QUICK START GUIDE

Developing Public Safety Communications Programs for Electric Utilities

PRESENTED BY:

AEGIS® CULVER

QUICK START GUIDE

The first and most important reason to invest in a Public Safety Communications Program is to save lives.

Utility customers, emergency officials, construction workers, crane operators, and the general public live and work around electric infrastructure every day. That means there is a need for both ongoing education and regular reminders of how to be safe around electricity. This document can be used at any stage of your program, whether you're just getting started or are well on the way in developing your utility's Public Safety Communications Program.

CHECKING FOR BEST PRACTICES

Key Safety Messages to Consider in Your Communications

27

ALREADY COMMUNICATING PUBLIC SAFETY MESSAGES?

Use this guide to help formally organize your Public Safety Communications Program or to generate new approaches to promoting utility public safety and hazard awareness.

This information is suggested as a public service and not as a reflection of a legal duty owed by a utility to its customers, the general public, or any other group. These public safety communications provide a collateral benefit of reducing the opportunity for utilities to be needlessly drawn into litigation and potential liability exposure, in addition to their primary purpose of incident prevention and lives saved.

TABLE OF CONTENTS

Website References

Section 01

Even Momentary Lapses in Safe Behavior Can Have Tragic, Fatal Results

Why Effective Safety Communications Are So Critical

The first and most important reason to invest in safety communications is to save lives. Utility personnel, construction workers, excavators, emergency officials, utility customers, the general public, and several other groups need ongoing education and reminders of how to safely use and work around utility services and systems.

Incidents are also expensive. They can result in loss of life or life-altering injuries, loss of service, reduced revenues, increased liability, negative regulatory treatment, and increased costs to operate. The value of one saved life cannot be measured; however, every incident that is prevented helps everyone.

Public Safety Communications Programs for specific hazards are also mandated or recommended by many federal, state, and local regulations as well as by industry consensus standards. The brand benefits of strong Public Safety Communications Programs are also far-reaching. For all of these reasons, electric utilities need to develop, actively manage, and measure Public Safety Communications Programs for a wide variety of safety issues.

The best safety program is one that does not wait for an incident to occur. By proactively addressing safety issues, utilities can reduce the amount of resources needed for litigation and correction. Instead, those resources can be used for the good of the utility's customers, employees, and the general public.

Building a proactive and effective Public Safety Communications Program often starts with two key drivers: evaluating risks or gaps, and securing the executive sponsorship required to dedicate resources to address those needs. Every utility is different, and so is the population that lives, works, and congregates in its service territory or near its infrastructure. That means the risks, and the most effective ways of communicating with stakeholder populations, will be different as well.

The information in this guide is based on national norms and will likely need to be adapted to your specific market. It's also important to design a program around your utility's specific goals that includes defined audiences, effectiveness measurements, and continuous improvement strategies.

The importance of demonstrated leadership commitment to your Public Safety Communications Program cannot be understated. The resources required for the maintenance and continuous improvement of a Public Safety Communications Program are critical, as known risks and best practices are continually evolving. Addressing these concerns by establishing specific program goals and then using an integrated communications approach coupled with a systematic improvement cycle has been shown to be far more effective than addressing each safety topic and audience individually through a single channel. A high level of utility commitment and executive sponsorship increases the likelihood that risks are continually identified and mitigated, rather than program budgets only being targeted toward preventing past incident types.

As its name implies, this is a guide to developing Public Safety Communications Programs quickly. It is intended to help organize your current programs and suggest other topics that your utility may want to address. The following section provides a programmatic approach to public safety communications and is followed by key messages to consider. For each topic, you will find background information and incident examples, as well as target audiences, communication channels, and ways to measure the effectiveness of your program.


Rr 27⅞
KILOWATTHOURS
WATTHOUR METER

Section 02

Effective Safety Communications Require a Programmed Approach

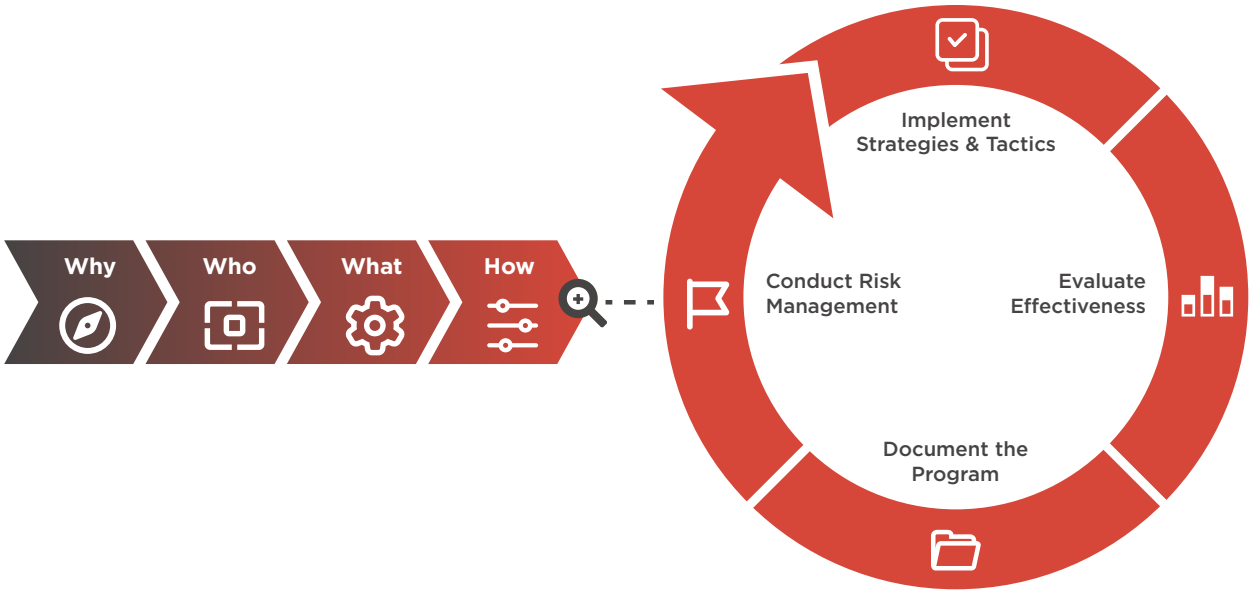
Building a Sustainable Public Safety Communications Program

Individual efforts directed at specific safety topics are not as effective as when all of a utility's communications are coordinated to deliver a consistent safety message across multiple channels in an integrated approach.

Practically speaking, that means translating the why, who, what, and how of your utility's Public Safety Communications Program into a coordinated and ongoing approach that implements specific strategies and tactics. Once implemented, the completeness and effectiveness of those actions should be carefully evaluated and documented. Program data and observations should be carefully analyzed alongside ever-changing risk indicators and industry trends, so that thoughtful improvements and proactive measures can be incorporated into future strategies and tactics.

