SPRING 2020 • VOLUME 11 • NUMBER 1

dp-PRO™

Saving Lives Through Education

SPECIAL REPORT

Australian Bushfires

PAGE 14

UTILITY DESIGNATION OVERSEAS

ISSUE SPOTLIGHT:

- 5G Revolution
- Look Up and Live!
- Fiber Optic Installation
- Preventing Electric Utility Damages

PLUS:

Creating a Culture of SAFETY •

Building a Distracted Driving Policy •

Construction Angels •

Rethink Your Excavation Technique.

X-CAVATOR

Truck-Mounted **HYDROVAC** by VAC-CON

Experts in Vacuum Technology Since 1986

Designed around operator requirements, the new Vac•Con X-Cavator Hydrovac is built to meet the rigorous demands of oil, gas, utility, telecommunications, and construction environments.

Find Your Local Dealer, Download Product Specs, and Schedule Your Demo @

www.vac-con.com

INSPIRED

public awareness

Ad intentionally inverted

GREAT PUBLIC AWARENESS LIAISON IS

NO ACCIDENT

Increasing Engagement

We work one-on-one with each emergency response agency to identify and address their unique dynamics and training needs.

County-Specific Content

We provide state and county specific multi-media content and resources that are annually updated for ongoing and multi-use.

Ongoing Use and Support

Our team and resources serve stakeholders and industry partners year-round to foster critical relationships and two-way communications.

THE SOLUTION FOR UNDER-SERVED FIRST RESPONDERS

Practical Pipelines pairs high-touch and high-tech methods to elevate pipeline safety, emergency planning and damage prevention reach and experience. With an individualized approach and county customized content, we are removing common barriers to reach, making our mission theirs, and setting a new standard of effectiveness!

VISIT WWW.PRACTICALPIPELINES.ORG EMAIL PRACTICALPIPELINES@SMALLEYFND.ORG CALL 972.472.6500

Contents

SPRING 2020 // VOLUME 11 // NUMBER 1

On The Cover: Base Naval de Rota, nestled on the western coast of Spain, is home to the U.S. Naval Forces Europe. Utility Professionals Inc. (UPI) was chosen to provide utility designation services to help create mapping for the expansion of the base.

/// SPOTLIGHT // Electric / Telecom

FEATURES

DEPARTMENTS

COLUMNS

SPECIAL REPORT

Supporting Global Excavation Safety

WEB EXCLUSIVE

SPRING 2020

BONUS CONTENT:

Visit dp-pro.com/current-issue to enjoy these additional articles

CALENDAR OF EVENTS
Listing of Industry-wide Events for March, April and May... Including Appearances by JJ Harrison, the 811 Rodeo Clown.
PAGE V

SOCIAL MEDIA

Click!

WHAT DO YOU THINK?

This issue's question:

Are you planning on celebrating LSAW (Locator Safety & Appreciation Week) In the last week of April?

A) YES
B) NO
C) I celebrate LSAW EVERY week!

To answer click HERE

https://freeonlinesurveys.com/s/11y0Mkf4

Last issue's result:

What are you most excited for at the 2020 CGA 811 Excavation Safety Conference & Expo?

A) Education Sessions **17%**
B) Networking Events **33%**
C) Click Before You Dig Golf Scramble **0%**
D) Seeing the Exhibit Floor **33%**
E) Visiting Palm Springs **17%**

---

featuredgroup in®

Electric Utility Safety and Training Professionals

As the name suggests, this group is made up of people who are dedicated to electric utility safety and training, such as members of the Safety and Skills Trainers for electric utility companies, electric utility contractors, Co-Ops and Municipal authorities. Join the over 5,000 members of this group by clicking below

https://www.linkedin.com/groups/3608578/

SOCIAL INITIATIVE

#natgassafety

There's a lot to remember when keeping yourself and your team safe, especially when you're working with natural gas. Use the #natgassafety hashtag when sharing tips and tricks you have to keeping everyone safe and sound.

Matching Shirts for Dogs + People

each shirt sold donates to an animal in need

LEARN MORE

NEWS

Judge Dismisses Claims against Halifax Water

(Halifax Chronicle Herald) – In December, a judge dismissed claims that Halifax Water (Halifax, Nova Scotia) was negligent after the utility accidently damaged a sewer line back in 2015. Several residents had sued the utility after sewage backed up into their homes after Halifax Water installed a stormwater sewer mainline pipe in the street in front of their houses.
In the weeks following the completion of the work by Halifax Water, the plaintiffs encountered a backup of their respective sewer laterals, causing damage to their homes. The judge noted that the location of the stormwater system, which removes water from properties and streets, is a separate piped system from the wastewater or sewage system. "As designed, the installation of the new stormwater main pipe did not impact the existing sewer system, including the lateral sewer lines from the properties to the main sewer line," Supreme Court Justice Scott Norton wrote. "The evidence at trial failed to establish any breach of reasonable standard of care or ordinary negligence."

Massachusetts 2020 BUDGET Increases Fines for Gas Utility Violations

(*State House News Service – Boston*) – Massachusetts Governor Charlie Baker released his 2020 budget in January. In addition to a $5 million outlay for the Department of Public Utilities' Pipeline Safety Division to ensure natural gas companies are in compliance with safety regulations, the $44.6 billion budget also includes several sections dealing with gas pipeline safety requirements and fines.

The sections would increase fines for Dig Safe violations, emergency response violations and for violations of the state's pipeline code. They would also eliminate the exemption municipal water companies have from Dig Safe requirements and add new requirements for gas companies' gas safety enhancement plans.

The governor's proposal would raise the fines imposed on companies that do not adhere to DPU's "standards of acceptable performance for emergency preparedness and restoration of services for electric and gas distribution companies." Those fines are currently capped at $250,000 per violation per day with an overall fine cap of $20 million. Baker's budget would allow DPU to penalize companies up to $500,000 per violation per day with a total cap of $50 million.

The budget would also increase fines for utilities that violate DPU's pipeline code, increasing the current limits of $200,000 per violation per day and $2 million for a series of violations to $500,000 per violation per day and $10 million for a series of violations.

Companies that don't adhere to Dig Safe requirements such as calling 811 to have underground utility lines marked before starting excavation could be subject to fines 20 times higher than they are now. DP

BY KRISTIAN FORSLIN

NORTH CAROLINA RAILROAD COMPANY'S UNIQUE APPLICATION OF NORTH CAROLINA 811 SERVICE AND NEW POSITIVE RESPONSE CODE

North Carolina Railroad Company (NCRR) owns and manages a 317-mile rail corridor extending through 16 counties and 40 municipalities. NCRR, as one of several railroads in the state, leases the use of the 317-mile corridor to Norfolk Southern, with CSX also running on a portion of the corridor. Both of those railroads also have their own network within the state that NCRR has no authority over. NCRR is the state's oldest business corporation and remains at the forefront of rail improvements and partnership development to promote jobs and rail-served industry across the state. While the North Carolina Railroad is one piece of a 2,000-mile rail network in North Carolina, it is a crucial asset to the economic prosperity of the state, and it is estimated that it touches nearly a quarter of the state's economy.

NCRR carries out a corridor management program aimed at protecting that asset. While NCRR does not install, own or operate utilities, it has found that NC811 can be an important tool in protecting our rail corridor.

NCRR HISTORY

In 1849, the North Carolina State Legislature granted NCRR a charter to build a rail line from Goldsboro to Charlotte and established a 200-foot-wide corridor. Similar charters and rights-of-way were granted to other railroads, including the Atlantic and North Carolina Railroad, which built the rail line from Goldsboro to Morehead City and was later merged into NCRR.

For nearly a century, management of the railroad by various freight operators placed a low priority on protecting the rail corridor from encroachment, creating conditions within the corridor that now present restrictions on some shipments and make construction more difficult.

The need for NCRR's corridor management program was evident from that lack of attention given to the corridor over the years. NCRR implemented the program to promote and improve safety, attract economic development opportunities as well as plan for and accommodate freight and/or passenger rail expansion. NC811 offers NCRR tools to ensure the corridor is protected for the best possible future uses.

NC811 IMPLEMENTATION

In 2009, NCRR began participating in North Carolina 811's Call Before You Dig service. The intent was to gain knowledge of when and where excavation or installation of utilities, or other facilities, might be taking place within the corridor through automated tickets sent to NCRR which act as an extension of our staff's ability to inspect what is happening on or near the corridor without having to be everywhere, all the time.

NC811 provides utility owners advance notice when excavation is planned near participants' facilities to prevent damage and ensure the safety of those doing the excavation. NCRR does not have any facilities to mark. Instead, NCRR uses the service to gain knowledge of where excavation may be occurring, determine if the activity may have an

NORTH CAROLINA *continued on* p.VI

Calendar of Events

March

2-4 TechAdvantage (New Orleans, LA)
Canadian Gas Association Regulatory Course (Ottawa, Ontario)
3 Pipeline Opportunities Conference (Houston, TX)
4, 5 ITA Showcase Northwest (Portland, OR)
6, 7 JJ Harrison – CSI College Rodeo (Twin Falls, ID)
9-12 101st Annual AGC Convention (Las Vegas, NV)
9-11 Minnesota Telecom Alliance Annual Convention & Trade Show (Minneapolis, MN)
Western Energy Institute Customer & Corporate Symposium (Portland, OR)
10-12 CEPA Foundation Spring Meeting (Mont-Tremblant, Quebec)
10-14 ConExpo (Las Vegas, NV)
11, 12 Western Energy Institute – Customer Connections (Portland, OR)
11-13 Tennessee Damage Prevention Summit (Franklin, TN)
15-19 NACE Corrosion Conference & Expo (Houston, TX)
15-20 Western Energy Institute – Hands On-Relay School (Pullman, WA)
16-18 SGA Spring Gas Conference & Expo (Columbia, SC)
22-25 SaMoTer (Verona, Italy)
23-26 American Water Resources Association (Austin, TX)
23-27 API Spring Committee on Petroleum Measurement Standards (Dallas, TX)
24-26 Excavation Safety Conference & Expo (Palm Springs, CA)
NvRwa Conference (Sparks, NV)
27, 28 JJ Harrison – High Desert Stampede (Redmond, OR)
30-Apr 1 DCA 2020 Safety Conference (Austin, TX)
SCTBA 2020 Annual Convention (Charleston, SC)
30-Apr 2 Association of Metropolitan Agencies 2020 Water Policy Conference (Washington, DC)
Pipeline Technology Conference (Berlin, Germany)
31 -Apr 3 Texas Water 2020 (Fort Worth, TX)

April

1-3 FUCC Spring Meeting (Ocala, FL)
INGAA Spring Meeting (TX)
Western Energy Institute – Claims & Recovery Damage (Boise, ID)
2-4 Texas Communications Expo, Inc. (Belton, TX)
3, 4 JJ Harrison – Ram National Circuit Finals Rodeo (Kissimmee, FL)
5-9 NASTT No-Dig Show (Denver, CO)
6-8 Safety Summit 2020 (Indianapolis, IN)
6-10 Southern Region National Association of Pipeline Safety Representatives (Lexington, KY)
7, 8 Canadian CommTech East Show & Seminars (Mississauga, Ontario)
14 Florida Energy Pipeline Association Spring Meeting (Orlando, FL)
14-17 Electric Power Conference & Exhibition 2020 (Denver, CO)
Western Energy Institute – Operations Conference (Boise, ID)
15, 16 CIFA Water Infrastructure Investment Summit (Washington, DC)
Formerly Federal Policy Conference
15-17 Southern Gas Association Management Conference (Louisville, KY)
17-19 JJ Harrison – Red Bluff Round-Up (Red Bluff, CA)
19-22 North American Snow Conference (Cleveland, OH)
19-25 Locator Safety Awareness Week (LSAW)
20-23 IEEE PES T&D Conference & Exposition (Chicago, IL)
22 API / AFPM Spring Operating Practices Symposium (New Orleans, LA)
22-26 JJ Harrison – Clovis Rodeo (Clovis, CA)
25-28 American Planning Association Conference (Houston, TX)
27-30 Broadband communities Summit (Houston, TX)
27-May 2 Water Week: NACWA (Washington, DC)
28-30 API Pipeline Conference and Cybernetics Symposium (San Diego, CA)

May

3, 4 JJ Harrison – Stonyford Rodeo (Stonyford, CA)
3-5 Smart Building Summit (Ponte Verda, FL)
3-6 APGA Spring Board & Committee Meetings and Government Relations Conference (Alexandria, VA)
4-6 SEPA Utility Conference (Charlotte, NC)
4-7 Off-Shore Technology Conference (Houston, TX)
5, 6 MN Safety & Health Conference (Prior Lake, MN)
5-7 iP Utility Safety Conference & Expo (Glendale, AZ)
NACE 54th Annual Western States Corrosion Seminar (Pomona, CA)
6 Impact Conference (St. Paul, MN)
6-8 Ohio Stormwater Conference (Sandusky, OH)
7, 8 NSC Southern Conference & Expo (New Orleans, LA)
9, 10 JJ Harrison – Mother Lode Round-Up (Sonora, CA)
11-15 NAPSR Western Region (Whitefish, MT)
11-18 Infrastructure Week
12-14 Appalachian Underground Corrosion Short Course (Morgantown, WV)
TOC Conference North Dakota Telephone Association (Fargo, ND)
12-15 SGA Southwest Regional Gas Conference (San Marcos, TX)
15-17 JJ Harrison – Penn Valley Rodeo (Penn Valley, CA)
17-20 GFOA's Annual Conference (New Orleans, LA)
18-20 Mountain Connect (Dillion, CO)
19-21 Waterpower Week 2020 (Washington, DC)
19-22 AGA Operations Conference (Chicago, IL)
20-22 American Industrial Hygiene Conference & Expo (Minneapolis, MN)
21-23 JJ Harrison – Spray Rodeo (Spray, OR)
21-24 Oklahoma Excavation Safety Expo (Norman, OK)
24-26 MANGO Summer Safety Conference (Lake of the Ozarks, MO)
26, 27 Canadian CommTech West Show & Seminar (Calgary, Alberta)
28, 29 EAPs Mid-Atlantic Gas Transmission & Distribution Seminar and Expo (Camp Hill, PA)
28-30 JJ Harrison – Wild Rogue Pro Rodeo (Central Point, OR)

To include your event in an upcoming Calendar of Events schedule, email karin@emailir.com. DP

NORTH CAROLINA *continued from* p.IV

adverse impact on the NCRR corridor and, if so, whether it is documented by NCRR's agreement processes. Any undocumented activity is addressed to prevent possible adverse effect on the corridor or injury to unauthorized entrants.

