins. Project managers, superintendents, foremen, safety representatives and line employees all have an obligation to identify existing and potential hazards and assist in developing a control measure.
- **Preliminary Jobsite Analysis** – After a project is awarded, a high-level assessment must be made to identify problem areas.
- **Request Information from Host** – Prior to project commencement, contractors must get all pertinent information from the utility or controlling contractor to ensure appropriately trained personnel, equipment and materials are on hand. In addition, we must perform an honest risk assessment in order to develop a task-specific “Best Practice” to ensure safe, efficient completion.
- **De-Energized/Properly Grounded** – Work on conductors and/or equipment shall be performed after being de-energized, grounded and tested. If this is not possible, appropriately trained personnel with adequate PPE, equipment and observers must be used.

Proper planning and thorough assessment of the situation reveals hazards. All employees have duties under this provision, and it is vital we use all available resources to identify and control hazards.



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JOB BRIEFINGS

An effective job briefing creates an understanding among all crewmembers of how the task will proceed, what hazards will be encountered and how we are dealing with those hazards. This document is required prior to performance of any task and needs input from all affected employees. Remember, the paper itself is worthless; the discussion and level of awareness it creates is the barometer.

Key components of an effective job briefing include:

- **Define Routine and Critical Tasks** – Parts of most tasks will be ordinary, even boring. Other portions create potential for disaster if everyone is not on the same page. It is vital we outline the entire operation and highlight those areas which pose the greatest risk.
- **Identify Roles and Responsibilities** – The right hand must know what the left hand is doing. Also, we don't want a brand new apprentice performing hot work in a tight situation. Assigning the right personnel to the right task is vital. Ensure everyone understands exactly what they are to do, who is supporting them and who **SHOULD NOT** be in that area.
- **Identify Hazards** – If we don't know the problem is there, we can't address it. Thorough evaluation of the task, coupled with an honest risk assessment (including the factor of the experience level of the crew) must be complete.
- **Determine Risk Mitigation** – We must determine a way to keep people out of harm's way. Know a hazard is present and not determining how we're staying away is not enough. Address how each hazard is to be neutralized and ensure everyone understands.
- **I&I** – Inadequate cover, or worse, the failure to identify the need for cover is a shortcoming we may never recover from. Ensure all potential parts are addressed, assessed and dealt with.
- **PPE** – This is the last line of defense. If we don't have the right PPE, we cannot continue. Improper, or inadequate, PPE leaves the worker exposed to the full force of the hazard.
- **Emergency Response Information** – When the unthinkable occurs, we must have a plan of action. The life of an injured employee often rests on our ability to provide appropriate care within a very tight window. The time to plan for this is before an incident occurs, not when a life depends on it.
- **Number of Briefings to be Held** – Each task requires its own evaluation and briefing. Each shift requires its own evaluation and briefing. Conditions change with each day, location and personnel involved. We must over-communicate.

Everyone on the crew must be involved with the creation and discussion of the job briefing. They are to be conducted at the task location, prior to commencement of work and address the task in its entirety. The steps involved in the task, who is performing each facet of the task, hazards presented by each step in the task and how we are dealing with those hazards must be understood by every crewmember prior to work.



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PRE-USE INSPECTION OF RUBBER PROTECTIVE EQUIPMENT

Rubber goods are the final layer between an employee and electric shock. While all PPE must be inspected prior to use, rubber goods have the potential for less visible damage that may allow for irreversible damage.

Only employees who have training, experience and knowledge may use or inspect rubber goods. In addition, professional inspections/tests must be conducted on the equipment in order for it to be effective.

An effective inspection must address:

- **Identification of Damage, Wear or Contamination** – Something as small as a pinhole renders rubber goods ineffective. Electricity will find its way through any opening, and we must ensure rubber items are continuously intact. In the case of rubber gloves, a daily air test is one common method used to ensure continuity.
- **Storage** – Rubber goods are to be stored according to the manufacturer's instructions. Rubber items that have been exposed to excessive sunlight, stored under tools or other items or are simply dirty can fail under stress.
- **Service Dates** – Rubber items must be tested daily by a qualified person, and periodic testing under laboratory conditions must be performed and documented. Any item that is out of date must not be used.
- **Removal from Service** – If an item is found to have a defect or is out of the testing window, it must be removed from service.

Adequate rubber goods are essential to performing work in energized situations. If any item is not adequate, or if uncertainty exists about its ability to perform in the conditions present, work must stop until appropriate items are available for use.