The Public Safety Communications Program is designed to effectively educate the general public and complement other utility communications programs directed at schoolchildren, contractors, crane and derrick operators, agencies, and emergency responders. This section spells out key considerations for each core aspect of establishing your program and should be worked through with a cross-functional group of stakeholders in your utility before being presented to and approved by utility leadership.

This program is not designed to establish or reflect the legal duty of care that any electric utility owes to its customers, the general public, or any other group with respect to the communication of safety information. That legal duty is well established in each venue, and it is not the intent of this program to change it. Rather, the purpose of this program is broader. It attempts to assist electric utilities in providing safety information—even where there is no legal duty to do so—in order to help prevent incidents and save lives. This is suggested as a public service and not as a reflection of a legal duty owed by an electric utility to its customers, the general public, or any other group. In addition, an important collateral benefit of these public safety communications is that every incident that is prevented—and every life that is saved—will reduce the likelihood that electric utilities will be needlessly drawn into litigation and potential liability exposure.



This figure depicts key aspects to consider in establishing, implementing, maintaining, and continuously improving your Public Safety Communications Program. Each item is described in more detail in the following pages.

Why

Program Goals

It's easy to understand why public safety is important. Documenting the specific "why" for your utility's Public Safety Communications Program in actionable terms is a little more challenging. Setting program goals that drive year-over-year strategies and tactics should include a variety of factors: risks identified in your area, past incidents and claims within and outside your organization, industry regulations and best practices, customer and community feedback, and end-user preferences.

This information may be challenging to locate at first, but there are a variety of resources, including AEGIS and Culver Company. We can fill in the gaps from internal data reviews and comparison of industry peers in the development of a comprehensive approach.

A few key items to consider when gathering information and ultimately deciding your program goals include:

- **Identifying Risks Specific to Your Area and Utility**
  - Past risk analysis information or data
  - Risk factors associated with your geographic location, local infrastructure, community activities, and at-risk stakeholder communities
- **Review of Past Incidents and Claims**
  - Incidents, hazardous conditions, or other historical event information from within and outside your organization
- **Industry Regulations and Best Practices**
  - Changing safety rules or practices, especially for workers
  - Effectiveness research for changing behaviors of at-risk groups

- **Community Feedback and End-User Preferences**
  - Community concerns or knowledge gaps within your service territory
  - Expectations of end users about receiving safety information from the utility (for example: crane operators expecting informational materials or homeowners expecting information on how to stay safe after an ice storm)
  - Research findings showing the type and frequency of communications at which different audience segments expect to receive safety materials
  - Survey data showing communications channels and formats in which different audiences expect to receive safety information
- **Utility Goals and Safety Commitment**
  - Alignment with key organizational safety aspirations and leadership commitments (for example: extending a “safety first” mindset to the general public in addition to employees)
  - Alignment with utility call center, customer satisfaction, sustainability, and corporate social responsibility long-term goals

Who

Key Audiences & Languages

The most critical element for the development of an effective Public Safety Communications Program is understanding the audience. For any particular safety topic, the audience may be as general as the entire population that lives, works, or congregates in an area, or as specific as people working in a single profession.

When identifying audiences, it is important to consider both your program goals and the opportunity to provide safety education as a public service to the community, even if that means sharing your utility safety message with those beyond your customer base.

The work done to identify your goals in the previous section should set your program on the right track toward identifying target audiences and any important subsets of those audiences. Risk information, safety standards, past incidents and claims, industry data, and best practices—among other items—should all be used to form a full picture of possible audiences. Once the audience has been identified, the message has to be presented in a manner that is appropriate and effective for the members of that group. Because most risk areas or safety topics will have multiple audiences, different materials will need to be developed for various groups.

The number and type of audiences will depend on the specifics of your utility, program goals, regulatory requirements, legal/risk management practices, and a variety of other factors. Some regulations specify certain audiences must be targeted. Safe working practices, such as those defined by OSHA, may also influence audience and message. While the following is not intended to be a comprehensive list, your plan should consider the following audience types:

- Customers (with new customers as a specific subset) and other electricity users/consumers (such as tenants)
- Construction companies, crane/aerial-lift/scaffolding/ derrick equipment operators, excavators, and other heavy equipment operators
- Painters, roofers, and other trades/skilled workers
- Emergency responders
- Agriculture workers and transportation companies
- Landscapers and tree trimmers
- Marinas and boaters
- Municipalities and public works departments
- Pilots and operators of Unmanned Aerial Systems (UAS)
- Students and teachers
- Utility personnel and workers at other types of utilities (e.g., water)

Multilingual Considerations

To be most effective, language must be taken into consideration when planning safety communications. Despite the tremendous multicultural composition of the United States, there are no firm guidelines regarding multilingual public safety communications. Each utility must develop its own standards based on the unique characteristics of its service territory, local census data, and industry best practices.

Some factors to consider in making your decision include:

- **Print and Broadcast Media**
  If your market supports commercial TV, radio stations, or newspapers in languages other than English
- **Your Billing Department**
  If your company sends bills out in languages other than English
- **Your Marketing Department**
  If your company produces promotional materials in languages other than English
- **Healthcare/Emergency Service Providers**
  If your local hospitals, police, and fire departments produce literature or train their people in languages other than English
- **Local and State Governments**
  If your local or state governments produce materials or conduct official proceedings in languages other than English
- **Census Data**
  The U.S. Census provides detailed information on the number of non-native English-speaking people in every area of the U.S.

  To find information for your area, visit the Explore Census Data* website.

Cultural differences can also present challenges. Part of your market may include people who have a different experience with utilities and public safety. These differences should be identified and addressed by an effective communications program.

**If viewing in print, please see listing of URLs in the Table of Contents..*

What

Core Messages & Scheduling

The purpose of any safety communication is to effect a change in awareness, knowledge, or action. The idea of creating a "core message" is clarifying the most essential idea you want your audience to retain. It should be stated simply and guide the development of all materials and activities in the program for the duration of your communications calendar. Beyond language and cultural considerations for each audience, the core message should be communicated in a way that best meets the needs of your specific audience.

The way the materials will be used and end-user preferences should also be taken into consideration. For example, a first responder may be interested in receiving educational materials that are far more detailed and applicable to a wider variety of response scenarios than a message crafted for a homeowner.

"Day One" Information

It is common for public safety communications to be sent out on a rotating schedule through media such as bill stuffers or mailings. In such programs, a "Harvest Safety" message may go out in August, "Ice Storm Downed Wire Safety" in December, etc. This may result in delays of a year or more in new customers receiving vital information on particular topics. For this reason, a "Day One" information package should be developed and distributed to all new customers on their first day of service. The package should include all relevant safety information. When done as a booklet or other bound package, it can provide a year-round safety reference for your customer.