The information gathered through NC811 has proven to be beneficial in terms of pre-emptive detection of corridor activity. While many activities NCRR is alerted to are only near the corridor boundary, the few that are inside the corridor may not have been noticed in time to stop the activity. With the help of NC811, NCRR can address many activities before they occur and either coordinate to ensure the activities conform to NCRR policies, enter into a license agreement, or prevent the activities altogether. In some cases, NCRR has been able to share resources in the form of survey quality CAD data to help facilitate survey/design requests and designs for utility permit applications. NCRR considers prevention or new license agreements as a success because they may benefit all parties involved from a safety, legal and financial aspect.

LET'S NOT FORGET SAFETY

Not using the NC811 program carries significant risk of harm from cutting electrical, water or gas lines, but performing work within a rail corridor adds another layer of risk that many do not consider. Having staff and heavy excavation equipment inside the rail corridor is not only dangerous, it is also considered trespassing if the proper permits are not in place.

Freight trains can travel up to 59 miles per hour and passenger trains can hit speeds of up to 79 miles per hour, either of which can present serious risk for work near a railroad. Work to be done inside the rail corridor requires a license agreement, temporary right of entry and proper rail protective insurance; all of which help to ensure the safety of excavation staff and the general public, as well as the structural integrity of the rail corridor.

45 RAILROAD FACILITY NOT MARKED

Any excavation, access, construction or installations on railroad property require appropriate railroad permit[s] from railroad owner/operator.

WHAT TO EXPECT

Any caller planning to perform work near the NCRR rail corridor may be contacted by a NCRR representative if a ticket describes work that impacts the rail corridor. NCRR uses geographic information systems (GIS) in addition to the services provided by NC811 to properly determine that impact, but often requires further information from the caller.

Subcontractors should be aware of proper licensing/permitting procedures prior to completing work near a railroad and inquire if their employer (primary contractor) has the proper permits completed before they put their lives and/or businesses in danger. The NCRR rail corridor is private property and most state and municipal roads that cross the corridor need an agreement to do so. Any utilities placed within a public right-of-way that crosses, runs parallel, or is near the tracks within the 200-foot-wide corridor, needs the appropriate permission. It's also important to note that Norfolk Southern Railway and CSX, both of which are operating railroads on the NCRR rail corridor, must be contacted to locate their specific facilities within the NCRR corridor, as well as all other rail corridors across the state that they operate and manage.

WHAT'S NEW – POSITIVE RESPONSE

Positive Response is the component of the 811 service that requires members to respond to each ticket with a standardized code. NC811 provides tools for members to manage the positive response system, but there were no codes that directly apply to railroads or that adequately capture NCRR's use of the service. In fact, nearly all the existing codes might contradict NCRR's application of the program and our corridor management policies/procedures.

Railroads are exempt from participating in 811 membership but NC811 members are required by law to participate in positive response. Traditionally, NCRR has only provided positive response to tickets when an excavator: 1) specifically requests it, and/or 2) cannot commence work without it, and NCRR is able to apply an existing code that is appropriate in the situation, usually with additional comment.

Working collaboratively, NC811 and NCRR designed a code that can be adopted by other railroads if desired. Code 45 is automatically applied to every ticket that NCRR receives with an additional comment that includes a link to NCRR's web site (ncrr.com/corridor-access/811-damage-prevention-information/) which further explains NCRR's policies regarding excavation, installation of utilities, survey/design work, etc. within the corridor. NCRR still reviews each ticket and determines if the activity presents any significant impact on the railroad corridor. Since implementing the new Positive Response Code for railroads, NCRR has received encouraging feedback. NCRR attributes this to the successful collaboration with NC811 staff.

The URL provides further information to explain NCRR's use of the program and what is expected of excavators. Implemented on July 30, 2019, NCRR received just under 5,000 tickets in a six-month period for monitored areas. Web traffic to the supplemental information shared via URL was analyzed during that period and revealed 180 visits to the page yielded 155 new users (86%). The average view was one minute, 13 seconds, which is a reasonable time to read and absorb the information.

ADDED VALUE

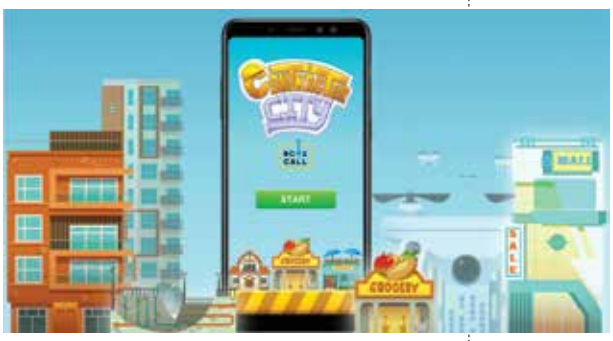
The simple act of investigating possible corridor activity through NC811 has led to successful education and increased awareness regarding the North Carolina Railroad corridor and its policies. This educational aspect will continue as utility owners, subcontractors, land developers, local governments and adjacent property owners continue to utilize NC811. These benefits help NCRR further its mission of protecting the corridor and encouraging safe practices around North Carolina's railroads. DP

USING DIGITAL TECHNOLOGY TO ENGAGE THE MILLENNIALS

BY MICHELLE PETRUSEVICH

Video games have evolved from basement entertainment to mobile boredom-battlers, from lone pursuits to massive multiplayer online extravaganzas. Not only have they overcome solitude and mobility issues, they have overcome what it means to play in a way few people saw coming.

The oldest, loudest complaint in the media at large about video games has historically been their supposed ability to cause violence in their users. Similar to the fear mongering around Dungeons and Dragons leading to cult worship and ritual murder, this has proved to be an overreaction to a new medium. However, in researching this much asked question about the link between videogames and violence, it has become clear that video games and the experiences they provide do change people. Game designers across the world grabbed this fact and ran with it, launching a new genre of "games for good" as an effort to turn game mechanics and the fun they generate into real-world change.



In January of 2019, FortisBC, BC1Call and BC Common Ground Alliance began work with a student team from the Centre for Digital Media. Their goal? Change the world a little by getting new and young contractors to use the free service offered by BC1Call.

The student team (the Goal Diggers) of Peter Zhengyang Pan, Sam Stumborg, Rubing Bai, Dafne Delgado, and Mikayla Preete decided to create Contractor City, a mobile game aimed at behavioral change. FortisBC's Ian Turnbull, Damage Prevention & Emergency Services Manager, and I helped the team narrow down the target audience and define the problem. When it became clear the same people striking pipes where both young and mobile users, the team proposed a game.

Rather than a traditional "win/lose" video game, Contractor City is an idle game that plays itself while you're away. Like a stock portfolio that constantly accrues interest, idle games push the envelope of what it means to be a video game because so little player interaction is needed. Pocket-sized and easy to play, Contractor City aims to teach the player how important it is to know what's below by rewarding safe ground disturbance practices and punishing dangerous deeds.

As a way of rewarding contractors, there is an option that allows players to turn their real-life BC1Call reference numbers (a number you receive when you call their service) into in-game currency. In sum: real-life safety is rewarded with in-game success. All-in-all, the game aims to make lasting behavioral change by encouraging repeat use, safe practices, and BC1Call membership. The prototype of the game was presented at the 7th Annual Canadian Common Ground Alliance Damage Prevention Symposium, held in Niagara Falls last October.

Contractor City is joining a blossoming "games for good" industry focused on behavioral changes and teaching new skills. The same semester FortisBC, BC1Call and BC Common Ground Alliance and the Goal Digger team created Contractor City, other student and client teams created games for teaching neuroanatomy and rewarding exercise. Ayogo, a company devoted to making games for healthcare, is also located on the same campus.

None of these games are the much-derided video games of basements or arcades that people blamed for violence, or the VR headsets and army training simulations built for preparing players for war. These are games for good, aimed at changing behaviors to help both their players and society at large.

Saving the world? The app for that is already on the way. DP

BY FAITH MUNSELL

MAKING PIPELINES SAFER WITH RUBBER

Did you know that offshore structure failure due to pipeline corrosion costs up to $1.372 BILLION per year? It's no secret that external corrosion can result in major disaster. If not detected within a certain amount of time, the pipeline can burst into flames, resulting in hundreds of thousands of dollars in damage costs and fines, and sometimes even death. As the industry progresses and we begin drilling farther into the gulf, the need for protective pipeline coating is at an all-time high.

Thankfully, this is where rubber comes in. With a rubber coating and proper pipeline maintenance, we can ensure that pipelines and their surrounding environments are protected. In most cases, rubber-based coatings are used to line, case, and protect equipment and structures inside of the splash zone from external corrosion. The reason this type of coating is growing in popularity is because it is much less rigid than most other materials, and it's also incredibly strong, versatile, and durable.

Given its special qualities, this material is able to take on more stress and is harder to break down than other materials. Rubber can protect against nearly all causes of corrosion, including the ozone, abrasive seawater and the damaging effects of sea life, ultraviolet rays, salinity, oxygen, and the collision of boats and other floating debris.

Benefits of Rubber Elastomer Coating

Simply adding a rubber coating to subsea pipelines can protect against all of the aforementioned hazards and more. The unique characteristics of rubber coatings help to extend the lifespan of pipelines, making them resistant to virtually anything that Mother Nature throws at it. J-tubes, rise clamps, platform legs and diagonals, spools, and risers can also be coated with rubber for protection.

Making pipelines safer with rubber saves both time and money in several different areas. You no longer have to worry about damage and replacement costs or repair fees. Also, the use of rubber aids in decreasing the need for untimely setbacks due to unplanned maintenance, complying with health, environmental, and safety policies, as well as boosting plant availability. Specific rubber coatings can be made to permanently bond to any metal surface, will not crack or dis-bond, and will not require regular maintenance.

When it comes to pipeline protection, rubber is priceless. Resistant to weathering, elements, and most oils, rubber coating is your best bet when it comes to damage protection. Certain forms can also act as a non-conducive thermal insulation and stop biofouling from occurring. Using materials other than rubber to coat pipelines creates a risk of leaking and breakage in coating, which is just as dangerous as having no coating at all and can cost you production time and revenue.

Because nature cannot be tamed, the best chance at corrosion prevention and pipeline protection is to invest in a rubber coating for your structures. DP

FROM THE PUBLISHER

BY SCOTT LANDES

Overhead VS. Underground

The destruction to overhead distribution and transmission networks caused by natural disasters like hurricane Sandy and the wildfires in Australia have caused many electric utilities, governments and regulators to revisit the desire to move overhead power lines underground. Traditionally, the largest obstacle to doing this is the higher cost of installation and maintenance.

Overhead power lines are more economical. They are also at the mercy of extreme weather conditions. Damages often cause power outages which, in extreme cases, may not be restored for days or even weeks. The cost for repairing the actual physical damage can be in the billions of dollars, and that doesn't even touch on the societal costs ranging from negative public feedback to school closings to economic losses for area businesses that are shut down.

Some utilities have made changes on their overhead system to mitigate problems such as using steel poles, being more vigilant about trimming trees, and improving their monitoring of the power systems, but these lines still remain at risk.

When deciding whether to place a power line overhead or underground, cost tends to be the overwhelming determining factor. There is no question – going underground has an initial cost that is about five times greater (or more, depending on location) than aerial lines. The industry rule of thumb states burying lines cost at least $1 million per mile.

Technical improvements have advanced the reliability of underground power, but it is difficult to assess maintenance costs. Underground lines are better protected against weather, reducing the need for regular maintenance, but they are susceptible to insulation deterioration which increases the potential for a fault. The cost of repairing a buried fault is, not surprisingly, more expensive than on an overhead line where everything is visible and easy to access.

Rather than looking at the short-term cost of burying power lines, perhaps we need to consider the long-term benefits. In addition to avoiding the usual weather-related damage and catastrophic natural disaster damage, the economic benefit of avoiding tree trimming and maintaining clearances, not sending crews to respond to outages and not causing economic losses from downed power lines adds up. According to an EEI survey, there is also evidence that consumers are willing to pay more for aesthetically pleasing views that aren't filled with wires and poles.

Protecting our power infrastructure is critical, and government should invest in a more stable and secure infrastructure to help ensure the power remains on during extreme weather events. Local planning commissions and code enforcement agencies should explore undergrounding services and secondaries as part of new construction or when new permits are issued. In an industry that annually pays billions of dollars in damage recovery, it is time for all parties to take a big-picture approach to the benefits of burying our electric utilities.