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QUALIFIED OBSERVER

When performing critical tasks on energized lines, parts or equipment, a second set of eyes is required. An employee involved in such a task easily could lose track of body position relative to minimum approach distance ("MAD"), and the observer is used to ensure safe distance and work practices are maintained. The first component is to identify critical steps in a task on the job briefing. Specific hazards and control measures are communicated, and the qualified observer is selected.

Not just anybody can be the qualified observer. This person must be able to identify nominal voltages, identify energized components and be aware of MAD and safe work practices. Also, the qualified observer must have no other assigned tasks. This person's sole duty is to ensure the safety of fellow workers and give warning when a problem arises.

Qualified observers must also be able to identify:

- **Effective Cover-Up** – Situation where phase-to-phase rated insulating cover on energized parts and/or equipment of different potentials is installed when a worker is within reaching distance or in areas extended by handling conductive objects.
- **Extended Reach** – The area within five feet of energized parts or equipment or handling a conductive object within five feet of the energized parts or equipment.

This practice is designed to assist workers involved in the performance of critical tasks be aware of potential hazards or changes in conditions. Directions from the qualified observer are to be followed at all times by the person performing work.



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INSULATE & ISOLATE SAFETY PERFORMANCE CHECK

Procedures must be regularly reviewed for effectiveness and compliance. A competent, outside observer shall periodically review task locations to ensure all pertinent procedures are being followed, identify any deficiencies and make changes necessary to achieve compliance.

Points subject to review include, but are not limited to:

- **Compliance with Company Safety Rules** – Partnership companies adhere to the Best Practices, but these cover only a portion of tasks on any given jobsite. The performance check will go beyond these policies and ensure all safety rules are being followed.
- **Cover-Up** – A point of focus will be adequate cover. Exposed parts may cause fundamental breakdowns and potentially kill or injure workers.
- **Documentation** – Thorough job briefings and hazard analyses must be complete, documented, communicated and understood by all employees. Inadequate documentation may indicate more procedural issues and must be corrected.

Routine auditing ensures critical items are being addressed and brings to light areas for improvement.



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CRADLE-TO-CRADLE USE OF INSULATING RUBBER GLOVES AND SLEEVES

When in a rubber-gloves situation, it is vital gloves are in use. To address the potential for forgotten or unused gloves, the Partnership has adopted the cradle-to-cradle method. This is designed to ensure employees are protected in any situation where exposure could occur.

The basic requirements under this procedure include:

- **Rubber Glove Method** – When employees are working on energized circuits or equipment using the rubber glove method, rubber gloves and sleeves rated for the exposure of the highest nominal voltages shall be worn cradle-to-cradle when working from an aerial platform.
 - **Sleeve Exception** – Rubber insulating sleeves are not required when employees are working circuits with a potential of 600 volts or less if there is no upper-arm exposure and the worker will not encroach the five-foot primary zone.
 - **Effective Cover-Up** – Situation where phase-to-phase rated insulating cover on energized parts and/or equipment of different potentials is installed when a worker is within reaching distance or in areas extended by handling conductive objects.
 - **Extended Reach** – The area within five feet of energized parts or equipment or handling a conductive object within five feet of the energized parts or equipment.
- **Glove/Sleeve Requirements** – Insulating rubber sleeves shall have an electrical class rating that meets or exceeds the electrical class rating of the insulating rubber gloves when working on primary conductors.
- **Alternative Work Methods** – If any condition cannot be met due to conditions in place, alternative work methods ensuring worker safety may be devised following the company's policy on variances from established procedures.

When insulating protective equipment is worn cradle-to-cradle, the potential for electrical contact is greatly reduced.



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LOCK-TO-LOCK USE OF INSULATING RUBBER GLOVES AND SLEEVES

Much like the “Cradle-to-Cradle” Best Practice, the Lock-to-Lock procedure is designed to protect employees when exposures are at the highest and protection most necessary. This practice, when properly employed, ensures workers are fitted with appropriate personal protection when performing critical tasks.

The term “lock-to-lock” is used to describe the time just prior to pad-mounted equipment being unlocked until work is complete and the pad-mounted equipment is re-locked.