Timing
For each topic in your program, determine the best or most appropriate timing for the delivery of the message. For topics that are snow and ice-related, the timing is obvious. For programs that are a year-round concern, timing may be linked to events or activities that call attention to the message, such as painting and landscaping when moving into a new home. Other messages may need to be delivered several times during the year and should be planned at regular frequencies. The timing and trigger for all elements in your program should be documented on your communications calendar within your program.

Frequency
The frequency with which messages are delivered needs to be based on local factors. However, the determined frequency should not be less than that called for by federal, state, or local regulations or industry consensus standards.

How

Outreach Program Activities

After clarifying why your organization needs a Public Safety Communications Program and defining what the goals are, which core messages are critical, and who needs to receive them, it is time to determine the strategies and tactics for how those messages will ultimately be delivered.

There are four key strategies that should be considered for each audience and topic in order to effectively implement a Public Safety Communications Program:

- Public education
- Public relations
- Advertising/traditional media
- Digital media

There are benefits and limitations to each of these methods that should be carefully considered, especially including message traceability and documentation, cost-effectiveness/scalability, and others. An integrated approach across multiple channels is preferable to a single channel for any audience and message. This is a strong reason to take a programmed approach to public safety communications.

1. Public Education

Public education materials should be developed specific to the message and audience. These may include:

- Bill stuffers
- Direct mail
- Email/newsletters/blogs
- Safety brochures/posters
- Displays at health and safety fairs, home improvement shows, events, and malls
- Website information
- “Day One” information package
- Safety messages when new service is established
- Reminders such as magnets and stickers

2. Public Relations

An effective public relations program can deliver safety messages through newspaper articles as well as broadcast news and public affairs programming. Because of the seriousness of utility public safety, the media may be receptive to picking up these stories. Consider working with the local fire department, which can add credibility and impact to messaging campaigns. An effective public relations program may include:

- A spokesperson
- Press releases with data, facts, and requested actions
- Media interviews
- Public service announcements
- Incident press releases, should an incident occur in your market

3. Advertising/Traditional Media

Paid media effectively reaches large numbers of the general public. Since the messaging is a public service announcement, you may be able to negotiate lower fees with the media. However, be aware of the trade-offs; in exchange for lower fees, broadcast media may run your announcements in the dead of night, when few stakeholders are awake to hear your safety message. Media buyers or brokers can be a useful resource for determining the most effective media buy for your utility.

Television
TV can be efficient in reaching large audiences. TV media plans can be costly, especially when the schedules include network affiliates during primetime, evening, and late night news programs. Local cable and satellite service programming can be more cost-effective but will reach fewer viewers than network programming. Production costs must also be considered.

Radio
In most markets, radio is more cost-effective than TV for reaching large target audiences. It has low production costs, especially when you supply radio stations with scripts.

Newspapers
Newspapers can effectively reach large audiences; however, readership of large-market newspapers has declined in recent years. Newspaper advertising is recommended as a supplement to radio and/or TV campaigns.

Magazines
General interest magazines as well as ones that feature special interests—such as home remodeling or gardening—can be a good promotional vehicle. Consider either magazines that are published in your region or a regional media buy for national magazines.

Billboard and Transit Ads
Billboards, transit advertising, and other forms of outdoor advertising are recommended only as supplements to other media if budget permits. Outdoor advertising increases frequency—the number of

times each member of the audience has an opportunity to view the message—however, the price, based on the amount of street traffic or transit rider loads, can be expensive and not as effective as more direct means of communication.

4. Digital Media

Social Media
Social media is an effective channel that allows utilities to engage customers, demonstrate preparedness during critical times, and provide essential safety information on both a reactive and a planned basis. Nearly every utility now has a social media presence and a social media manager. It is important to focus on providing seasonal and evergreen safety messaging to your social media manager and developing, in advance, a cooperative strategy for using social media to quickly alert the public to immediate safety concerns or incidents.

Social media is a modern and efficient mechanism to reach large quantities of people through various paid and earned/social digital channels. As paid media, this type of channel is an effective means of targeting a specific message to a highly segmented population or geographic area, but can be expensive depending on the targeting approach that is used.

The utility's social media strategy should consider ways to engage customers and provide powerful tools such as real-time updates on customer outages and restoration efforts. This strong customer engagement can be leveraged to communicate public safety information.

Online Advertising
There are a variety of mechanisms through which digital advertising can be used to target broad audiences. These include website banners, online magazines or newsletters, streaming music outlets, digital commercials on video programming, paid search, and others.

Effectiveness Evaluation

A critical element of your program is evaluating how effective it is in changing your audience's understanding and actions. To know what your program has accomplished, you first have to gather baseline data.

The baseline data should be gathered before the program is introduced, then compared to a second survey conducted after the program is completed. Additional surveys may be needed during the course of the program, or after the program activities have been completed. Evaluation allows programs to be continually monitored and modified to achieve the best possible results. Surveys are best conducted by independent contractors who have the experience and resources needed for large projects.

Program Documentation

An essential element in managing an effective Public Safety Communications Program is documentation.

Among the items that should be documented are:

- A statement of purpose and commitment
- Key team members, their roles, and their responsibilities
- Identification of safety issues to be addressed
- Listing of all strategies, tactics, media, and schedules implemented
- Samples of all materials produced
- Mailing lists used or media placement orders with clippings of the actual insertion
- Program effectiveness evaluation results

These records should be retained for a minimum of five years, or longer if called for in the program definition. This documentation may be needed as evidence in future litigation.

Risk Management & Continuous Improvement

As your utility gets into a rhythm of identifying audiences and delivering key messages through specific, integrated channels, the next step is to sustain and continuously improve the program. This should be done through analyzing data from a combination of sources, including effectiveness evaluations, trend and risk information, and data-driven industry best practices.

Newly identified risks and opportunities for improvement should be captured through the revision of your program goals before implementing the next round of strategies and tactics. Using this approach and working with your organization's leadership and program sponsors, public safety communications can be a key part of your risk management strategy.

Additional Resources

Trade associations, government agencies, and private organizations offer additional information and materials that may be valuable in the development and implementation of Public Safety Communications Programs.

Section 03

A Comprehensive Safety Communications Program Can Save Lives, Prevent Injuries, and Reduce Costs

Key Safety Messages to Consider in Your Communications

By following the steps outlined in the previous section, you now have a Public Safety Communications Program plan. Next you need to identify the specific safety issues your program must address. In the following section, we focus on the most common utility safety concerns, identify the key audience members you should target, and summarize the core messages you should convey.

Over time, your utility will uncover additional topics until you have created a robust Public Safety Communications Program that can effectively save lives, prevent injuries, and reduce costs.

