



Contractor Beware®

Electric and Natural Gas Safety Slide Show Presenter's Notes

Slide 1

Before darkening the room, offer a welcome and overview. Begin by introducing the program and its topic:

- *Today's training session focuses on working safely around overhead and underground electric power lines and near natural gas pipelines. Following the procedures that we cover here today will assist you in keeping yourself and your co-workers safe and on the job. On the other hand, if you cut corners where utility lines are concerned, you put yourself and your co-workers at risk of serious injury and even death. Please pay careful attention, and ask questions if you don't understand.*

Darken the room.

Click for the second slide.

Slide 2

Begin when the title appears.

- *Respect the power of electricity. Follow some simple best practices before starting work.*

Click for first bullet.

- *When you arrive at a job site, always identify power lines and high-voltage equipment, and point them out to your co-workers. Review proper safety procedures before beginning work.*

Click for second bullet.

- *Assume all overhead power lines are energized, including service drops running between poles and buildings. These wires may look insulated, but any coating you see may be designed to protect the lines from weather, not to protect you from shock. Contact can still be deadly, so keep your distance.*

Click for last bullet.

- *Check the site daily, because conditions may change. Always survey the site before beginning the day's work.*

Click for next slide.

Slide 3

Begin when the title appears.

- *For tools and equipment other than cranes and derricks used in construction, always observe the 10-foot rule. (Cranes and derricks on construction sites may require greater clearances, which we will discuss on the next slide.)*

Click for first bullet.

- *OSHA requires that you keep yourself and your equipment at least 10 feet away from overhead power lines carrying up to 50 kV. This applies to all personnel, tools, and equipment other than cranes or derricks used in construction. Be aware that wind can move equipment, so build in some extra distance in case of an unexpected shift.*

Click for second bullet.

- *Higher-voltage lines require greater clearances. Contact Dominion for clearance information. Remember that your best practice is always to stay as far away as possible from power lines.*

Click for third bullet.

- *If your job requires you to work closer than 10 feet from power lines, call Dominion well in advance to make safety arrangements. They will take steps to help you work safely. Cutting corners and failing to call could have life-threatening and livelihood-threatening consequences.*

Click for fourth bullet.

- *Electrical safety distances given here are minimums.*

Click for last bullet.

- *Always use the maximum possible distance, and clearly mark boundaries with tape, signs, or barricades to keep workers and equipment away.*

Click for next slide.

Slide 4

Begin when the title appears.

- *Cranes and derricks used in construction require different clearances than other equipment, due to an OSHA rule effective November 2010. (Virginia and North Carolina have State Occupational Safety and Health Plans. For further information visit the State OSHA Program website at <http://www.osha.gov/dccsp/osp/faq.html#oshaprogram> and click on your state.)*

Click for first bullet.

- *Cranes and derricks used in construction must remain 20 feet away from lines up to 350 kV and 50 feet away from lines greater than 350 kV but at or less than 1000 kV until the operator has taken specific safety measures.*

Click for second bullet.

- *As voltage increases, clearance distances also increase. Consult the OSHA regulations at www.osha.gov or the State OSHA Program website for specific safety clearance requirements and encroachment prevention precautions.*

Click for first sub-bullet.

- *Once you have established the correct clearances, mark an obvious boundary to keep workers and equipment the required distance away.*

Click for third bullet.

- *Whenever cranes or derricks are used in construction on your job site, contact Dominion well in advance so any necessary facility protection arrangements can be made.*

Slide 5

Begin when the title appears.

- *Use a dedicated spotter when working with hoisting equipment around overhead lines.*

Click for first bullet.

- *Always use a dedicated, qualified spotter on the ground to safely judge distances between heavy equipment and power lines. From the ground, he or she will have the clearest vantage point and be best able to judge distances correctly.*

Click for second bullet.

- *Crane and derrick operators must maintain continuous contact with a dedicated spotter to comply with electric line clearance requirements.*

Click for third bullet.

- *The spotter's only responsibility should be power line safety. Don't divide the spotter's attention with other tasks. To be effective, the spotter must make spotting and clear communication with the equipment operator the top priorities.*

Click for the next slide.