Key components of lock-to-lock include:

- **Requirement** – When working on energized parts or equipment employing the rubber-glove method, workers shall wear insulating rubber gloves and sleeves rated for the exposure of the highest nominal voltage lock-to-lock when working on energized URD equipment.
 - Additionally, insulating rubber gloves and sleeves must be worn when working within the extended reach (within five feet of equipment, or having a conductive object within five feet of energized parts or equipment) of the conductor or piece of equipment.
- **Glove/Sleeve Requirements** – Insulating rubber sleeves shall have an electrical class rating that meets or exceeds the electrical class rating of the insulating rubber gloves when working on primary conductors.
- **Alternative Work Methods** – If any condition cannot be met due to conditions in place, alternative work methods ensuring worker safety may be devised following the company’s policy on variances from established procedures.

Uniform implementation of lock-to-lock practices ensures workers are protected when working on energized parts and/or equipment.



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RUBBER INSULATING PPE FOR THE LIVE-LINE TOOL METHOD ON DISTRIBUTION LINES

This practice is designed to protect workers using the live-line tool method (“hot-sticking”) and conditions require encroachment of the established minimum approach distance (“MAD”). Workers who are hot-sticking are doing so to avoid violation of MAD. Should the task require workers to encroach established MAD, a new or amended job briefing is required, and appropriate PPE must be donned by employees performing work inside MAD.

This practice includes direction for this situation, including:

- **When to Wear Insulating PPE** – Rubber insulating gloves and sleeves are not required when working from a position where the worker cannot reach into, extend any conductive object into or extend any other part of the body into MAD while using live-line tools.
- **Gloves Only** – Rubber insulating gloves shall be worn when tasks require the worker to reach into, extend any conductive object into or extend any other body part into MAD when there is no upper-arm exposure. This includes situations where proper cover-up is utilized.
- **Gloves and Sleeves** – Rubber insulating gloves and sleeves shall be worn when tasks require the worker to reach into, extend any conductive object into or extend any other body part into MAD and upper-arm exposure exists.

Prior to an employee encroaching MAD, appropriate PPE must be employed. This is to be established via the job briefing and risk analysis.

Hot-sticking is used to keep workers outside MAD. The problem we encounter is when, even when using hot sticks, we have to get inside MAD. This practice is designed to protect workers who find themselves in this situation.



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SAFETY AT HEIGHTS

Safety at Heights is a series of best practices designed to eliminate fall hazards whenever possible and institute effective fall-protection controls when necessary. Best practices will address fall hazards associated with, but not limited to, aerial tasks performed while working on wood/steel poles, metal/lattice structures, transformers, vehicles and associated equipment. All employees required to use Fall Protection Equipment (“FPE”) shall be trained and competent in the care, use and inspection of all components. This is to include: equipment limitations, techniques used for proper adjustment/fitting, methods of use, inspection, storage and demonstration of competency of all these.

Best practices specifically address:

- **Fall protection when performing aerial work on lattice structures (this Best Practice has an effective date of January 2013)** – FPE shall be used when ascending, while in the working position, when changing positions, descending and/or performing rescue operations while on lattice structure. All equipment shall be inspected and used in accordance with manufacturer’s instructions and guidelines.
 - A visual inspection of the structure shall be performed prior to and during climbing to ensure it is in acceptable condition for safe execution of the tasks to be performed.
 - A Fall Hazard Analysis (“FHA”) shall be completed prior to climbing lattice. This document is to contain:
 - Identification of tasks performed on the structure;
 - Client/owner fall protection policies, procedures and hazard analysis documentation;
 - Identification/location of suitable anchorage points;
 - Considerations for rescue operations that may arise;
 - Identification of necessary FPE and/or Work Positioning Equipment (“WPE”); and
 - Determination of climber competency in both the task and required equipment.
 - This practice applies to all climbers, including those that perform rescue on lattice structures.
- **Fall protection when performing aerial work on wood poles** – FPE shall be used when ascending, descending, changing position and when in the working position while on a wood pole. A wood-pole fall restriction device shall be engaged ground-to-ground when ascending, descending, changing position and when in the working position.
 - Each pole shall be inspected prior to any climbing activities to ensure it is in acceptable condition for safe execution of the tasks to be performed.
 - When in the working position, positioning devices may be used when rigged so that an employee may fall no more than two feet.
 - When climbing wood poles that have steps or other obstructions, the hitch-hike climbing method (utilizing work positioning equipment) may be used to ascend or descend so long as it is rigged to limit an employee’s fall to no more than two feet.



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- This practice applies to all climbers, including those that perform pole-top rescue.