Work with your leadership, operations, risk management, customer service, claims, and legal departments to prioritize which safety issues are most important to address in your market.

Organize a public safety communications calendar to help coordinate seasonal safety messages.

Overhead Lines

Why Address This Issue?

Most injuries involving electric utility facilities result from contact with overhead transmission and distribution lines. “Failure to warn” is invariably alleged when these incidents occur. Educating the public to recognize and avoid overhead electric lines may prevent injuries and reduce a utility’s exposure to these risks.

Aggressive public safety education campaigns aimed at expanded audiences may significantly reduce the likelihood of future incidents. The liability associated with even a single claim can far exceed the costs associated with a Public Safety Communications Program. Rather than increasing a company’s costs, an effective program aimed at reducing electrical contact incidents can reduce costs, freeing resources for other critical needs.

The following page provides examples of incidents that reinforce the importance of utility Public Safety Communications Programs. Had these workers known of the hazards associated with overhead electric lines and safe practices for avoiding contact, these tragic incidents may have been prevented.

Incidents

- Two roofers were killed and another seriously burned when an aluminum ladder they were moving contacted an overhead primary distribution line.

- Two men were seriously injured when the scaffolding they were moving made contact with a 69 kV sub-transmission line. The scaffolding was being moved by forklift from one side of a building that was under construction to the opposite side of the building. The two injured men worked for a masonry subcontractor and were guiding the scaffolding with their bare hands as their coworker operated the forklift.

  One of the men was just 20 years old at the time of the accident, and it was his first day on the job. As a result of the accident, the young man is a paraplegic, suffered brain damage, and is unable to speak.

  Allegations were made that the utility was negligent in failing to warn of the hazard and in failing to move or de-energize the line with knowledge of high-reach construction equipment operating on the site. There was evidence that utility crews regularly drove by the construction site and had installed a temporary service. While the utility company had a procedure in place to issue “contractor notices” to contractors operating equipment too close to the company’s power lines, no such notice was issued at this construction site.

Who: Key Audiences & Languages

The general public; elementary, middle, and high school students; crane and high-reach equipment operators; and certain types of construction and maintenance workers are the prime target audiences for this topic.

In addition to these and what was provided in the "Who" portion of Section 02, page 15. Examples of key audiences for this topic may include:

General Public

- Adults
- Minors

Students

- Elementary schools
- Middle schools
- High schools
- Vocational schools and programs

Contractors/Skilled Workers

- Crane/aerial-lift/scaffolding/derrick equipment operators
- General contractors
- Roofers, painters, and siding and gutter installers
- Concrete pump truck operators
- Heavy equipment operators
- Billboard erectors and operators
- Cellular tower erectors and operators
- Agricultural workers, including irrigation system installation contractors and other agricultural service providers
- Tree trimmers, landscapers, and ornamental shrub and tree companies
- Loggers and others involved with forestry services
- TV van operators
- Cable TV installers

What: Core Messages

The core message is the most important point or essential idea to be understood and remembered by the target audience. For this topic, the core message is:

> **Overhead electric lines may cause serious injury or death if contacted. Maintain required safety clearances from these facilities. Be vigilant when using ladders, scaffolds, and long/tall tools and equipment in the vicinity of overhead lines. Call your electric utility to make safety arrangements if you must work near these facilities.**

Children should be educated regarding tree climbing and kite/drone/UAS safety in the vicinity of overhead electric lines.

Contractors and skilled workers should be provided information regarding power line safety:

- Overhead electric lines are not insulated. Contacting or getting too close to one with your body, equipment, or tools could result in death or serious injury.
- When working with ladders or long tools, stay at least 10 feet away from overhead power lines carrying up to 50 kV. If you are unsure of the voltage, contact your local utility.
- When cranes or derricks are used in construction, keep the crane boom and load at least 20 feet away from the line if you don't know the line's voltage. Always assume the line is energized unless you have confirmed with the utility that the line has been de-energized.
- As voltage increases, clearance distances also increase. Contact your local utility and consult the OSHA regulations for specific safety clearance requirements.

Overhead Lines: Boat Mast Safety

Why Address This Issue?

The NESC and utility construction standards specify clearances for electric lines over waterways and boat launch areas. However, electrical contact incidents involving boat masts and overhead lines may occur among boaters who do not understand how to recognize and avoid these hazards. Boat mast contact incidents sometimes occur at sites not typically used for boat launching because these locations may not be recognized as such by utility companies, and thus may have lower line-to-ground clearances than boaters have come to expect at designated launch areas. Public safety messages can educate boaters about these hazards.

Incidents

- A 24-year-old woman was electrocuted when the aluminum mast of her sailboat contacted an overhead power line while she was attempting to beach the boat.

- After a day of sailing, a couple landed their catamaran on a beach. Not noticing a 12 kV overhead electric line, they walked the rigging and mast of the boat directly into the line. The man and the woman were electrocuted.

These incidents reinforce the importance of utility Public Safety Communications Programs. Awareness of the hazards associated with overhead electric lines by these boaters may have prevented these tragic incidents.

Who: Key Audiences

- Recreational boaters
- Sailing schools and clubs
- Marinas
- Boatyards, storage, and repair operators

What: Core Messages

The core message is the most important point or essential idea to be understood and remembered by the target audience. For this topic, the core message is:

> **Be watchful for and avoid contact with overhead electric lines when raising boat masts, launching sailboats, or moving sailboats from the water. Be alert for power lines at designated boat launch areas as well as other locations not typically used for this purpose.**

Overhead Lines: Aircraft & Unmanned Aerial System Wire Strikes

Why Address This Issue?

The careless operation of general aviation aircraft, particularly small planes, sport craft, helicopters, hot air balloons, and unmanned aerial systems (UAS), results in numerous collisions with overhead electric power lines every year. The risk of aircraft collisions with power lines is of major concern to utilities. These so-called "wire strikes" occur an average of 66 times per year in the United States and comprise approximately 8% of all general aviation incidents.

With increased use of unmanned aerial systems, increased public safety awareness on legal and safe use of UAS is necessary. UAS should not be operated near power lines or utility structures, and must be operated within line of sight at all times.

Most wire strikes result in the total destruction of the aircraft and severe or fatal injury to occupants. Wires, and often the poles and towers that support them, are difficult and sometimes impossible to see, even if the general location of the wires is known to pilots. Their visibility and the ability to detect and locate them are affected by sunlight, line-masking terrain, and changes in perspective. Helicopters are more susceptible to striking utility wires than planes because they often operate at very low altitudes in close proximity to terrain features, structures, and other facilities.

Aircraft operator safety and awareness training may be beneficial in eliminating or reducing incident occurrences.