Join a panel of industry experts, including Jim Schoenberg, Dig-Smart, LLC; Lorenzo Jones, TECO Energy; Aaron Smith, Energy Queensland; Kelley Heinz, ComEd; moderated by motivational safety speaker and 811 Ambassador Cliff Meidl, at the CGA 811 Excavation Safety Conference & Expo in Palm Springs on Tuesday, March 24 for the *Electric Safety Summit* as they explore the top issues affecting the electric industry and work to develop solutions. DP

dp-PRO™ Saving Lives Through Education

Volume 11, Number 1
SPRING 2020

PUBLISHER
Scott Landes • scott@emailir.com

EDITOR IN CHIEF
Michele Moe • michele@emailir.com

MANAGING EDITOR
(SUBSCRIPTIONS)
Karin Strub • karin@emailir.com

AD SALES
Vicki Husome • vicki@emailir.com

CREATIVE DIRECTOR
Brett Link
Brett@MyHappyPlaceDesignStudio.com

PUBLISHING CONSULTANT
Dick Hendricks • jdhendricks@comcast.net

CONTRIBUTING AUTHORS
Marcos Bernal
Kari Campbell
Kevin T. Chmura
Glen Cook
Ray Cummins
Wylie Davidson
Bill Fisher
Kristian Forslin
Jim Hayes
Kelley Heinz
Jack Jackson
Dr. George Kemp
Christopher Koch
Julia Kunlo
Dale Lesinski
Mike Mendiola
Faith Munsell
Dimitri Payne
Michelle Petrusevich
Dominic Puiu
Cheryl Ritter
Mike Sullivan
Tammy Wilfong
Monica Wofford

Published Five Times a Year by
Infrastructure Resources, LLC
4200 W Old Shakopee Road,
Suite 103
Bloomington MN 55437
Phone: 866-279-7755
Fax: 952-703-7022

DP-PRO.COM

WE'VE GOT SMARTER MARKING ON TAP.™

QUIK-TAP™

Reusable Spray Device for QUIK-MARK™ Paints

- Less waste
- Reduced disposal costs
- Ready to use in seconds

KRYLON INDUSTRIAL

2019 AmeriStar
2019 Sustainable — Packaging Award Winner —

Call 800-777-2966 for more information.
quik-tap.com

SOCIAL*MEDIA*

Click!

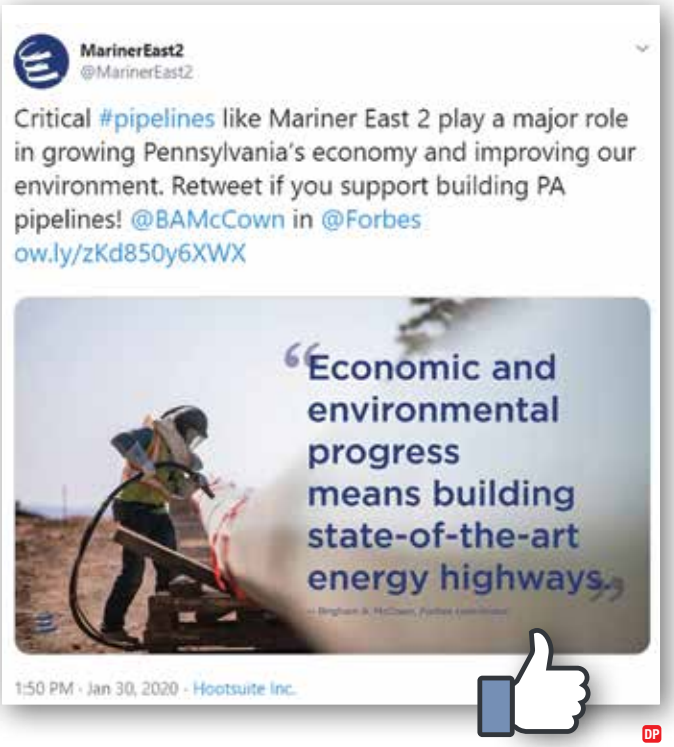
HOT #TAGS

#Safeexcavation

#Safeexcavation

WHAT'S TRENDING

Follow these companies on Facebook



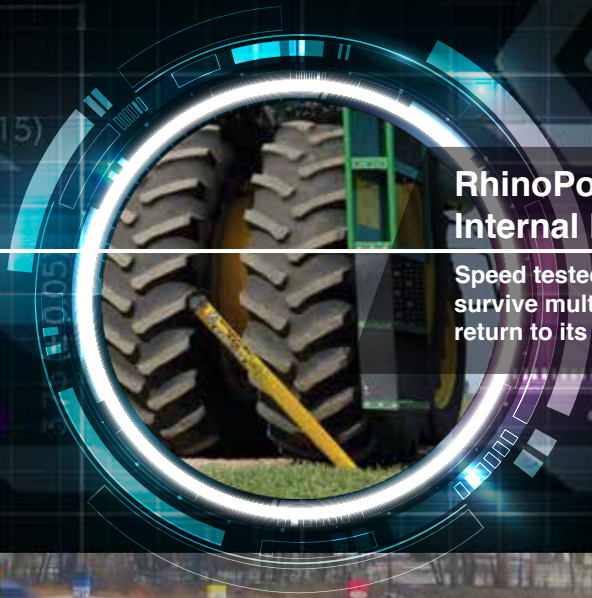
TriView® SERIES

Utility Marking System

CELEBRATING 30 YEARS
Rhino
MARKING & PROTECTION SYSTEMS
1990-2020™

360° Visible Warning

The TriView's three sides make it a better performing post, with higher visibility, for 1/3 the cost of three typical flat markers.



RhinoPoly® construction and Internal Flex PLUS™ Rod

Speed tested to 55 mph the TriView can survive multiple impacts and continually return to its upright position.

Patented TriGrip Anchor™

The three tabs of the TriGrip Anchor lock the TriView into the ground adding impact and vandal resistance.

Visit our website to see TriView system in action or to find out about the hundreds of smart-options for the best utility marker on the market.

RhinoMarkers.com

TriView® Patents: 7,025,016 B1, US D525,721 S, US 9,469,948 B2

Q I've struggled implementing a good safety program. How do I set up a good program that both leadership and employees will get behind?

A BY Wylie Davidson and Dale Lesinski

Most companies have the great and noble intention of keeping their employees safe and accident-free. Often, though, it's their approach that misses the mark. Despite a commitment from leadership and an appropriate budget, they rarely attain the desired results. So, what goes wrong?

The Four Big Safety Misses

Safety is both an art and a science. The science side of the equation are all those quantifiable things that are relatively easy to identify and measure to track your progress in regulatory compliance and JSA activity. However, the human side – the art – is a different story. It consists of behaviors, attitudes, morale, and motivation. All important stuff, but very difficult to measure and influence.

True success is accomplished when both sides are addressed. Understanding and addressing these areas may unlock the key to your success.

Miss #1: Organizational Safety Structure

Many companies exclaim the importance of safety in their organization from leadership with a "top-down" approach. This top-down model often consists of the CEO having the safety manager report directly to them as a sign or symbol of just how important safety is. It's intended to show that safety is a top priority in the organization. Despite those fine intentions, this approach often fails in practice.

The problem in most organizational safety structures is that the safety manager has very little influence over the actions or priorities of other members of the organization. Case in point: have you ever scheduled safety training for 30 employees and only had six show up? That's because the priority of that training was overruled by someone else in the chain of command – most often the front-line supervisor. Bingo! This is where the fundamental breakdown occurs; supervisors do not report to the safety manager. Supervisors do what is important to their immediate boss, and in many cases that priority is production. We preach safety, but when the rubber meets the road, production is king. It is very rare that the consequence for missing safety training is as great as missing production metrics.

How do we solve this? Simple. Turn the problem into a solution.

Let's start with leadership. Leadership must make safety a top priority at every level, and each level must get measured on its performance. A good suggestion is for the CEO to put safety into the hands of a top-level executive like a VP. This allows the CEO to lead but not have to be involved in the day-to-day meetings and other responsibilities. The VP will be much more available to attend meetings and offer support from the top.

Next, we address supervisors. First, we need to educate them about the problem and ask them to fix it. They must take ownership of the solution if you want things to change. This will require some additional training on safety, leadership, communication, and emotional intelligence.

Miss #2: Employee Communication and Connection

The safety message must be personal to the employee, and not just focused on the company. Your message must be about the personal benefits the employee will receive from the safety effort.

Too many times, companies hang a big sign on the fence updating workers on how many days they've gone without an injury. While this is a great reminder to stay safe, no employee makes significant behavior changes for MOD ratings, insurance cost reductions, or even for that thermos with the company logo they'll get if they go an entire year. You must make it about the employee and what is important to them.

So, what will it take to make a change? Think about why we change our behaviors. Nobody changes their diet, quits smoking, or exercises daily just for a high five from the doctor on their blood work. No, we do it for significant personal and emotional reasons – make it about them!

Miss #3: Employee Engagement

How are you going to get employees involved? First be sure that you have addressed misses 1 and 2: get leadership on board from top to bottom (especially those supervisors) and have a strong, personal message that hits home with your employees. The next thing to remember is you shouldn't let the perfect get in the way of the good.

I have coached youth athletics at a highly competitive level, and I have learned as many lessons from that as I have from my 25 years in the business world. With every organization or team I have worked with, I have almost always been able to apply the 20-60-20 rule. In every group there are the 20% at the top of the list who are willing to help right off the bat, provided it is a relatively good idea. Then you have the 20% that are at the bottom of the list. They're far less cooperative and might include a few snipers and gripers that love to sabotage good ideas. Finally, you have the remaining 60% that fall in the middle. Some sit toward the top and others toward the bottom, but they do not distinguish themselves for either group. You have the opportunity to influence where this group ultimately lands.

This rule is why good ideas fail. Too often, we're trying so hard to get 100% participation that we focus most of our time and attention on trying to get the bottom 20% engaged. To be successful, you need to focus on that 60% in the middle. Before you know it, your top group is 50% and the bottom group will have shrunk to 10%.

How did that bottom group shrink? Simple – you ignored them. If you ignore them, they will stand down. Or, better yet, the rest of the employees will stand up to them and tell them that they need to get on board or step aside.

Miss #4: Taking a Marketing Approach to Safety

Let's face it, we all market the safety message. But most safety managers have not been trained in sales, marketing, and effective communication.

Find a great message and stick with it. At our company, we use "Safe 4 the Right Reasons." It's a repeatable mantra that comes with a hand gesture: flashing four fingers to remind you of the people counting on you to come home tonight. You can use any message you like, just make

sure it relates to your employees' best interests.

Stick with the same message and avoid the "flavor of the day" approach. Here's a little quiz… can you name the company associated to the following slogans?

- **Just do it!**
- **15 minutes will save you 15% on your car insurance**
- **Finger licking good**

I'm guessing you scored three out of three because each of these companies have used a consistent slogan for years and it worked! They might have changed their spokespeople, but never their core messages.

Don't change your message, but change the way you deliver your message. Spoken word, signage, video, and electronic communication (text & email) are all effective delivery methods.

The last key component to effective marketing is frequency. Keep your message out there so your employees can keep receiving it.

With these key components, you can approach safety like a marketing campaign.

To get started with your safety campaign, create a budget. Create a budget that you believe will allow you to be successful with your campaign. Avoid using past experience and prejudice when making the budget – this often results in teams asking for what they think will be approved, not what they feel they need to be successful. Shoot for the stars and if leadership asks you to shave it down, then so be it.

The budget must be an annual commitment. This way no matter the circumstances, the resources are committed. Sometimes people get weak in the knees if they don't see immediate results and may decide to pull the plug or cut back. But this is a marathon, not a sprint.

Next, establish what success looks like. Is it zero incidents? Would a 50% reduction in incidents be a success? Discuss and define goals and reasonable levels of success.

Include a return on investment (ROI). We all know that you can't put a price on safety, but in the world I live in, the bottom line is often the bottom line. It is relatively easy to establish your costs for the incidents you have had in the past or simply head to the OSHA website and use the Safety Pays calculator to plug in the accidents you want to reference. This tool allows you to show the business case for safety to company leaders and allows them to see how eliminating accidents and injuries can subsidize a robust campaign by investing in safety instead of paying compensation, insurance, and fines.

If you are skeptical about the campaign approach or question the power of marketing (and if you are over 40) just answer the following question: what are the ingredients of a Big Mac? If you know the answer, congratulations! You remember an ad that was run 40 years ago! McDonald's didn't get you to remember a slogan; they got you to remember a recipe! DP

Wylie Davidson is a motivational speaker and Safety Culture Specialist with DiVal Safety. Dale Lesinski is the creator of "Safe 4 Culture Program" and Vice President of DiVal Safety. Learn more at divalsafety.com/index.php/training.

Jim Anspach

An Industry Pioneer, Role Model and Enthusiastic Leader

• STAFF REPORT •

JIM ANSPACH WAS NOMINATED AS A DAMAGE PREVENTION HERO FOR HIS DEDICATION TO THE INDUSTRY BY SCOTT LANDES, PRESIDENT OF INFRASTRUCTURE RESOURCES. "JIM LIVES AND BREATHES DAMAGE PREVENTION. PEOPLE LIKE JIM KEEP THE INDUSTRY MOVING FORWARD," LANDES SAID.

His praise was echoed by Lawrence Arcand, President of T2 Utility Engineers, "Jim's relentless pursuit of better practices and processes about gathering utility information" qualifies him to be a Damage Prevention Hero. A force within the industry for decades, his accomplishments could fill the pages of an entire magazine.

Jim is well known globally as the pioneer, principal founder, and patriarch of Subsurface Utility Engineering (SUE). Described as an iconic force, tireless defender, and persuasive diplomat for SUE Best Practices, Jim is always a lap ahead of everyone else. His inspirational and enthusiastic nature draws others who want to contribute to fundamentally changing the industry for the better.

Jim developed and promoted ASCE 38 - Standard of Guidelines for the Collection and Depiction of Existing Subsurface Utility Data which is now considered an international industry standard within the U.S., Canada, and overseas. This is the guide for subsurface utility engineering practices which simply didn't exist prior to Jim entering this career path, according to Phil Meis, President and Principal Engineer of Utility Mapping Services, Inc.

"Thank you, Jim, for always being willing to step up and do what needs to be done, for being a leader in the industry, and, more importantly, for being a leader by example."