Slide 6

Begin when the title appears.

- *If heavy equipment contacts a power line, it's critical to follow proper safety procedures.*

Click for first bullet.

- *Both the equipment and the line should be considered energized.*

Click for second bullet.

- *If you can do so safely, move the equipment away from the line.*

Click for third bullet.

- *Stay on the equipment. Anyone on the equipment is safe from shock as long as they stay put.*

Click for fourth bullet.

- *Warn others to stay away. In a power line contact situation, people on the ground are in the greatest danger of shock.*

Click for fifth bullet.

- *Call 911 and Dominion immediately. Their personnel will respond, switch off the power, and tell you when it is safe to leave or move the equipment. Wait for their instructions.*

Click for sixth bullet.

- *If fire or other danger forces you off the equipment, follow the proper jump-off procedure.*

Click for first sub-bullet.

- *Jump clear, keeping both feet together, and without touching the equipment and the ground at the same time. If you touch the equipment and the ground at the same time, you could be shocked. Make every attempt to land on both feet at the same time.*

Click for second sub-bullet.

- *Then shuffle away with small steps, keeping both feet together and on the ground at all times. Resist the temptation to run or take long steps because this puts you at risk for shock.*

Demonstrate the jump-off procedure.

Click for the next slide.

Slide 7

Begin when title and graphic appear.

- *Call before you dig. Underground power and natural gas lines can pose an unseen but very real danger.*

Click for first bullet.

- *Call the underground utility locator service at 811 or the toll-free number before you dig or move earth in any way. They will arrange to mark underground power lines, natural gas pipelines, and other buried utilities so you can work safely. **Wait the required time before digging:** in PA wait 3 business days; in NC, OH, VA and WV wait 2 business days. Be sure to leave adequate time in your job schedule. The service is free, but the costs of not calling can be very high. Building in extra days for the job costs less in the long run than spending months or years recovering physically and financially from a utility-line accident. And remember, it's the law.*

Click for second bullet.

- *Before you call, white line your excavation route so locators can easily identify and mark affected utilities.*

Click for last bullet.

- *If you don't call and you hit an underground line, you or your co-workers could be hurt or killed. You may also be held liable for damages. Don't risk it. Call before you dig.*

Click for next slide.

Slide 8

Begin when the title appears.

- *Dig safely. After you call, the underground utility locator service will arrange for each utility to send someone out to mark underground lines.*

Click for first bullet.

- *Talk to the property owner. Ask about any private underground lines that may not belong to a utility and so would not be marked by the locator.*

Click for second bullet.

- *Respect the marks. Maintain utility locator marks and follow them when digging. Remember that calling for a locate is just the first step. This system works only if you follow the locator marks whenever you dig in the vicinity of underground utilities.*

Click for third bullet.

- *Dig with care. Hand dig within 24 inches of each side of the marks. Local law may require a wider clearance. Use hand tools ONLY within this safety zone. Too many accidental utility contacts have occurred when someone dug with a backhoe instead of a shovel.*

Click for fourth bullet.

- *Know the underground utility code. Utilities use these colors to mark their lines. Learn the code to stay safe.*

Click for chart and point as you speak. The explanation of each color will appear automatically.

- *Red: Electric power lines.*
- *Yellow: Gas, oil, or steam pipelines.*
- *Orange: Communications lines, cables, or conduit.*
- *Blue: Potable water.*
- *Purple: Reclaimed water, irrigation, and slurry lines.*
- *Green: Sewer and drain lines.*
- *Pink: Temporary survey markings.*
- *White: Your proposed excavation.*

Click for next slide.

Slide 9

Begin when the title appears.

- *Recognizing a natural gas pipeline leak. It is important to learn the warning signs.*

Click for first bullet.

- *If digging, grading, or excavating of any kind is happening on your job site, be alert for the signs of a gas pipeline leak. They include:*

Click for each item and read off as they appear.

- *A distinctive, sulfur-like odor. (Not all gas is odorized, so do not rely on smell alone to detect a leak.)*
- *A hissing or roaring sound. The sound will vary with the pressure in the line.*
- *Dirt spraying or blowing into the air. This will vary with pressure as well.*
- *Continual bubbling in water.*

- *Plants or grass dead or dying for no apparent reason.*

Click for the next slide.