Incidents

- A medevac helicopter contacted an overhead electric distribution power line while transporting a seriously injured vehicle-accident victim. The helicopter crashed to the ground, killing all occupants, including the pilot and two crew members. The helicopter pilot had identified the nearby electric power lines when landing the helicopter, but overlooked their location during takeoff. The incident occurred at night, making it much more difficult to see the power lines.

- A hot air balloon left the ground, ascended toward and then contacted an overhead electric power line. The balloon caught fire and crashed into a field, resulting in two fatalities and one serious injury. The cause of the incident was determined to be pilot error in the selection of the takeoff site and the use of an unapproved aluminum fuel tank, which ignited the basket.

These incidents reinforce the importance of utility Public Safety Communications Programs. Pilot awareness of the hazards associated with overhead electric power lines may have prevented these tragedies.

Who: Key Audiences

Audience groups that may benefit from wire strike avoidance safety education and messages are quite diverse and include:

Balloon Operators

- Balloon clubs
- Balloon event participants
- Balloon tour operators

Pilots

- Agricultural aviation associations
- Flying clubs
- Recreational pilots
- Sport aircraft operators
- Unmanned aerial systems operators
- Professional pilot associations

Helicopter Pilots

- Medevac
- Law enforcement
- Military
- News

What: Core Messages

The core message is the most important point or essential idea to be understood and remembered by the target audience. For this topic, the core message is:

> **When planning an aircraft flight path, include an assessment of aerial objects that may be encountered, such as electric power lines and support structures. Refer to the FAA publication on potential flight hazards. When flying at low altitudes, stay a safe distance away from all overhead electric lines. Hot air balloon takeoff sites should allow sufficient horizontal clearance from obstacles in the takeoff path.**

Substations

Why Address This Issue?

Substation entry by unauthorized or unqualified persons presents a significant risk of injury from contact with high-voltage conductors, busbars, or other electrical equipment. Children may be tempted to enter substations on a dare, or while chasing toys or animals. Substation copper theft has skyrocketed in recent years; copper thieves may suffer serious injuries and fatalities, damage substation equipment, and cause power outages.

Fences and signs are intended to keep the public from entering these facilities. Public safety communications may convey the potential dangers of unauthorized entry into substations and instruct people to inform the appropriate electric utility if they witness unauthorized entry or security or safety problems in or near a substation.

Incidents

- An 8-year-old boy received severe burns resulting in amputation of both arms and other injuries after he entered a substation and contacted an energized busbar. The boy was able to crawl into the substation under the perimeter fence. He then climbed up a steel support structure and contacted an energized bus bar.

- A 14-year-old boy incurred third-degree burns over 50% of his body and suffered injuries to his arms requiring amputation of both arms below the elbows when he contacted a substation 13 kV busbar. He and his friends were chasing rabbits. They climbed over the main entrance gate and entered the substation. The boy in question, still pursuing the rabbit, then climbed an internal fence enclosing substation capacitors and contacted the energized busbar.

- Two men entered a substation in an attempt to steal copper for scrap value. They gained entry by scaling the seven-foot security fence. One man climbed up on a circuit breaker to cut the energized 34 kV leads to the lightning arrestors and bushings. He made contact with the top of one of the bushings and caused a flash-over. The man was thrown from the top of the circuit breaker by the flash. It is believed that the man on the ground extinguished his partner. The injured man passed away six days later.

These tragic incidents, which may have been prevented if the individuals involved were aware of the hazards associated with electric substations, reinforce the importance of utility Public Safety Communications Programs.

Who: Key Audiences

The general public and children are the prime target audiences for this topic.

General Public

- Adults
- Minors

Students

- Elementary school
- Middle school
- High school

What: Core Messages

The core message is the most important point or essential idea to be understood and remembered by the target audience. For this topic, the core message is:

> **Substations are fenced areas containing large electrical equipment. The electricity used in substations is extremely dangerous and can kill a person. Substations are marked with either "Danger" or "Warning: High Voltage" signs. Never enter a substation or even go near the fence surrounding one. Stealing copper wire from a substation is not only illegal, it can be deadly.**

Padmounted Equipment

Why Address This Issue?

Padmounted transformers, switchgear, and power pedestals may present a hazard to the public if improperly locked, damaged by vandals, or struck by vehicles or equipment. Excavation activities and washouts in the vicinity of this equipment may also compromise safety. Although safety signs or decals warning people to avoid high-voltage padmounted equipment are commonly used, these signs can be removed or defaced by vandals.

The public can be educated to recognize and avoid this equipment as well as report possible problems to the local electric utility. “Failure to warn” is invariably alleged when incidents involving padmounted equipment occur. Educating the public to recognize and avoid padmounted electrical equipment can prevent injuries and reduce a utility’s exposure to these risks.

Incidents

- A 5-year-old boy sustained serious electric burn injuries when he reached into a 4.8 kV live front, padmounted transformer. The child suffered multiple amputations. The transformer had been damaged and opened by vandals.

- A 6-year-old boy sustained second- and third-degree burns to his left hand and the side of his head, as well as a seven-inch burn laceration, when he stuck his hand or a stick into an unlocked 4 kV padmounted transformer. At the time of the contact, the child was attempting to chase a cat from the unlocked and open transformer. Neighbors stated the transformer lock had been missing for at least three months prior to the incident. The transformer had only a single locking mechanism, was covered with graffiti, and had no warning signs on the outside or inside.

These incidents reinforce the importance of a Public Safety Communications Program.

Although there were other contributing factors, the problems associated with the padmounted equipment could have been recognized and reported by the public before the incidents occurred had they recognized the obvious hazards.

Who: Key Audiences

The general public, students, emergency responders, landscapers, and excavators are the prime target audiences for this topic.

General Public

- Adults
- Minors

Students

- Elementary school
- Middle school
- High school

Emergency Responders

- Firefighters
- Police officers
- Emergency medical technicians (EMTs)

Landscapers and Excavators

What: Core Messages

The core message is the most important point or essential idea to be understood and remembered by the target audience. For this topic, the core message is:

> **The interior compartments of padmounted electrical equipment contain high-voltage components that are exceedingly dangerous to touch. Avoid contact with this equipment. Never touch or enter open, damaged, or unlocked electrical cabinets; immediately report damaged or open equipment to 911 and the local electric utility.**

Downed Utility Lines: General

Why Address This Issue?

High winds, lightning strikes, ice storms, flooding, and broken or uprooted trees resulting from these severe weather conditions may damage supporting structures and/or conductors, bringing energized wires within the public's reach. Vehicles striking utility poles can also bring down overhead power lines. Power lines may come down along with telephone and CATV lines, both of which may become energized. Educational messages can inform the public about these potential hazards, thereby preventing injuries and reducing a utility's exposure to these risks.