Jim spearheaded, guided and mentored the establishment of the Utility Engineering and Surveying Institute (UESI), within the American Society of Civil Engineers (ASCE), which offers professionals working within the utility, pipeline engineering, and surveying/geomatics communities the opportunity to network with others and shape the future of the industry by participating in technical activities, conferences, and the development of internationally recognized standards.

In 2018, Jim was named a Distinguished Member of ASCE, an honor reserved for ASCE Members or Fellows who have attained eminence in some branch of engineering or related arts and sciences. In ASCE's 166-year history, only 697 engineers have achieved the honor. The organization's current membership includes just 229 Distinguished Members.

Acknowledged by Cesar Quiroga, Senior Research Engineer of the Utility Engineering Program with Texas A&M Transportation Institute, for his willingness to share his knowledge and provide valuable mentorship, Jim recently provided guidance for both the construction and 811 industries in their push to pass SB 18-167 in Colorado, which took an established best practice (SUE compliant with ASCE 38) and made it law.

Described as the "Lord of Voluntold" by Meis, Jim certainly practices what he preaches by volunteering his time to speak to students through presentations at colleges, providing leadership within ASCE and UESI, and giving time and guidance by serving on multiple boards, including Buried Asset Management Institute – International, Transportation Research Board, National Academies as a subject expert, American Association of State Highway Transportation Officials, Federal Highway Administration as an investigator, and National Damages Prevention Conferences as a board advisor.

Jim's contributions impact the industry on all levels and the gratitude runs deep. Tom Iseley, Professor Emeritus with Louisiana Tech University and Director of Development with Trenchless Technology Center, said, "It has been a delight to know and work with Jim over the years in numerous capacities. He has been a tremendous resource due to his knowledge, experience, and willingness to provide guidance and support. He has been an effective role model for all who have worked with him and especially the younger professionals. I appreciate his commitment to training, certification, and professional development. He is definitely a Damage Prevention Hero!"

Lynn Osborne, Owner of LEO Consulting, LLC and UESI President, added, "Thank you, Jim, for always being willing to step up and do what needs to be done, for being a leader in the industry, and, more importantly, for being a leader by example." DP

dp-PRO™
e-LEARNING

Subscriber Special

Enter code: DISCOUNT25 for 25%

Expand your damage prevention expertise. Hundreds of affordable learning opportunities – *some FREE!*

Learn a variety of topics including:

Heat Stress (Global)

It is easy to forget the danger that heat poses to the body, from sunburn and dehydration to heat stroke and death. Whether you work outside on hot days or in a foundry, mine, bakery, or any other hot or humid environment, the key to preventing excessive heat stress is knowing the hazards of working in heat and the benefits of implementing proper controls and work practices.

Ground Disturbance 201

This online Alberta Common Ground Alliance (ABCGA) endorsed course is designed for planners, managers, supervisors, and employees who are required to develop, plan, or undertake any kind of ground disturbance.

Work Zone Safety (US)

Accidents involving motor vehicles traveling through work zones, combined with accidents involving contractors' vehicles and equipment, are the greatest risk construction workers face. This online Work Zone Safety course is designed to help you understand the dangers associated with highway and road construction as well as how to protect yourself.

With a huge variety of topics and skills to learn, our online education portal can help keep your professional knowledge up-to-date and keep you at the top of your field.

From courses that fulfill certification requirements, to training on topics that enhance your field technique, to classes in professional development, dp-PRO Online Education provides your next step towards your future role!

dp-PRO.com/education

BY DOMINIC PUIU SPECIAL REPORT

Australian Bushfires: What We've Learned

THIS AUSTRALIAN SUMMER has been the worst for bushfires in living memory. For the State of New South Wales (NSW) alone, by the last week of January, 2,399 homes had been destroyed and 945 damaged. An additional 263 facilities were destroyed. In a testament to the skill and bravery of bushfire volunteers, 14,377 homes and 1,461 facilities were saved.

Over five million hectares (about 19,300 square miles) have burned in NSW this summer. This is a record, although more than four million hectares were burned in 1951-1952 and 1974-1975. In the neighbouring State of Victoria, fires have rivalled those on Ash Wednesday, 1983 and Black Friday, 1939.

There is a striking similarity in the findings of Mr. Justice Stretton, the Royal Commissioner on the 1939 disaster and the vision beamed around the world in 2020, "On that day it appeared that the whole state was alight. At midday, in many places, it was dark as night. Men carrying hurricane lamps worked to make safe their families and belongings. Travellers on the highways were trapped by fires or blazing fallen trees and perished."

Bushfires put out huge amounts of heat. The 1983 Ash Wednesday Bushfires in Victoria were estimated to radiate 60,000 kilowatts of heat energy per meter and emit temperatures of 2000°C. Extreme heat puts enormous strain on exposed utility assets. Mobile phone and radio towers buckle, and exposed cabling is destroyed. And while bushfires are not new, our dependence on utility networks and the services they provide is greater than ever.

Remains of the ABC FM transmitter near Batemans Bay.

Endeavour Energy crews at Lake Conjola preparing to repair electricity networks on the south coast. (Source: NSW Rural Fire Service)

Here are some of the early lessons for utility networks from the Australian bushfires of 2019-2020.

Underground Networks can stand up to Extreme Conditions

The good news is how well underground networks handled the bushfires. Jemena is the largest natural gas supplier in NSW with 25,000 km of mains serving 1.3 million customers. Fire emergencies caused Jemena to temporarily take properties in the Central Coast, Lithgow, Bargo, Bundanoon and Exeter off supply in December.

Transmission networks avoided serious damage due to lessons learned from earlier emergencies. Trees and scrub had been cleared around vulnerable installations such as Trunk Receiving Stations. Jemena crews and the Rural Fire Service acted to protect these sites.

Electricity is the Key Network

When the electricity network goes down, there are major effects on other networks. Almost half of Endeavour Energy's supply area was burned out. In early January, 35,600 Essential Energy customers were without electricity across south-eastern NSW.

Telecommunications towers that survived the fires often lost power. Backup power runs for a limited amount of time. Batteries then run flat or diesel fuel must be replenished, which might not be possible in the fires.

Loss of electricity supply to local fluoridation plants meant residents of Eden, Moruya and Bermagui were asked to boil their water before use. Residents also found that their refrigerators, radios and TVs couldn't work without power.

The damage was not limited to local distribution networks. Transmission lines were threat-

Build Your Business

from the Ground Down!

Pothole *profitably* with air using a VACMASTERS Air-Vacuum Excavation System. With five different sized models, VACMASTERS has the system designed to meet all your excavation and budget requirements. From the *SYSTEM 6000,* the world's most powerful air-vacuum excavator, to the highly mobile, low-cost *SYSTEM 1000*, VACMASTERS systems are guaranteed to get your jobs done quickly, efficiently and safely.

SYSTEM 6000 – *The world's most powerful air-vacuum excavation system and the first with the power to trench as well as pothole. Hydraulic boom for safer/easier operation.*

SYSTEM 5000 – *Incredible power to pothole and open up larger excavations in stubborn soils. Substantially faster than the SYSTEM 4000 with only a negligible size increase.*

SYSTEM 4000 – *The most powerful and highest capacity non-CDL system we offer and power to pothole in the hardest soils and ground frost make this a very popular unit.*

SYSTEM 3000 – *Powerful, compact, maneuverable. Offers you a mid-priced system with big-time power.*

SYSTEM 1000 – *Affordable, trailer, truck, or skid mounted. Our smallest air-vacuum system, offering low cost, small size and high performance.*

To see VACMASTERS air systems in action, view our demo at www.vacmasters.com

Visit us at the Palm Springs Covention Center! March 24-26

Booth #138

VACMASTERS

The Leader in Air-Vacuum Excavation • www.vacmasters.com

5879 West 58th Avenue, Arvada, Colorado 80002 • 303-467-3801 • 1-800-466-7825 • E-mail: sales@vacmasters.com

"ANOTHER CONSEQUENCE WAS THAT MANY PEOPLE WERE NOT ABLE TO MAKE ELECTRONIC PURCHASES. FM RADIO TRANSMISSION TOWERS IN EDEN AND BATEMANS BAY FAILED IN THE FIRES. HUNDREDS OF KILOMETRES OF COMMUNICATIONS AND SIGNALS CABLES FOR SYDNEY TRAINS IN THE BLUE MOUNTAINS MUST BE INSPECTED AND OFTEN REPLACED."

Utility crews had to deal with many dangers when repairing damaged networks. This is an Eastern Brown snake, the second most venomous snake in the world at Milton on the south coast. (Source: NSW Rural Fire Service)

ened by fires in southern NSW. Transmission supplier TransGrid reported the link between NSW and Victoria was cut in early January, meaning power could not be shared between NSW and Victoria.

A solution will not be easy. Placing electricity cables underground is not financially or technically feasible in many cases. Local backup power plants using solar or diesel might be one answer. Another may be replacing wooden poles with steel and concrete in key sections of the network.

Older is Sometimes Better

Telecommunications towers on the top of hills were at extreme risk from fires. In January, carrier Telstra reported 40 telecommunications towers on the south coast had been damaged in fires. Towers at Mount Wandera and Surf Beach had been destroyed. The Malua Bay tower was badly damaged. As a result, the south coast between Nowra and Moruya lost internet, mobile phone and landline services in early January. Hospitals were off the air.

Another consequence was that many people were not able to make electronic purchases. FM radio transmission towers in Eden and Batemans Bay failed in the fires. Hundreds of kilometres of communications and signals cables for Sydney Trains in the Blue Mountains must be inspected and often replaced.

One bright note was the resilience of the payphone network relying on traditional analogue copper cables. Telstra made payphones available for free and they were a lifeline to many people when the mobile networks went down. As a result, there were long lines for payphones in towns like Ulladulla.

Getting back Online

Everyone understands and respects the skill and courage of volunteer firefighters, but utility crews were unsung heroes in the bushfires. Essential Energy reconnected 11,000 people on one day in early January. Endeavour Energy restored power to 12,000 customers including hospitals on New Year's Day. Crews from carriers Telstra, Optus and NBN were able to restore most mobile towers by mid-January. Continuing fires and occasional flare ups made this work very challenging.

The telecommunications industry is investigating ways to increase network resilience in the future, including network redundancy to support critical services such as banking and EFTPOS in disaster areas. The industry is also investigating use of Wi-Fi and satellite services where mobile networks are down, and temporary facilities such as Cells On Wheels to replace damaged facilities.

The main risk to utility networks in the aftermath of the bushfires is damage caused during repairs. All utilities are concerned with the risk to networks from replacement of fences, particularly on utility easements. Telstra has already warned the public that damage to optical fibre cables can severely affect communications.

The message is getting through. Bega Valley Shire Council reports that referrals through the Dial Before You Dig service increased to 100 per day after the fires. DP

Dominic Puiu is manager of Dial Before You Dig NSW/ACT. In 2009, NSW became the first Australian jurisdiction to pass a law mandating use of the Dial Before You Dig service. Dominic can be reached at dominic@beforeyoudignswact.com.au.

What did you notice first?

The crappy looking sign, or the rubber ducky hard hat?

At Rhino Markers, we have finally found a cure to CLS (crappy looking signage).
Visit *RhinoUVarmor.com* to learn more and get your signs looking better than ever.

Rhino UV Armor: US Patent Pending

CELEBRATING 30 YEARS
Rhino
MARKING & PROTECTION SYSTEMS
1990-2020™

Infrastructure Resources Initiative
IR is dedicated to helping the industry save lives through education. Look for this icon identifying articles on programs and initiatives created by IR to help us meet this goal.

One Call Process Industry Survey Results

Recently, Infrastructure Resources, LLC conducted the first in a series of industry surveys. The responses to this survey represent a cross-section of various stakeholder groups. While some of the results support concepts that may be difficult to implement, they still provide a barometer by which to determine long-term goals.

Should the dig laws for all states/provinces be standardized?

Not surprisingly, 81.4% of respondents indicated that dig laws should be standardized, with 1.2% abstaining. It is interesting though, when broken down by industry, those respondents who identified as One Call were the least likely to support standardization with only 53.8% affirmative. Those identifying their job function as Middle Management were least likely to support standardization at 75.4%

Should the ticket delivery format used to inform a facility owner of an excavator's intent to dig be standardized?

Again, the majority of respondents, 85.6%, indicated a desire for standardization, with One Call offering the lowest support at 61.5%. Field Operators strongly support standardization with a positive return of 93.8%.

Currently, many One Calls operate differently. Why do you believe that is?

Respondents were given a list of options to choose from, as well as the opportunity to provide a unique response. Overwhelmingly, respondents believe that specific state/provincial legislation is the biggest driver to One Call operations and locator requirements had the least impact. Regional or local culture came in as the 2nd highest driver, albeit about 40% less than the highest driver. Executive Directors who want to build their own solutions ranked #3, with utility requirements ranked at #4 and contractor requirements at #5. It is interesting to note that the regulatory and/or enforcement process was a common write-in ranking.

Should the information (ticket details, maps, facility records, etc.) provided by the utility company to its in-house locator or a contract locating company be standardized?

85.6% of respondents indicated they are in favor of standardization, with 1.9% abstaining, although the Water industry ran counter to other industries with 50% against standardization and 4.5% abstaining. Locators also seemed less inclined to support standardization, returning only 61.5% in favor. This result will likely be explored further in future surveys.

Consider the One Call system you use most frequently. When submitting a ticket request, how easy is it to…

Users found obtaining system information to be the most difficult part of submitting a ticket request, with 28.7% rating it as Very Difficult. More than half (56.3%) of the Executives who responded indicated that obtaining system information is difficult, and 37.5% found it difficult to receive updates as well.

What do you consider important on a ticket request?

The top three responses for important ticket information include Contact Name/Phone (99%), Start Date (96%), and Street Address (95%). The top three responses for information on a ticket that is not important and should be optional include Depth (16%), End Date (13%), and Electronic Whiteline Info (10%).