Slide 10

Begin when the title appears.

- *Responding to a natural gas pipeline leak. The single greatest risk from natural gas leaks is explosion. Even the smallest spark can ignite the gas, and sparks can come from some unexpected sources. So it's important to know the proper do's and don'ts for dealing with a natural gas leak.*

Click for first bullet.

- *If you suspect a leak or if you contact a natural gas pipeline, even if a leak is not obvious, assume there's a danger.*

Click for first sub-bullet.

- *Leave your equipment behind. Warn others of the danger and leave the area quickly. Stay away until utility personnel say it is safe to return.*

Click for second sub-bullet.

- *Do not operate pipeline valves or attempt to stop the flow of gas. Never bury a contacted pipeline.*

Click for third sub-bullet.

- *Leave the excavation open.*

Click for fourth sub-bullet. Photos will appear automatically.

- *Do not use matches, cell phones, radios, or lighters. Even a tiny spark could ignite the gas.*

Click for fifth sub-bullet.

- *Call 911 and Dominion as soon as the area is clear.*

Click for the review slide.

Slide 11

Begin when the title appears.

- *So let's review the key points of this presentation.*

Click for first bullet.

- *Identify all power lines and electrical equipment upon arrival at a job site. Recheck the site daily. Always alert your co-workers to the presence of power lines and electrical equipment.*

Click for second bullet.

- *Keep yourself and all tools and equipment (other than cranes and derricks used in construction) AT LEAST 10 feet away from all overhead power lines carrying up to 50 kV. Always assume that lines are energized.*

Click for third bullet.

- *Cranes and derricks used in construction must remain 20 feet away from lines up to 350 kV and 50 feet away from lines greater than 350 kV but at or less than 1000 kV until the operator has taken specific safety measures. Visit www.osha.gov or your State OSHA Program website for specific clearance requirements.*

Click for fourth bullet.

- *Always use a dedicated spotter to monitor distances between equipment and overhead power lines.*

Click for fifth bullet.

- *If a power line contact occurs, follow proper safety procedures and immediately call 911 and Dominion.*

Click for sixth bullet.

- *Call the underground utility locator service at 811 or the toll-free number before you dig or move earth in any way. They will arrange to mark underground power lines, natural gas pipelines, and other buried utilities so you can work safely. **Wait the required time before digging:** in PA wait 3 business days; in NC, OH, VA and WV wait 2 business days. Respect the marks. Hand dig within 24 inches of marked utilities.*

Click for seventh bullet.

- *Know the warning signs of a natural gas leak.*

Click for last bullet.

- *If you contact a natural gas pipeline, leave the area, avoid spark hazards, and call 911 and Dominion immediately. Even if a gas leak is not obvious, always follow the safety procedures presented here.*

Click for next slide.

Slide 12

Begin when the title appears.

- *To reach your state's underground utility locator service, call 811.*
- *Wait time for each state is as follows:*
 - *North Carolina: 2 days*
 - *Ohio: 2 days*
 - *Pennsylvania: 3 days*
 - *Virginia: 2 days*
 - *West Virginia: 2 days*

Click for next slide.

Slide 13

Begin when the title appears.

- *In case of emergency, call Dominion at:*
 - *Electric Emergencies:*
 - *North Carolina: 1-888-667-3000*

- *Virginia: 1-888-667-3000*
- Gas Emergencies:*
- *Ohio: 1-800-535-3000*
 - *West Virginia: 1-800-934-3187*
- *For additional information, visit our website at:
www.dom.com/about/safety/contractor-safety.jsp*

Click for the final slide.

Slide 14

Begin when the title appears.

- *Thank you for your attention.*

Take questions and begin discussion. If you are using the trainer's guide, in it you will find more detail about the properties of electricity and natural gas, when to contact Dominion, and other information.

Discuss how this information conflicts with what your audience believed about electricity and natural gas safety, and ask how they may have put themselves or others at risk in the past. Ask what they would have done differently had they had this training before.

Dominion thanks you for helping to keep workers safe.