Incidents

- A mother, her twin sons, and another child were electrocuted when they stepped into a puddle with a downed power line that was damaged due to high winds in a hurricane. The woman and her 11-year-old twins were walking in their neighborhood with a 14-year-old friend of the twins and the family dog. Strolling ahead of their mother, the boys did not notice a submerged power line in the murky water; they and the dog were instantly electrocuted when they walked into the puddle. Seeing the children collapse, the mother ran into the puddle and was also electrocuted.

- Two men riding in a car along a rural road spotted a small brush fire alongside the road. They stopped to investigate and decided to extinguish the fire. As the driver went to get a fire extinguisher, the 32-year-old passenger died after he stomped on a downed 7.2 kV line lying in the road, believing it was a burning flame.

These tragic incidents may have been prevented if the victims had known to be alert for downed electric lines and had been aware of the hazards associated with downed lines. Public Safety Communications Programs and messages can educate the public about such hazards.

Who: Key Audiences

The general public, schoolchildren, firefighters, police officers, emergency medical technicians, and public works department employees are the target audiences for messages and training regarding recognizing and avoiding downed utility lines.

General Public

- Adults
- Minors

Students

- Elementary school
- Middle school
- High school

Emergency Responders (firefighters covered separately)

- Law enforcement
- EMTs

Public Works Employees

What: Core Messages

The core message is the most important point or essential idea to be understood and remembered by the target audience. For this topic, there are two core messages: the first focuses on hazard awareness, and the second on safe response.

> **Contact with energized downed utility lines or nearby objects may cause serious injury or death. Downed lines may be energized even if they don't hum or spark, and lines that appear dead could become re-energized at any moment. Downed power lines may energize the ground or nearby puddles, metal fences, vehicles, trees, utility poles, and other utility wires.**
>
> **Be especially alert for downed lines hidden by water and tree branches after high winds and storms. Consider any downed electric or communication line to be energized and dangerous, and call 911 and the local electric utility to report it. Stay a safe distance* away from all downed or low conductors.**

Messages and training should focus on recognizing downed lines, the proper distances to be maintained from these lines, and precautions to follow when lines come down on occupied vehicles.

In addition, public safety messages should instruct the public to abide by the following key steps when they encounter a low-hanging or downed power line:

- Stay away; do not approach downed wires
- Call 911 and the local electric utility
- Keep other people away
- If someone is in contact with the power line, DO NOT attempt to rescue them because you could become a victim as well
- When first responders arrive, alert them to the situation

** Industry practices vary regarding advising on a safe distance from downed power lines. Electric utility companies may determine a safe distance based on their electric system characteristics, with distances typically between 30 and 100 feet. Alternatively, utilities may opt to use "as far away as possible" since voltage, fault current, and ground conditions are highly variable throughout a utility's system. In either case, the company's safety messages should be consistent with precautionary information provided by the call center, first responder training, the company's website, and published PSA materials.*

Downed Utility Lines: Ice Storms

Why Address This Issue?

In many areas of North America, ice storms can cause extensive damage to overhead electric facilities. Ice loading and broken trees may damage the structures that support overhead power lines and bring energized conductors within the public's reach. These weather events occur with little or no advance warning, so safety advisories must be disseminated during and after their onset. Public safety messages and training about the hazards of downed power lines associated with ice storms should be included in the broader topic of Downed Utility Lines (page 44), discussed earlier in this guide.

Incidents

- A man was electrocuted when he contacted a downed electric power line while evaluating the damage to the trees and shrubs in his backyard resulting from a late fall ice storm. The ice buildup from the storm had weighed down the branches of an evergreen tree and severed a primary conductor of an overhead electric line running along the rear of the man's property. The man told his wife that he was going outside to look at the ice damage to the trees and shrubs in their yard. There were no witnesses to the incident; apparently, the man tried to free the severely bowed branches from the weight of the ice and touched the energized electric conductor that was tangled in the broken branches of the evergreen, approximately three feet above the ground.

This tragic incident may have been prevented if the victim had known to be alert for downed electric lines and had been aware of the hazards associated with downed lines. Public Safety Communications Programs and messages can educate the public about such hazards.

Who: Key Audiences

The target audience for this topic is the general public.

What: Core Messages

The core message is the most important point or essential idea to be understood and remembered by the target audience. For this topic, the core message is a variation on the messaging for downed utility lines:

> **Contact with energized downed utility lines or nearby objects may cause serious injury or death. The weight of ice on tree branches and utility lines may bring energized high-voltage electric lines within reach, so be particularly watchful for downed utility lines after ice storms.**
>
> **Consider any downed electric or communication line to be energized and dangerous, and call 911 and the local electric utility to report it. Stay a safe distance* away from all downed or low conductors.**

** Industry practices vary regarding advising on a safe distance from downed power lines. Electric utility companies may determine a safe distance based on their electric system characteristics, with distances typically between 30 and 100 feet. Alternatively, utilities may opt to use "as far away as possible" since voltage, fault current, and ground conditions are highly variable throughout a utility's system. In either case, the company's safety messages should be consistent with precautionary information provided by the call center, first responder training, the company's website, and published PSA materials.*

Electricity: Firefighters

Why Address This Issue?

Firefighters frequently confront emergency situations involving electricity. Downed power lines, structure fires, vehicle accidents, wildfires, and fires in commercial high-voltage installations are just a few of the many incident types that expose firefighters to the risk of contact with power lines and electric utility infrastructure. Firefighters are seriously injured or killed in the United States every year due to inadvertent contact with energized electric lines and other components of electric utility systems. Proper training equips firefighters to recognize and avoid the hazards associated with electrical facilities.

Incidents

- A 20-year-old volunteer firefighter was electrocuted while extinguishing a small brush fire. The victim was a crew member dispatched to a grass fire where a power line was reported to be down. He arrived at the scene of the incident and immediately began assisting other firefighters in extinguishing one of several small brush fires. He then began walking toward a smoldering pile of brush near the downed power line. As he pulled a charged fire hose over the uneven terrain, he tripped and fell onto the downed 7.6 kV electric line and was electrocuted.

- In another incident, a firefighter was electrocuted and a second seriously injured while positioning a 35-foot aluminum extension ladder at a fire scene. The incident occurred outside a three-story building where a fire was burning on the third floor. The emergency responder, who was off duty when the incident began, had responded to the scene simply because he was in the area at the time. Upon arriving at the fire scene, the emergency responder was placed on duty by the fire chief in charge and ordered to assist in raising a ladder to the third-floor window of the structure. As the emergency responder (who was not wearing firefighter's turnout gear) and two other firefighters positioned the ladder near the building, two of them apparently slipped on ice and snow on the sidewalk and lost control of the ladder. The ladder fell back and contacted a 7.6 kV overhead power line, electrocuting the emergency responder and critically injuring the second firefighter. The third firefighter received a minor electric shock but was uninjured.