What makes a One Call Center easy to work with?

An easy-to-remember nationwide phone number was the number one response at 23%. Other responses all ranged between 14%-17%.

What makes a One Call Center difficult to work with?

The number one difficulty at 20% was the use of written dig area descriptions instead of showing accurately on visual maps. Number two at 19% was different laws in different regions, tolerance zones, notifications, etc.

How long should a dig ticket be valid?

Almost half of respondents (45%) believe a dig ticket should only be valid for 8-14 days. 16% felt 15-28 days was appropriate and 24% thought 30 days was the right number. This breakdown varied only slightly by industry, job function or country.

What is the appropriate wait time for a ticket?

At 78%, 2-3 days was overwhelmingly indicated as the appropriate wait time for a dig ticket. There may be some opportunity for education within the industry as some respondents indicated the wait time should only be minutes while others indicated up to a month was appropriate.

What is the right tolerance zone for locating assets?

18"-24" received the highest score at 64%, with the next highest score (25"-60") coming in at 18%. Again, educational opportunities exist as multiple respondents indicated tolerance zones between 25-200 feet. A small percentage of respondents indicated they were unfamiliar with a tolerance zone.

Which stakeholder groups (if any) should be exempt from receiving notifications?

95% of respondents said there should be no exemptions. Those exemptions which were indicated include property owner, storm water/drainage, design, EAPUOC and emergency services.

Which stakeholder groups (if any) should be exempt from providing notifications?

96% of respondents said there should be no exemptions. Those exemptions which were indicated include county road grading, duplicates, emergency services and homeowners. DP

Data from this survey, along with additional reporting, will be made available on the dp-PRO website.

The more people who participate in this survey, the more accurately the results will reflect the industry and the more insightful the analysis will be. Therefore, this survey will remain live on the dp-PRO website for one year as Infrastructure Resources continues to gather and analyze the results. Visit dp-PRO.com/surveys to complete this or other available surveys.

Facility Owner/Operator Research Survey

dp-PRO™ INDUSTRY RESEARCH

In its pursuit to Save Lives through Education, *dp-PRO* is collecting industry data through research surveys and results. Our goal is to provide valuable data that informs the entire industry regarding successes, challenges and opportunities. Your input is important to developing inclusive results to help direct the overall focus of the research.

Results for this survey will be published in the summer issue of *dp-PRO* along with the next survey in the series. Both the survey and the results (once available) will be made available on dp-PRO.com. Completing one survey does not obligate you to participate in the entire series, but for each unique survey you complete, you will be entered in a drawing to receive a FREE Yeti mug.

THANK YOU in advance for participating in this survey. The research will contribute to the development of our education, live events, magazine content and, ideally, challenge all stakeholders to expand their knowledge base and increase efforts to save lives.

Our thanks to PelicanCorp for helping to underwrite the cost of this research. Individual responses are not shared with the underwriter or sold in any way. Infrastructure Resources employees assisting with research will have access to responses as needed.

Visit dp-PRO.com/surveys to complete this or other available surveys.

1. **How do you inspect your assets?**
   a. Paper forms
   b. Asset inspection software
   c. Custom internal software
   d. Other_____

2. **At what frequency do you inspect your assets?**
   a. 1 year or less
   b. 2-3 years
   c. 4-5 years
   d. More than 5 years
   e. Only when conditions indicate

3. **What is the biggest difficulty you face with asset inspection?**
   a. Accessing historical data
   b. Reporting required repairs
   c. Downtime/disruption of normal operations
   d. Inspection costs

4. **What is the most common reason for asset failure?**
   a. Irregular inspections
   b. Failure to perform preventive maintenance
   c. Poor quality preventive maintenance
   d. Operate to failure mentality
   e. Other_____

5. **What factors most contribute to poor decision making for asset maintenance?**
   a. Incorrect information
   b. Limited access to information
   c. Lack of field experience
   d. Bureaucracy
   e. Budget constraints

6. **Which part of asset management most needs to improve?**
   a. Communication and sharing of location, description and historical data
   b. Field inspection processes
   c. Budgeting
   d. Accurate mapping

7. **What is the best way to reduce asset inspection/maintenance costs?**
   a. Better real time decisions
   b. Better planning
   c. Increased spending/budget

8. **What is your primary focus in protection of the utility infrastructure?**
   a. Efficient field inspection procedures
   b. Easily accessible transparent data
   c. Updated GIS to the field
   d. Regular maintenance
   e. Education and training

9. **What are the best ways to increase safety in asset maintenance? Choose all that apply**
   a. Identify all assets within scope of the management system
   b. Identify all relevant information and documentation in relation to the assets
   c. Have a means of retaining and maintaining all information
   d. Determine required compliance requirements
   e. Ensure all roles and responsibilities are identified and communicated
   f. Ensure a system is in place to rectify safety issues identified through maintenance
   g. Have an audit system to ensure effective management of asset safety risks
   h. Other_____

10. **Job Function**
    a. Executive (Owner, CEO, COO, CFO, President)
    b. Upper Management (Director, Manager)
    c. Middle Management (Supervisor, Foremen)
    d. Field Operations (Technician, Locator, Operator)

11. **Which category best describes the type work you do?**
    a. Electrical
    b. Engineering
    c. Excavating
    d. Gas & Oil
    e. GIS Mapping
    f. Government / Regulatory
    g. Other_____
    h. One Call
    i. Public Works
    j. Communications
    k. Trenchless Technology
    l. Water & Sewer
    m. Locating

12. **Where do you work?**
    a. USA
    b. Canada
    c. Other_____

After completing this survey, **snap a pic and email it to info@emailir.com**

NEWS

CDMCS Releases Best Practices Guide

The Council for Dredging and Marine Construction Safety (CDMCS) recently released a Pipeline Incident Prevention (PIP), which is a recommended Best Practices Guide for safe dredging near underwater gas and hazardous liquid pipelines located in the Army Corps federal navigation channels.

In September of 2018, the CDMCS Pipeline Task Force set out to reduce underwater pipeline incidents during dredging activities by delivering solutions that support safe work practices and increased public awareness. The recently released PIP provides recommendations fully vetted by all stakeholders, dredging contractors, pipeline operators, the U.S. Army Corps of Engineers, the National Oceanic and Atmospheric Administration, the Pipeline and Hazardous Materials Safety Administration, and various state agencies.

USDA Investing $62.3 Million in Rural Alabama Broadband

(Alabama NewsCenter) – The U.S. Department of Agriculture (USDA) has donated $62.3 million to four companies to expand rural broadband infrastructure in Alabama. The Tombigbee Electric Cooperative, Millry Telephone Company, Farmers Telecommunication Cooperative and National Telephone of Alabama are using the grant money to improve connectivity in their areas.

More than 8,000 rural households, 57 farms, 44 businesses, 17 educational facilities, 14 critical community facilities and three health care facilities in rural Alabama will benefit from the new infrastructure.

"Beyond connecting us to our friends and family, high-speed broadband connectivity, or e-connectivity, is a necessity, not an amenity, to do business, access opportunities in education and receive specialized health care in rural America today," said Donald LaVoy, USDA Deputy Under Secretary for Rural Development. "…USDA is committed to being a strong partner to rural communities in deploying this critical infrastructure, because we know when rural America thrives, all of America thrives."

BAY AREA CONTRACTOR FINED FOR RUPTURED GAS LINE

(Bay Area News Group) – A Bay Area (California) utility contractor will pay $100,000 in civil penalties after rupturing gas lines 15 times in five years and failing to report their activities. A Santa Clara County Superior Court judge ordered the penalty last November based on an investigation into MCH Electric that began in 2017.

While working on various infrastructure projects, the company repeatedly ruptured gas lines, including several along major roadways, and used backhoe equipment closer to gas and electric lines than legally allowed. MCH Electric workers also failed to tell utilities of their plans to dig near gas lines within the required two days and did not call 911 immediately after a gas release.

The case is one of the first to be prosecuted under the state's 2016 Dig Safe Act, which set a legal framework around underground infrastructure practices such as excavating and drilling.

Mississippi 811 Opens New Facility

After nearly 30 years in their old building, Mississippi 811 moved to a new location in December. The new building, located at 200 Country Place Parkway, Pearl, Mississippi, will aid the organization with its expanding workload and operations. State officials and Mississippi 811 leaders joined employees and visitors with a special ribbon-cutting ceremony to mark the occasion.

"It's a special day," board member Bert Pickard said at the ceremony. "We celebrate the future of our organization and we are confident that this facility will become a recognized center for damage prevention across the state."

Fiber Optic Cables could be used to Detect Earthquakes

California Institute of Technology Seismologist Zhongwen Zhan recently penned an article describing a method, called Distributed Acoustic Sensing, whereby long optic fibers are used to detect seismic activity. The technique relies on measuring flaws in fiber optic strands to detect possible seismic activity.

When changes in temperature, strain or vibrations disturb the fiber, changes in the size, frequency and phase of laser light scattered back can determine seismic activity. According to Zhan, the oil and gas industry has been a key driver of the new method, as they use cable down bore holes to monitor fluid changes in deep-water oil fields and during hydraulic fracturing and wastewater injection.

Researchers think this method is especially promising for seismic monitoring in harsh environments like Antarctica… or even on the moon.

OKIE811

Know what's **below** **Call** before you dig.

OKIE811 HONORED

The annual "Best of the Rest" Awards, honoring Large, Midsize and Small businesses in Oklahoma City, were announced in December. On the list of "Small Employer" honorees was OKIE811.

The Oklahoma One Call System includes more than 1,200 member companies that operate underground facilities throughout the state. OKIE811 is at the forefront of providing safety and damage prevention messages, allowing both homeowners and businesses to know where utility lines run on their property. The non-profit organization pays 100% of their employee life insurance premiums, and short- and long-term disability premiums.

Others on the "Small Employer" list included The First State Bank, Aviation Training Consulting LLC, and the John W. Rex Charter School.

BILL CALLS FOR CHANGE IN MAINE'S DIG SAFE LAW

Maine lawmakers are considering a bill that would make changes to the state's Dig Safe law in response to a deadly explosion last September in Farmington. The current Dig Safe Law prohibits digging around certain underground utility lines, but LP lines are currently not on the prohibited list. During a meeting held in early February, every member of the Energy, Utilities and Technology Committee of the Maine legislature voted in favor of the new bill.

"It is unfortunate that we have not already passed a bill to protect our LP lines. If we had, the devastating explosion in Farmington could have been avoided. We must take action now to endure the safety of Mainers and to prevent an event like this from happening in our state again," said bill sponsor Rep. Seth Berry.

Berry claimed that previous attempts to add LP lines to the state's Dig Safe law did not pass in the legislature. Propane companies have opposed such a bill.

During the February legislative meeting, an emergency preamble was added to the bill that will allow the legislation to go into effect immediately if signed into law.

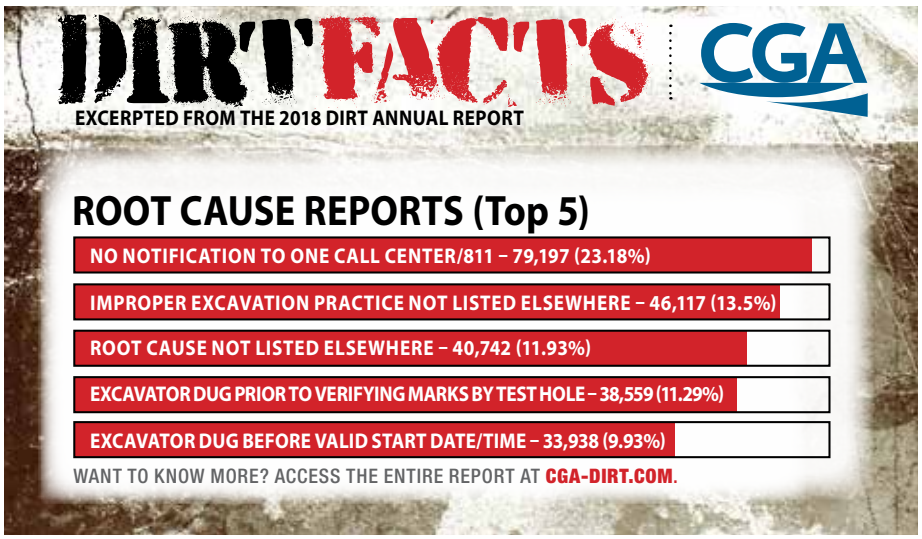
A leak in a propane line caused an explosion at the LEAP, Inc. building in Farmington, which killed Capt. Michael Bell and injured seven others. The office of the State Fire Marshal indicated, following their investigation, that the explosion ignited days after an underground propane line was severed when one of four bollards was being drilled into the ground near the building. The source of ignition could not be determined.

Siren GPS App Alerts Users to GAS LEAK

(Walker County News) – LaFayette, Georgia has become an approved user of the Walker County's Siren GPS Notification System and the city is encouraging residents to sign up for the new system online or by downloading the free app. Siren GPS is a software app that has the ability to send notifications such as tornado/severe thunderstorm warnings and earthquake notifications.

In early January, LaFayette experienced a gas leak under the right-of-way near several local businesses. A subcontractor clipped a service line while doing directional boring. A timely alert was sent out to residents who have the new app, which aided in the evacuation of several residences and businesses in the area.

Whether it concerns power outages, road closures and/or utility matters, the city can now use the Siren GPS system to send timely notifications to residents who have downloaded the app.



NASTT Names New Executive Director

The North American Society of Trenchless Technology (NASTT) announced the appointment of a new Executive Director in December. Matthew Izzard has been named to replace outgoing Executive Director Michael Willmets who retired at the end of 2019. Izzard is a past Chair of the UK Society of Trenchless Technology and current Vice Chair of the ISTT.