These incidents highlight the importance of training firefighters to recognize the hazards associated with working near energized electrical facilities and to take all precautions to avoid contact with them.

Who: Key Audiences

Firefighters are the target audience for this topic.

What: Core Messages

The core message is the most important point or essential idea to be understood and remembered by the target audience. Firefighters require detailed training (far beyond that necessary for the general public) in identifying and avoiding the potential hazards associated with electricity; thus, a singular core message does not suffice.

At a minimum, firefighter training should include:

- Basic electrical theory
- The causes of electrical fires
- Utility electric power system components, including power plants, transmission and distribution lines, substations, and transformers
- Safe approach distances to overhead power lines and downed power lines (circle of safety)
- Rescue procedures for vehicle incidents involving downed power lines
- Incidents involving high-reach equipment contacting electric lines
- Structure fires and electrical hazards
- Underground electric vault fires
- Photovoltaic system fires
- Fires in high-voltage commercial and industrial installations
- Electric utility facility fires (e.g., power plants, substations, overhead and underground electric distribution equipment)
- Understanding and treating electric flash and contact injuries

Hurricane & Windstorm Safety

Why Address This Issue?

Hurricanes and other high-wind events strike electric utility service areas, causing extensive damage to overhead electric facilities. High winds and broken and uprooted trees may damage overhead lines' supporting structures and bring energized conductors within reach of the public. There is usually advance notice of approaching hurricanes and often some advance notice of other high-wind events such as northeasters, providing electric utilities with an opportunity to warn the public about potential hazards and provide important safety information on storm preparedness.

Incidents

- A homeowner was electrocuted when she made contact with an energized 4.6 kV primary distribution line. While walking along a narrow path in her backyard, she contacted a severed energized wire lying in shrubbery. The previous day, a large tree uprooted by a severe windstorm had knocked the line down, resulting in the loss of service to approximately 100,000 customers.

- A 6-year-old boy and his adult neighbor were killed when they contacted an energized downed primary conductor in the yard of the boy's home. The wire was brought down by heavy rain and strong winds associated with a tropical storm.

  At 2 a.m. on a Saturday, as the full brunt of the storm approached the utility's service area, the boy's family noticed sparks and flames in the road caused by the downed wire outside their home. The family's father called 911 and the local police responded. Police officers stood by the scene until the flames and sparks ended. At that time, the on-scene police officers asked their police dispatcher to contact the utility and inquire as to whether the power to the area was off. The police dispatcher's conversation with an employee in the utility's storm operations center led him to believe that the power at the site of the downed wire was out. At 4 a.m., shortly after the police left, a utility employee arrived on the scene and cordoned off the area with red plastic "Danger High Voltage" tape and an orange traffic cone. The utility employee did not stay on the scene and guard the energized conductor.

At 11 a.m., after the storm had passed, the boy and his father went outside to assess any storm damage. The boy walked into the downed primary line and fell to the ground. His father went to his son to help and received an electrical shock when he touched the boy's clothing, suffering minor injuries. A neighbor, who was on the scene, rushed to help the fallen boy, contacted the downed line, and was electrocuted. Months later, the boy succumbed to his grave injuries from the electric contact.

These incidents highlight the importance of utility Public Safety Communications Programs. Had these people been aware of the hazards associated with storms and downed overhead electric lines, these tragic incidents may have been prevented.

Who: Key Audiences

The target audience for this topic is the general public.

What: Core Messages

The core message is the most important point or essential idea to be understood and remembered by the target audience. For this topic, the core message is a variation on the messaging for downed utility lines:

> **Contact with energized downed utility lines or nearby objects may cause serious injury or death. The damage inflicted on utility overhead electric facilities by high winds often brings electric lines down or near the ground, so be particularly watchful for downed utility lines after windstorms.**
>
> **Consider any downed electric or communication line to be energized and dangerous. Call 911 and the local electric utility to report it. Stay a safe distance* away from all downed or low conductors.**

** Industry practices vary regarding advising on a safe distance from downed power lines. Electric utility companies may determine a safe distance based on their electric system characteristics, with distances typically between 30 and 100 feet. Alternatively, utilities may opt to use "as far away as possible" since voltage, fault current, and ground conditions are highly variable throughout a utility's system. In either case, the company's safety messages should be consistent with precautionary information provided by the call center, first responder training, the company's website, and published PSA materials.*

Hydroelectric Dam Safety

Why Address This Issue?

Hydroelectric power stations, their dams, and surrounding waters may present significant hazards to the unwary. Boaters, fishermen, and swimmers who enter restricted areas may come too close to these facilities and risk serious injury or drowning. Waters that appear tranquil and safe can become dangerous within seconds when currents change without warning.

Calm waters below a dam can instantly become violent when operational requirements necessitate the sudden release of water through spillways or spillway gates. The public may be warned of these hazards by means of safety signs, audible alarms, fences, buoys, and floating booms. Safety messages relating to use of the waters near these facilities should emphasize the importance of adhering to the posted and audible warnings.

Incidents

- A 14-foot, 10-horsepower motorboat entering an area clearly posted as dangerous capsized with two people aboard when nearby hydroelectric turbines automatically began to operate. One person survived by clinging to a nearby rock; the other drowned.

- Three people aboard a 15-foot, 65-horsepower motorboat were fishing in the spillway area of a dam, despite the large signs posted on and below the dam warning boaters to stay clear of the area. The boat drifted too close to the dam discharge area, where it was caught in the heavy turbulence. The boat crashed into the dam and capsized, drowning all three occupants.

These incidents highlight the importance of utility Public Safety Communications Programs.

Who: Key Audiences

The general public, with special emphasis on fishermen, boaters, and swimmers, including adults and students, should be the primary audience for these messages.

What: Core Messages

The core message is the most important point or essential idea to be understood and remembered by the target audience. For this topic, the core message is:

> **Waters near hydroelectric dams can be dangerous in numerous ways that may not be obvious. Observe all posted and audible warnings to avoid serious injury or death.**

This message should be supported with several specific messages, including:

- To assure safety in the waters around hydroelectric reservoirs and dams, observe all warning signs, fences, buoys, and barriers, and KEEP OUT of restricted areas. These devices are meant to alert the public of nearby hazards; the area beyond or inside them is dangerous.
- Keep well back from the edge of waters above and below hydroelectric dams. Be particularly watchful for areas where footing may be slippery. Accidentally falling into the water could be disastrous.
- Keep off hydroelectric dams or structures unless walkways clearly marked for public access have been provided.
- Stay well away from dry riverbeds below dams; they can quickly become rapidly flowing waterways. Be aware of the audible alarms utilized at some dam sites and how much time the warning provides before the floodgates are opened and water is released.
- When wading, swimming, or boating in rivers, maintain an awareness of rising water levels. If the water level is rising or the flow is increasing, get out of or off the water, or quickly move your boat downstream.