"It is an honor to follow on from Mike Willmets as Executive Director and recognize the growth and status the society has achieved under his guidance," Izzard said. "It is inspiring to have the opportunity to continue to develop this legacy with such a dynamic board, council and staff that have so many exciting ideas for the future."

Izzard is based in Seattle, Washington and has been a member of NASTT since 2017.

Damaged Fiber Optic Cable Causes Series of Outages

(Seattle Times) – A cut fiber optic cable in Washington state has been blamed for causing a series of outages in at least a dozen regions of the United States in mid-January. The damaged cable disrupted 911 services for about 100 customers and, according to DownDector (downdetector.com), caused a series of related internet outages in parts of the Seattle area, Portland, southern Idaho, Albuquerque, Boise, Salt Lake City, Denver, Los Angeles, Dallas and Phoenix.

The outages affected CenturyLink customers. A CenturyLink spokesperson indicated that the affected 911 services were rerouted and that crews were able to restore all impacted services. DP

Signal Boost: Enhancing Damage Prevention Assurance for the 5G Revolution

GPR Innovations Provide a Critical Layer of Damage Prevention Assurance for the Greatest Utility Infrastructure Overhaul in the Past Decade

BY RAY CUMMINS

5G's arrival represents North America's greatest utility infrastructure overhaul of the past decade. From Alaska to Florida, locators and contractors must prioritize preventing damage to existing infrastructure as new installations are implemented to accommodate the latest data revolution.

The Small Cell Services team completing a tower installation using a crane.

Rather than installing or reconfiguring large-scale cellular towers for 5G, many telecommunications providers are adopting a more innovative approach. Instead, these companies are partnering with contractors to deploy small cell towers in strategic locations. Once activated, these towers augment existing 4G LTE signals from larger towers and convert them to 5G. Think of it as like installing a home Wi-Fi booster to expand the router's reach, but beyond extending a signal, these small towers also enhance it.

Before installing a small cellular tower, placing a One Call is mandatory prior to laying foundation or other infrastructure. However, having fulfilled the One Call obligation does not always mean it is safe to commence excavating. Rather than breaking ground and hoping for the best, why not utilize a solution that provides a more complete picture of the subsurface?

5G installations require a tangible and holistic damage prevention strategy. What does this solution look like, though? It should offer optimal performance across North America's diverse field conditions, image the entire subsurface for both conductive and non-conductive materials and grant the user the ability to compile actionable data that can be stored or shared with other stakeholders for immediate impact.

One company is using an advanced ground penetrating radar (GPR) system to do just that. Small Cell Services designs, tests, installs, and maintains small cellular towers across the southeastern United States. After a One Call locator's inaccurate marks led to damage incidents, the company purchased a premium GPR system for a more complete second opinion of subsurface conditions at installation sites.

Special Projects Manager, Brian Long, explained some ways that he uses GPR at the forefront of his damage prevention strategy.

THE FIRST STEP AFTER THE FIRST STEP

No matter the project, Brian and his team always call 811 before excavating as required by law with enough time prior to starting the project. Once the project begins, Brian surveys the site with GPR to verify the marks and check for private lines or other objects of interest that could pose damage risks.

GPR images the entire subsurface instead of looking for specific materials. With his system, Brian can view visual data in real-time to confirm marks, identify potential missed targets and observe field conditions like changes in soil structure. This data provides the confidence to commence digging and the insight to modify plans as needs arise.

Regardless, the result is the same -- peace of mind knowing that exhaustive measures have been taken to identify and mitigate damage risks before breaking ground.

DETECTING THE UNDETECTED

Due to common factors like insufficient documentation, incomplete maps, or decommissioned facilities, utility lines can remain undetected for long periods of time. This problem intensifies when considering non-conductive lines like concrete and PVC that often have no tracer wire attached to them.

Because Small Cell Services' towers require a 10-foot (~3.05m) deep foundation with a 2-foot (~0.61m) radius, any phantom utility lines near the installation site must be located, documented, and accounted for. Logistical challenges increase when factoring in other necessities like installing pull boxes, fiber and electric lines, and other infrastructure.

One could use a traditional electromagnetic or acoustic pipe locator for conductive and metallic lines. However, these cannot account for common obstacles like untraced PVC, concrete lines, or other obstructions. Here, locating becomes a guessing game for most.

Brian and his team implement cutting edge GPR technology to work around this. With a complete picture of the subsurface in hand, the team can ensure full and transparent views of field conditions, including the presence of non-conductive buried objects. The data collected results in a deliverable they can use to determine whether the installation site is secure, if it needs to move, or if any obstacles can be worked around or removed.

UNFORGIVING SOIL? NO PROBLEM

In more challenging soil types, traditional locating tools are less effective at delivering results. For example, a shallow-depth, high-frequency signal cannot penetrate through dense clay in New Orleans as deep as it can in Florida's dry and sandy soil. Brian's cutting edge GPR system uses a triple-frequency range antenna to help overcome difficult soil conditions and thrive in forgiving ones.

The antenna collects three separate datasets at low, middle, and high frequencies simultaneously. This allows for superior depth penetration at stunning high resolution without sacrificing middle frequencies considered the best for locating buried utilities. From there, he can review each dataset, together or individually, to cross-compare his findings for an accurate view of the prevailing field conditions.

UNIQUE CHALLENGES IN A CENTURIES-OLD CITY

With their headquarters just across Lake Pontchartrain from New Orleans, Small Cell Services often works in and around the Big Easy. The city celebrates a vibrant and rich history reflected by the infrastructure beneath its streets.

Brian shared some of the unique challenges when installing new infrastructure in a centuries-old city with historic neighborhoods like the French Quarter and Central Business District. These older, narrow streets often contain congested ROWs as well as plenty of private infrastructure likely undocumented for decades, if not centuries. In these places, finding the necessary 2-foot radius to install new underground fiber or electric lines can quickly become a hassle.

Contractors serving major cities with high foot traffic need to find space to install new infrastructure quickly, efficiently, and accurately without breaking ground to do so. Because GPR requires no digging to operate, Brian can glide the antenna over the roadway and collect necessary data without relying on more destructive solutions.

Thanks to his system's durable design and its floating antenna configuration, Brian can go up and down curbs, over rough roadways and navigate less-forgiving rural environments without worrying about the system breaking down or losing signal. Here, he can uncover the city's complex network of pipes and cables to identify available space without having to break ground until it's time for an installation. This saves his team time and effort while enhancing the quality of their findings.

CREATING A DELIVERABLE FOR THE FUTURE

Like any product or service, GPR systems are defined by the benefits provided to the end-user. In this case, the data generated by a cutting-edge radar system provides a holistic view of the subsurface on the jobsite and provides a common

This Small Cell Services tower augments existing cellular coverage and converts it to 5G allowing for 5G coverage to reach more communities without a complete overhaul of legacy cellular infrastructure.

point-of-reference for all present and future stakeholders involved on a project. No longer do installation and maintenance contractors have to survey the same site repeatedly, because now they have accurate documentation.

Once Brian and his team have finished an installation, they can re-survey the subsurface to create a new deliverable that reflects the updated infrastructure. From that point on, any future maintenance projects can refer to this data and understand the subsurface field conditions before placing a One Call. Using his GPR system's advanced post-processing capabilities, Brian can also create GPS-integrated maps, 3D models, and detailed maps of his findings to add further context and perspective.

Ushering in the 5G data revolution also requires harnessing data beneath the surface. With the right GPR system, one can create a complete and more accurate picture of the subsurface to add a critical extra layer of damage prevention assurance for more streamlined installation of the new infrastructure throughout North America and the rest of the world. It's time to prepare for the next great utility infrastructure overhaul the right way. DP

Ray Cummins is an engineer at US Radar Inc. He advises current and potential customers throughout the United States on GPR-driven solutions for their specific needs in the field. He can be reached at ray@usradar.com.

Return to Tam

The 2021 Excavation Safety Conference returns to Tampa by popular demand

The same great education you expect

Started in 2004, this event has been providing vital industry-leading education to help all stakeholder groups learn safe practices and lower costs associated with underground damages.

"It is the #1 opportunity for education and networking for our industry as a whole"

– Bruce Campbell, MISS DIG System Inc. – 8 time attendee

"This is THE conference to attend if you are involved in Public Awareness or Damage Prevention."

– Verlyn Bailly, TransCanada – 5 time attendee

89.8% **of surveyed attendees stated that information obtained will help them implement change at work**

mpa

"Where else do you get the opportunity to understand the issues facing our industry from both a utility owners and contractors perspective, view the latest innovations and network with industry experts from around the world? As a result of attending Excavation Safety Conferences my business and staff have access to many new systems and processes."

– Neil Costello, VAC Group – 7 time attendee

GlobalExcavationSafetyConference.com

- ✓ Sign up for event updates
- ✓ Submit session ideas
- ✓ Become an exhibitor or sponsor

March 23-25, 2021 | Tampa, Florida

Preventing Electric Utility Damage

BY KELLEY HEINZ

What is the best way to prevent damage to underground utilities? If we could answer that question, there would be no need for the Damage Prevention industry. What we do know is that damages happen for a number of reasons. The main drivers for damages are usually excavators hitting accurately marked lines, failure to call for locates and a locator's failure to mark the facilities… but there could also be mapping discrepancies and toning issues. The key is to identify what the common factors are when a damage occurs so that the next damage can be prevented. Because damage prevention is a shared responsibility, all these items need to be considered when developing a damage prevention program.

In Preventing Electric Utility Damages, we explore the best practices to prevent damage to all electric facilities, both overhead and underground. We discuss how we educate excavators on working safely around our utility, what to look for in the field before excavation begins, who to call when your jobsite locates appear incomplete and what to do if you do hit a line.

Completing a timely and fact-based investigation of the damage is crucial in determining what happens next. The investigation should include the basics such as who hit it, how they hit it and why they hit it. Once these factors are determined, you can designate fault and/or causal factors for the event. When looking at the causal factors, you begin to build a pattern with both the excavators themselves as well as the type of work they are performing. We also see common factors with regard to locate errors. Putting that information together can help to identify where the next damage might occur.

A starting point is to educate companies that excavate around the facilities. It's important that the excavator understands there is more than calling in for the dig ticket. We start with discussing the six best practices for excavation followed by safety opportunities such as checking that the ticket information is accurate, checking to ensure the member companies have responded and marked or cleared, ensuring private facilities are marked and, of course, respecting the marks on the ground. Also, excavation practices matter! Increasing your tolerance zone, potholing at regular intervals and never blindly crossing a facility are good exercises in preventing utility damage. Most importantly, the excavator should never assume anything on the job site. The marks should be clear and easy to understand, and the excavator should always document the jobsite with photos or videos before excavation begins so that in the event of a damage, they have the proper documentation to defend the case.

Regular field visits and audits with the excavators help to ensure compliance of safe digging practices and help to provide a point of contact for the excavator. Preventing Electric Utility Damage also discusses what happens once you hit an electric line and how to keep yourself and others safe.

It's important that the utility locator also understand their responsibilities and expectations. They should respond to the ticket on time, clearly paint and flag the approximate location of the facilities, get help when needed and most importantly, they must communicate with the excavator whenever possible. It's critical that there are open lines of communication with the excavator and the locator. Joint meets, while not used much anymore, are beneficial in meeting locate representatives with all the member companies so that they are sure where and when the work will be performed. Developing these essential relationships and working hand-in-hand prevents the locator from having to mark areas that won't be excavated and the excavator from digging in areas that have not been located.

Regular field visits and audits with the locators help to ensure completeness and accuracy of marks and compliance of marking standards and safety expectations.

In order to prevent damages, it's imperative that a database is set up to collect, retain and analyze the common factors involved with damages to utilities. Data collection should be easy to collect, maintain and query so that you are able to drill down to the most common causes. Pinpointing excavator causal factors such as marked within tolerance, no locate request, failure to call for refresh or jumping the dig start gives you an opportunity to discuss with the excavator how they can improve their safety performance by potholing by hand, calling 811 before excavation, calling in regularly for refreshed marks and waiting the required amount of time before digging. Also, collecting how they are hitting the utility is helpful. You should be more concerned with an excavator who always hits lines with a backhoe as opposed to an excavator nicking the line with a shovel.

Working with your state's One Call can provide timely and significant information as to who is digging around the facilities, when that work will take place and why. Getting ahead of the project can contribute to the success or failure of the project. If the engineer and excavator are aware of existing facilities at the time of design, the project is less likely to encounter surprises. There's nothing worse than trying to install a turn lane and finding out there is an electric duct package right where you need to work. Surprises like this can add time and unforeseen costs to the project. Having the best and most up-to-date information from the utilities and municipalities before the work begins can help reduce delay and help keep the project budget on track. Once you identify who the worst offenders or heavy hitters are, you can discuss with them what can be done to assist in keeping them safe on the job site. There are many companies that call in tens of thousands of locate requests every year and hardly ever have a damage. Conversely, there are some companies that call in hardly any tickets and have more than their share of damages. Meeting with all parties involved can help reduce those damages.

While there are many opportunities for damage prevention, we'll show how these methods have shown to be successful. These best practices are told from the utility standpoint but are easily implemented within any company to help reduce damages. Nobody wakes up in the morning and decides they are going to damage someone else's equipment. Considering the life and death consequences of hitting a gas or electric line, who would? Preventing Electric Utility Damage helps to sort out what some of the best practices are, how your Damage Prevention team can work to keep everyone safe on the jobsite and how to ultimately reduce damage to utilities and get everyone home safe at the end of the day. DP

Kelley Heinz is the Damage Prevention Manager with ComEd. She will be presenting on this topic at the 2020 CGA 811 Excavation Safety Conference & Expo in Palm Springs March 24-26.

Look Up and Live!