- Never enter a canal or flume for any reason. The water is cold and swift and the walls are slippery, making it very hard to get out.
- In the winter, avoid the ice near hydroelectric dams; it may be thinner than it appears.
- Pay attention to sirens or audible messages warning of a change in water level.
- Consult online resources for information on water levels and conditions prior to recreational activities in these areas.

Tree Selection & Placement

Why Address This Issue?

Large trees growing under or close to overhead electric power lines may present serious problems. Trees are often involved in electrical contact incidents, and tree-caused "electrical faults" are the most common cause of service interruption for many electric utilities. Tree branches can break and cause serious safety concerns and hazardous conditions when they bring overhead electric conductors to the ground or within reach of persons on the ground. Numerous electrical contact incidents also involve children climbing trees in close proximity to overhead electric power lines. Homeowners and other untrained persons inadvertently contacting electric conductors while trimming trees may be seriously injured. Educating the public about selecting appropriate tree species for planting near electric power lines may reduce the frequency of these incidents, reduce line-clearing costs, and improve service reliability.

Incidents

- Two brothers, ages 11 and 9, were seriously injured when they contacted an energized overhead electric distribution primary conductor while climbing a tree in the front yard of one of the homes on the street where they lived. The left arm of the older boy required amputation, and both boys have permanent disfiguring scars. The primary conductor contacted by the boys passed directly through and within inches of the tree's branches.

- Several properties, including structures and landscaping, were severely damaged when high winds caused a contact between palm trees and the utility's primary power lines. Contact between the palm leaves caused electrical arcing that ignited the tree and subsequently the surrounding properties. Several property owners filed property damage suits against the utility.

These incidents highlight the importance of proper tree selection and placement. The trees involved in these incidents should not have been planted in close proximity to overhead electric power lines.

Who: Key Audiences

The general public, municipalities, retailers, and contractors are the targets for messages and education relating to this topic.

General Public

- Property owners
- Homeowners
- Renters

Municipalities

- Highway departments
- Public works departments
- Forestry departments

Retailers/Landscapers

- Nurseries
- Home and garden stores
- Landscapers

What: Core Messages

The core message is the most important point or essential idea to be understood and remembered by the target audience. For this topic, the core message is:

> **Choose the right tree for the right place. When planting in the vicinity of overhead electric distribution lines, select trees with a mature height of less than 25 feet; near transmission lines, plant only low-growing shrubs, and only outside of the right of way. Consult with the local electric utility and/or nursery or landscape professionals about the proper trees for the intended planting locations.**

Underground Damage Prevention

Why Address This Issue?

Damage prevention is a critical topic for the general public and excavation contractors. Striking underground electric facilities while digging or boring may result in serious electrical contact injuries. In addition, damage to underground electric facilities from “dig-ins” and horizontal directional drilling strikes often causes service interruptions and burdens utilities with unnecessary repair and restoration costs. The frequency of these incidents may be significantly reduced by educating property owners, contractors, and other excavators about the need to notify one-call systems so that underground facilities may be located and marked prior to excavation. In almost all areas of the United States, electric utilities may improve the effectiveness of their underground damage prevention public safety education efforts by working cooperatively with area one-call systems.

Incidents

- Two men were electrocuted and a third seriously burned when one of the men, operating a jackhammer, struck an electric power cable while breaking up a concrete cable vault in the bottom of a trench. The crew was installing a sewer line to a store at the time of the incident. When the jackhammer contacted the cable, there was an explosion, and two coworkers jumped into the trench to help the injured operator. When they touched him, they both suffered severe electrical shocks. A passerby pulled the two badly burned men from the trench. One was pronounced dead at a hospital and the other was admitted in critical condition. Emergency responders could not safely enter the trench to attempt to rescue the fallen jackhammer operator for about three hours until shoring was installed and the power was de-energized. An investigation revealed that the sewer installation crew had not requested underground facilities be located and marked.

- A 28-year-old construction worker sustained second- and third-degree burns over 25% of his body when he contacted an energized 7.6 kV underground cable inside a concrete duct with a pneumatic jackhammer while excavating for the installation of a water service line to a commercial building. A crew from the construction company that employed the injured worker notified the state's one-call system and obtained permission to excavate after the electric utility had located and marked its underground electric facilities.

  During repair of the leaking water line, it was discovered that a nearby building required an additional water service. A second crew from the same contractor arrived at the site and

began excavating for installation of the new water service line without contacting the one-call system to request markouts for the nearby new location. The one-call tickets for the earlier excavation had long since expired. When questioned as to why he had not called for new locations for the second excavation, the contractor indicated that he had not done so because he thought the original markouts would be sufficient.

These incidents reinforce the importance of underground damage prevention Public Safety Communications Programs for excavators. Awareness of the hazards associated with subsurface electric facilities and requirements to have them located and marked before digging or drilling would likely have prevented these tragedies.

Who: Key Audiences

The target audiences for this topic are the general public and professional excavators.

General Public

- Adults
- The adult "do-it-yourself" audience, people who frequent home improvement stores, rent digging or excavating equipment, etc.

Excavators

- Construction companies
- Excavation companies
- Landscape companies
- Public works departments

For additional information and resources that may assist in getting your "Call 811 Before You Dig" message to excavators, visit the Common Ground Alliance and call 811 websites.

What: Core Messages

The core message is the most important point or essential idea to be understood and remembered by the target audience. For this topic, the core message is:

> **Contact with an energized underground power line may result in power outages and serious injuries or fatalities. By law, you must notify the local one-call system (811) before you dig or move earth in any way. If you do not comply with safe-digging laws, you risk contacting underground facilities; if a dig-in occurs, you may be fined and held financially responsible for outage and repair costs and any resulting damages.**

This message should be supported with several specific messages.

Before digging, trenching, drilling, grading, excavating, or moving earth in any way, take these steps:

- Notify the one-call system before digging. Dial 811 or use the online ticket-entry system
- Wait the required time for facilities to be marked and do not start work until marking is complete
- Comply with markout time “envelopes”
- Understand and comply with state law for excavating in the vicinity of marked underground facilities

Even minor damage such as a small gouge, dent, crease, or scrape may cause a future hazard. Immediately contact the local electric utility if you contact an underground cable, conduit, or pipe in any way.

DEVELOPING PUBLIC SAFETY COMMUNICATIONS PROGRAMS FOR ELECTRIC UTILITIES

For more info visit:

AEGISLINK.COM/SERVICES/LOSS CONTROL

CULVERCO.COM

VER 2021-01

AEGIS® CULVER