BY GLEN "COOKIE" COOK

Energy Queensland has 1.7 million power poles and over 225,000 km of overhead and underground powerlines across Queensland. Unfortunately, many powerlines are accidentally contacted by workers every day, which can result in severe and sometimes fatal injuries. Ergon Energy and Energex, as part of Energy Queensland, have developed a lifesaving tool to help improve safety around powerlines, which was formally recognized at the Safe Work Awards as Queensland's "best solution to an identified electrical issue."

Lookupandlive.com.au is an online mapping application that pinpoints the location of 210,000 km of overhead powerlines and 1.7 million poles across Queensland. Ergon Energy has been running a general campaign around powerline awareness and safety for some time now, and the online application is an extension of this.

The utility's team of community safety specialists has been collecting statistics on accidental powerline contacts for over 10 years to better understand why these incidents are occurring and how they could be prevented.

From our investigation of powerline incidents, a clear issue stands out: a distinct lack of planning and powerline awareness. This lack of planning leads to workers not identifying any of the risks or hazards and therefore using no hierarchy of control to mitigate them.

The team fosters a positive and proactive association of powerline safety messages within the community by building awareness of the dangers of accidental contact with powerlines via our program of engaging, educating and enabling workers. The Look Up and Live tool enables behavior change by helping workers to adequately plan work and put effective controls in place, such as de-energization, relocations, augmenting lines, and safety observers and/or rotamarkers (powerline markers) to highlight powerlines and keep persons clear.

The Look Up and Live application runs on ESRI's ArcGIS platform and took nearly four years to develop, test and gain final approvals.

The Community Safety team worked with members of our Digital Enablement and Asset Safety teams internally to build a product that would be easy for at-risk industries and general members of the public to use. It was built at a very low cost with existing tools and technology, imagery and publicly available GIS data incorporating roads, local government boundaries and land use. Once the tool was built, the teams gained approval to test it with members of at-risk industries to gauge usability and collect feedback. Feedback was very positive, and the tool was then made available at lookupandlive.com.au. After approval from internal stakeholders at Energy Queensland, the tool was released for public use in April 2019.

Essentially, this tool and process is similar to a Dial Before You Dig request but it provides an interactive self-serve safety tool for overhead powerlines. For example, if used at the quoting stage of a construction, the overhead powerline hazard could be eliminated by contacting the asset owner to have the lines removed and replaced with underground powerlines, or they could be de-energized when work needs to be performed around them.

A VALUABLE ADDITION TO THE PLANNING TOOLKIT

The application is targeted towards at-risk industries such as building and construction, agriculture, aviation, vegetation management, road transport and earthmoving. These industries are most at risk due to lack of planning and inattention.

All these accidents are avoidable and mainly occur when an individual fails to perceive danger in plain sight, such as powerlines. Put simply, we plan to work near the powerlines we cannot see. There is the Dial Before You Dig tool for identifying underground assets, but there has never been a tool for planning work near overhead powerlines.

Lookupandlive.com.au Application Features

- Free access at lookupandlive.com.au
- Simple powerline overlay onto imagery
- Works on all devices, including phones and tablets
- Includes exclusion zone overlays
- Displays voltages and indicates the owners of powerlines
- User can start different safety processes, for example, to have a powerline removed from a property or order the installation of a powerline marker
- User can draw/write on the map then print out the plan for their property or construction site
- Instantly share your location or screen via email with contractors/workers
- Quick links to order free safety stickers
- Quick links to watch safety videos
- Quick link to start a Dial Before You Dig enquiry

We have put ourselves in the shoes of workers and geospatially overlaid powerlines onto imagery, enabling workers and the community to effectively plan work near powerlines. The user is now able to look at the worksite from a new vantage point and identify the electrical hazards, assess powerline risks, implement appropriate control measures and access links with additional safety advice.

Unfortunately, the statistics speak for themselves. In Queensland, an average of 750 accidental contacts with powerlines occur each year – at least one person is electrocuted and approximately 15 people are injured. With the implementation of the lookupandlive.com.au tool there has been a reduction in incidents by 25% overall and a reduction of 50% in the agricultural and earthmoving industries.

The Queensland Electrical Safety Act 2002 stipulates that powerlines up to 132,000V must have a three meter exclusion zone for untrained persons, but most people are unaware of this requirement for safe work near powerlines.

The Community Safety team now shares this tool when engaged in face-to-face discussions at industry events and when delivering powerline safety talks, as well as through social media, editorials and advertisements. Our vision is to market this tool nationally to raise powerline safety awareness and reduce accidental powerline contacts. Feedback has been very positive and has resulted in an increase in requests for safety advice and rotamarkers. We have had tremendous feedback from companies such as Fulton Hogan, John Holland, Aerial Applicators Association of Australia (AAAA), Cotton Australia, Agforce and local government councils and structural designers across Queensland.

The Look Up and Live tool was recognized at the 2019 Queensland Safe Work and Return to Work Awards, winning the "best solution to an identified electrical issue" category, which recognizes excellence in developing and implementing a solution to an identified workplace electrical safety issue.

lookupandlive.com.au

The tool was also recognized by the AAAA at its National Convention and Trade Show, earning the 2019 Leland Snow Innovation Award. DP

Glen Cook, Principal Community Safety Specialist at Energy Queensland, will be presenting on this topic at the 2020 Oceania Damage Prevention Conference in Australia and at the 2021 Global Excavation Safety Conference in Florida.

New Techniques for Fiber Optic Installation

BY JIM HAYES

In most areas today, fiber optic cables are installed underground. Traditional underground cable construction involving digging trenches, installing conduits and then pulling fiber optic cables through the ducts is disruptive, however. New techniques have been developed that are less disruptive but may make location more complicated and future construction more hazardous.

Photo A

Blvd. in downtown Santa Monica, with a member of the crew working ahead to locate the boring tool and buried utilities (see photo A).

DIRECTIONAL BORING

Directional boring has been used for many years to install cables underground in urban and suburban areas. Directional boring requires especially good documentation and location in cities where there may be a century's worth of undocumented underground utilities.

Directional boring can cause major damage if the operator is not experienced and very careful. One fiber optic contractor punctured seven water mains, two in one week, in a southern city. In a northern city, a fiber optic contractor punctured a high-pressure gas line, leading to the destruction of several buildings nearby and causing several deaths.

But properly done, directional boring is effective and safe, like the contractor working down Santa Monica

MICROTRENCHING

Microtrenching is gaining proponents for fiber optic installation in both urban and rural areas. Instead of digging a trench to bury fiber optic ducts, you grind or saw a groove typically 8-12 inches deep (20-30 cm) in a roadway or sidewalk and drop a cable or small duct – a microduct - into the groove. You fill in the groove with the dust vacuumed up when grinding the groove, mixed with an adhesive.

Properly done, microtrenching is almost invisible. One job site we visited cut the groove along the edge of the road at the sidewalk and even matched the color of the roadway asphalt.

At first, microtrenching was used to install traditional fiber optic cables. But cable companies and duct companies introduced smaller "microcables" and "microducts" with more fibers in smaller diameters. A regular 144-fiber cable was about 5/8th of an inch in diameter (16 mm), while a microcable is half that – about the size of a #2 pencil.

Into a groove cut with microtrenching, you can install a half-dozen microducts filled with microcables or one cable and five ducts for future installation. Microcables are also popular with directional boring installation.

Microtrenching can complicate location in several ways. Documentation on buried utilities may not indicate the type of underground installation or depth, but knowing the depth of the cable is important. Being close to the surface means that you must be careful at both ends for directional boring, of course, but it's also important if someone else decides to do some microtrenching in the same area or just digs up the road surface for repair.

Another development in fiber optic technology can cause big headaches in a "dig-up." Fiber optic cables have been developed for use in metropolitan areas and business parks that have 1728, 3456 and 6912 fibers in a cable around one-inch (25 mm) diameter. These cables were designed to provide the large number of fibers needed for projects like fiber to the home data centers and small cell wireless. If damaged, these cables are expensive to replace and can take weeks to splice for restoration. DP

Jim Hayes is a VDV writer and trainer and the president of The Fiber Optic Association. You can reach him at jim@thefoa.org.

The Safety Benefits of Awareness and Human Factors Training

BY JACK JACKSON

Safety and awareness go hand in hand, especially when it comes to industries that have a higher risk of serious injuries and fatalities, like utilities and excavation. The higher a worker's level of awareness is, the less likely they are to get injured on the job. The same thing is true away from work. Think of all the times a member of your family has been hurt at home. It was highly unlikely that they weren't aware of the hazard. In fact, it was likely that they weren't fully paying attention to what they were doing.

There is also an obvious link between unfocused work and mistakes that cause damage to property, equipment or utility lines. This increases the financial value proposition for companies to invest in helping people maintain focus. But let's concentrate on safety since it's the biggest measure of organizational success.

Once all the basic safety compliance requirements have been met, the single most important thing that supervisors and safety professionals can do to protect workers is to keep them concentrating on the task at hand. When someone's eyes and mind are focused on what they're doing, the risk of an incident goes down significantly.

Obviously, it's very difficult to maintain your focus continually. It can be incredibly difficult to keep even a small team of people all focused on work. That's why it's so important to provide workers with the skills they need to be more cognizant of what's going on around them. Developing safe work practices and habits are also crucial in preventing injuries.

Awareness is like a muscle – no one can build it for you, just as no one can force you to pay attention to safety issues. But with the right training and support, it's possible to learn to focus on the right things and, in the end, improve one's safety awareness.

In my experience, there are a few main sources of distraction that pull people's attention away from the things that could injure them. Take fatigue as an example. The AAA Foundation for Traffic Safety estimates that 21% of all fatal crashes are a result of driver fatigue. Similarly, injury rates tend to spike at the end of a shift or a rotation when workers are likely to be tired.

When people are tired, they find it harder to concentrate on what they're doing and easier to overlook a potential hazard nearby. The same is true when we're rushing or frustrated, as it can lead workers to barrel ahead with a task and lose awareness of their surroundings.

Human factors like fatigue, rushing, and frustration – along with other physical and psychological states such as confusion, illness and complacency – can alter how workers think and act. And when that happens, a near-miss, injury or fatality is just waiting to happen.

Most companies spend most of their time, energy, and dollars on equipment. However, they should be spending more effort on educating workers on how our own human factors play a role in our injuries, errors and mistakes. We want to ensure that workers understand the basic concepts, as well as practical applications, that will give them the opportunity to put their knowledge to use.

"IN MY EXPERIENCE, THERE ARE A FEW MAIN SOURCES OF DISTRACTION THAT PULL PEOPLE'S ATTENTION AWAY FROM THE THINGS THAT COULD INJURE THEM. TAKE FATIGUE AS AN EXAMPLE. THE AAA FOUNDATION FOR TRAFFIC SAFETY ESTIMATES THAT **21% OF ALL FATAL CRASHES** ARE A RESULT OF DRIVER FATIGUE. SIMILARLY, INJURY RATES TEND TO SPIKE AT THE END OF A SHIFT OR A ROTATION WHEN WORKERS ARE LIKELY TO BE TIRED."

By beginning to hone their awareness in a supportive training environment, employees can start integrating their knowledge of human factors into everyday work practices and reducing their risk of injury as a result. When awareness is up, not only are injuries down, but damages are avoided, equipment mishaps are averted, and less time is wasted on setbacks caused by mistakes. DP

Jack Jackson is Senior Safety Consultant with SafeStart. Visit safestart.com to learn more.

10 Steps to Building a Distracted Driving Policy

BY JULIA KUNLO

The dangers associated with distracted driving are difficult to dispute. In 2017 alone, it is estimated that 391,000 drivers were injured in distracted driving crashes (Distracted Driving Statistics, 2019). Due to the recent spotlight on the topic, many companies have decided to implement their own distracted driving policies to protect their workers, their businesses, and their bottom line. If you are one of the many employers interested in a distracted driving program, where do you start?

Distracted driving is more than just cell phone usage. There are many facets of the topic to consider and decision-points to give thought to. This ten-step process will guide you through the questions and options to weigh while generating, distributing, and implementing a customized distracted driving policy.

1 Define Your "Why"

Before you begin to develop your policy, it is important to consider all the reasons your company wants a distracted driving program in the first place. Your corporate "why" will be used as a tool to solicit buy-in and support from management and field employees alike. Common motivators include:

- Reduction of risk to employees - In 2017, 3,166 people died in crashes involving a distracted driver (CDC, 2019). Preventing distracted driving in your company means protecting your most important asset, your employees, while they are on the road.
- Protection from legal implications - Recently, employers have been held liable for financial figures north of $20 million for employee crashes; these figures were upheld even when the crashes occurred using hands-free devices and in personal vehicles (On The Road, n.d.).
- Financial motivation - The average, non-fatal, distracted driving crash at work costs the employer $72,422 (CDC, 2019).

2 Define Your Scope

As you consider your distracted driving policy, think about when the policy will be applied and who it will apply to. A common recommendation is to include all employees at all levels of the organization, all vehicles in the corporate fleet, and all personal vehicles being used for company business. When discussing cell phone usage, consider including work devices as well as personal devices.

3 Consider All Types of Distracted Driving

The main forms of distraction behind the wheel can be broken down into three categories: visual (eyes off the road), manual (hands off the wheel), and cognitive (mind off driving) (CDC, 2019). Think about the different types of distractions for your drivers and consider including provisions for various situations, including (but not limited to):

- Talking on the phone
- Using bluetooth to make calls through the vehicle's sound system

- Texting while driving
- Eating behind the wheel
- Driving while drowsy
- Entering data into a GPS while in motion
- In-cab distractions (children, coworkers, etc.)
- Personal hygiene behind the wheel

4 Ban Texting While Driving

Regardless of your personal beliefs, texting while driving is a "no" across the board. Texting combines all three forms of distracted driving (visual, manual, and cognitive), making it extremely threatening to the safety of your workers as well as the well-being of others on the road. When discussing texting while driving, there are a few important points you may wish to specifically highlight:

- Reading text messages behind the wheel, even if a response isn't made, is still prohibited.
- Utilizing "voice to text" to send a message is just as dangerous as manually typing in the characters.
- Texting while at a stop light or a stop sign poses risks; only send messages when pulled safely off the road with the car in park.

5 Define Your Policy on Hands-Free Usage

Current law (in some states/municipalities) allows for workers to use their cell phones in a hands-free capacity while behind the wheel. This includes using the speaker function on the phone as well as the vehicle's sound system via bluetooth. Recent case law, however, has held employers liable for figures above $20 million when determining fault for crashes when hands-free devices were utilized. Hands-free devices do not make driving any safer than hand-held devices; drivers using a cell phone in any capacity are four times as likely to crash (On The Road, n.d.). Although it may not be legally required, consider going above and beyond the law by banning cell phone usage in all forms while behind the wheel (including hands-free usage). To support this effort, drivers can place their phones in "Do Not Disturb" mode while behind the wheel.

6 Consider Technological Assistance

There are a plethora of apps, devices, and software systems available to support companies in the monitoring and enforcement of safe driving principles. Give thought to utilizing technological assistance, such as apps which lock cell phones while traveling at certain speeds, to ensure compliance with the corporate distracted driving program.

7 Define Your Discipline Policy

It is important that a discipline policy specific to safe driving be incorporated into your distracted driving program; the policy should clearly outline both the short- and long-term repercussions of specific offenses. For example, does going ten mph over the speed limit have the same repercussions as drafting an email response while operating a vehicle? At what point are driving privileges suspended and/or terminated? The elements of the discipline program must be clearly stated and consistently applied to all employees at all levels of the organization.

8 Consider Practical Implementation

A distracted driving policy must be practical and reasonable in order to be enforceable. Considering that you have expectations for your drivers during a workday, how will you make the policy a long-lasting implementation into daily activities? Put thought into new corporate rules and/or guidelines that will support your distracted driving policy, such as:

- During a teleconference, ask each attendee at the call's onset if they are behind the wheel; if they are, instruct them to hang up and call back in once safely parked and off the road.
- Allow employees to eat breakfast during the morning meeting so they are not pressured to eat while driving to work.
- Explain the distracted driving policy on work phone voicemails so that calling customers understand and appreciate the potential lag time between call and response.
- Plan breaks into long road trips so that important calls and emails can be responded to in a timely manner.

9 Perform a "Soft" Roll Out

Who better than your employees to help you identify potential snags in your policy? Before disseminating the new distracted driving policy to the entire company, ask a few key members of your team to review it and provide feedback. Not only will this step result in practical ideas and solutions, it will also create a team of supporters to help with buy-in once the policy goes into place.

10 Roll Out Your Policy

As is true with the majority of corporate changes, in-person meetings are preferred to answer questions, gather excitement, and gain acceptance. Once your distracted driving policy is generated, hold a companywide meeting to discuss the plan and set clear expectations. Explain why the policy is important to the company and allow for plenty of time for questions, comments, and feedback. Pass out a copy of the policy and ask that each employee sign in and return it as a written record of acceptance. In addition, encourage them to take the documents home for discussion with family members. Support from outside of the workplace is a very strong motivator in work-centric safety programs.

Car crashes are the number one cause of workplace fatalities (On The Road, n.d.). No job task, no matter how seemingly important in the moment, is worth the price of a human life. Diligently enforcing your company's distracted driving policy, without exception for key members or key roles, will ensure eventual acceptance and integration into your company's safety culture. DP

Julia Kunlo is a Certified Safety Professional (CSP) with extensive experience in construction health and safety. Along with being an OSHA Outreach Construction Trainer, she is an adjunct instructor for the National Safety Council and their affiliated state chapters. Julia can be contacted at j.kunlo@evolutionsafetyresources.com.

The CGA Technology Committee is dedicated to the discovery, education and development of innovative technologies that improve damage prevention practices in the excavation industry. By facilitating the exchange of ideas between industry experts, CGA members, service providers, and other resources, the committee curates and shares this knowledge throughout the Alliance via case studies, webinars and articles.

The Committee is focused on expanding knowledge of:

- **Emerging technologies that can be applied to improving excavation safety and reducing damage**
- **Existing damage prevention practices that can be enhanced using technology**

Additionally, the committee will actively advocate for the reduction of technology gaps in the utility industry, addressing the historic challenges of subsurface utility locating and excavation. Read about a technology that was presented on one of the Committee's Webinars. If you or a company you know has technology that could help others in our industry, please visit Common Ground Alliance to submit your technology to the Committee.

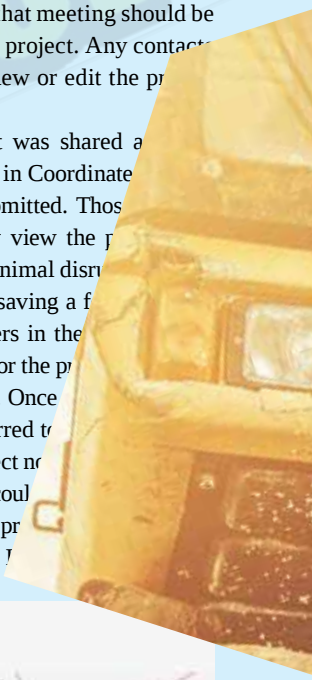
What is Coordinate PA?

Coordinate PA is the web application developed to help maximize the benefits of shared costs and much more, combined with the ongoing efforts to prevent damage to underground facilities. Coordinate PA enables users to add and/or import existing projects, coordinate opportunities with others who want to collaborate, share project communications with designated contacts, and notify facility owners at any stage of a project. When transitioning a project to the construction phase, complex project tickets can be created and communications continue through to the conclusion of the project.

and times, and a bid date, they can share this information. The project is shared with all other project owners, facility owners, and designers that have access to Coordinate PA. After saving the project, Coordinate PA prompts the creator to complete the required design ticket at that time, helping them stay compliant with Act 287 as amended. All of the information collected at that meeting should be uploaded and attached to the project. Any contact that would need access to view or edit the pr should also be added.

What's next? The project was shared a cussed at the meeting, placed in Coordinate a design notification was submitted. Thos tended the meeting can now view the p work together, resulting in minimal disru infrastructure and hopefully saving a f the same time. Facility owners in the ceive the design notification for the pr an opportunity to collaborate. Once is done, the project is transferred t to complete the complex project n

The project owner who coul UCC meeting can then enter pr into Coordinate PA separately.



Coordinate PA: The Next Generation of UTILITY Coordination

BY KARI CAMPBELL & MARCOS BERNAL

Utility Coordination Committees and the Use of Coordinate PA

Pennsylvania One Call System, Inc. participates in 24 Utility Coordination Committees (UCC's) strategically placed around the Commonwealth. Project owners, facility owners and designers attend these monthly, bimonthly, or quarterly planning meetings with the intent to share their upcoming projects in hopes of coordinating efforts to reduce damage to underground facilities, downtime, disruption to the public, and cost. UCC's create an officer group to help run the meetings, create an agenda to keep the meeting on track, and help organize meeting times and places while documenting changes and agreements that were communicated. The UCC members bring their maps, plans, blueprints and lists of upcoming jobs being developed but not yet planned. The objective is to share these projects with every attendee to come up with an efficient plan.

Coordinate PA is the secure repository that the UCC's use to store all of the information collected at these meetings. The project owners at the meeting work with their designers to place all of the information shared along with a map into the Coordinate PA application. Once they complete the necessary information which includes location, planned start dates

mit overlaps that of other projects in dates and location, they receive an alert in their project list that there is an opportunity available and can view the project details including the contact information listed.

When industry professionals take the time to sit down, meet each other, and share their issues and concerns, they work better together. Coordinate PA is a tool designed to help stakeholders connect and stay connected after their meeting has ended. DP

Kari Campbell is a Marketing Manager at Berntsen International and the Technology Committee Campaign Chair. Marcos Bernal is Senior Liaison Representative, Pennsylvania One Call System, Inc.

CONSTRUCTION ANGELS PROVIDE SUPPORT FOR GRIEVING FAMILIES

Construction Angels, a south Florida-based non-profit, was created to facilitate access to financial services and grief counseling for immediate surviving family members of construction workers who have lost their life while working on a jobsite.

In 2018, Construction Angels had affiliate chapters in four states. Today there are twelve Construction Angels chapters serving Delaware, Florida, Georgia, Maryland/DC, Michigan, Nebraska, Ohio, Virginia, Montana, South Dakota and Wyoming. CEO Kristi Gibbs' intent is to have a chapter in all 50 states within the next 10 years. To assist with this goal to expand nationwide, Cheryl Ritter, formerly the Damage Prevention Manager for Sunshine 811, now serves as National Marketing Director for Construction Angels.

In August 2018, a Scholarship Program was launched by Kristi and Richie Gibbs to provide additional aid to surviving children for continuing education. Construction Angels is now accepting applications in Florida, Maryland/DC, and Michigan.

Construction Angels Board of Volunteers donates their time to the cause because they believe in what Construction Angels does for the families and how important this one-of-a-kind charity is to the industry.

We all know how important safety is to the industry and for the people we work side-by-side with every day. We encourage you to find an organization or volunteer for a cause that means something to you. Whether it is industry related or not, one small gesture can mean the world to someone and may just change their entire day.

Infrastructure Resources is donating a gift to Construction Angels, on behalf of the Subject Matter Experts who donate their time and talent to provide educational content for the CGA 811 Excavation Safety Conference & Expo. To learn more about Construction Angels, please visit their booth (#442) at the Conference in Palm Springs or visit ConstructionAngels.us. DP

BY DR. GEORGE KEMP

CREATING A CULTURE OF SAFETY

Safety is integral to how we do our job of providing fast, reliable fiber optic internet, phone and television to our customers every single day at MetroNet. We're revolutionizing the way we do business and we want to invite other telecommunications companies to share in this vision as we grow.

MetroNet has a training facility set up in one of our largest markets, and it is available to employees, contractors and locators. The training facility program includes poles going through trees and vaults in the ground with conduit. The concept is to invite all contractors, locators and others to utilize the training facilities for damage prevention purposes. It is a great representation of an actual fiber distribution system. For training purposes, it provides opportunities to see exactly how it should be built and examples of common mistakes to avoid. Our goal is for the participants to get hands-on, real-life experience in a safe and guided environment.

The goal of the training facility is to be able to increase safety across our network and reduce damages. We utilize our Lexington Training Facility to train our MetroNet Associates so they know how to safely build construction in neighborhoods. Third-party locators use this facility to learn how to respond to problems and complications that could arise during a build. We train our associates, contractors and locators to know the appropriate way to construct our fiber optic internet network as safely and efficiently as possible.

In order to serve our customers and ensure we're upholding the highest industry standards, our contractors and associates are required to use the training facility. We do not require locators to attend mandatory trainings at our facility, but the facility is open for their use should they choose to.

We're currently working to expand our training facility footprint as we construct a new facility in Tallahassee. It's set to be completed this coming summer.

We believe that the training facility provides the opportunity to make mistakes and to learn from them in a safe environment and in doing so, brings awareness to damage prevention and how to avoid making mistakes. The facility has been in full operation for over a year. As we continue to innovate and expand our safety network, we look forward to sharing the impact it has on safety operations in our communities.

We have extended an invitation to locators in the industry to use the training facility to help train their personnel, and we've seen numerous contractors and some locators utilize the facility as well. As we grow and expand our safety footprint, we believe we will see more people from the industry using it. We also welcome our competitors to use our training facility so we can all deliver the highest safety procedures to all customers.

From our company's inception, safety has always been a top priority. We take it very seriously and we are constantly working to improve, learn and create new ways to become leaders in the safety industry. As our company continues its growth, so will our safety protocol. We are excited to see what the future holds and look forward to the innovation and expansion that is sure to come. DP

Dr. George Kemp is Vice President of Safety & Quality Assurance at MetroNet Inc. He serves as the Chair of the 811 Damage Prevention Committee in Indiana, where he represents the telecommunications sector.

JULIE Nets Win with Chicago Wolves

• BY KEVIN T. CHMURA •

IMAGINE IF the idea of Calling 811 Before You Dig was engrained in the minds of the next generation of excavators from an early age. This is a concept JULIE, Inc. (JULIE), Illinois' One Call System, looks to develop through strategic partnerships and outreach efforts.

JULIE found the perfect partner to help them reach children and their families with The Chicago Wolves, a professional hockey team in the American Hockey League which plays home games in Rosemont, Illinois.

For the past eight years, JULIE has been a proud presenter of The Chicago Wolves' "Read to Succeed" community initiative. The Chicago Wolves began this successful educational program more than two decades ago with the goal of encouraging students to make reading a fun and rewarding part of life. With a little encouragement, children learn to see the fun in picking up a book. They also learn about safety and damage prevention through interaction with the Call Before You Dig message.

"The Wolves are incredibly blessed to have a like-minded partner in JULIE who invests in the education of our youth," said Greg Sprott, Senior Director of Partnerships with The Chicago Wolves. "The success of the program speaks to the effort and dedication of our staff, our players, and our partners all working together with a common goal."

The "Read to Succeed" program targets students in kindergarten through eighth grade. Students are inspired to excel at existing or new reading programs at school and receive a reward for their efforts. The Chicago Wolves supply posters and free reading logs to help support these reading programs. Students who complete their reading programs receive a certificate for a complimentary ticket to a Chicago Wolves home game. Players from the team visit schools and libraries to promote the program and speak about the important role education plays in their lives as professional athletes.

Through this unique partnership, JULIE spreads their brand message to more than 100,000 students and their families annually. JULIE receives a logo presence on all program materials which include bookmarks, goal charts, posters, and take-home materials to process the complimentary Chicago Wolves' ticket. The program also allows JULIE to leverage Wolves' social media followers with posts and pictures of player appearances.

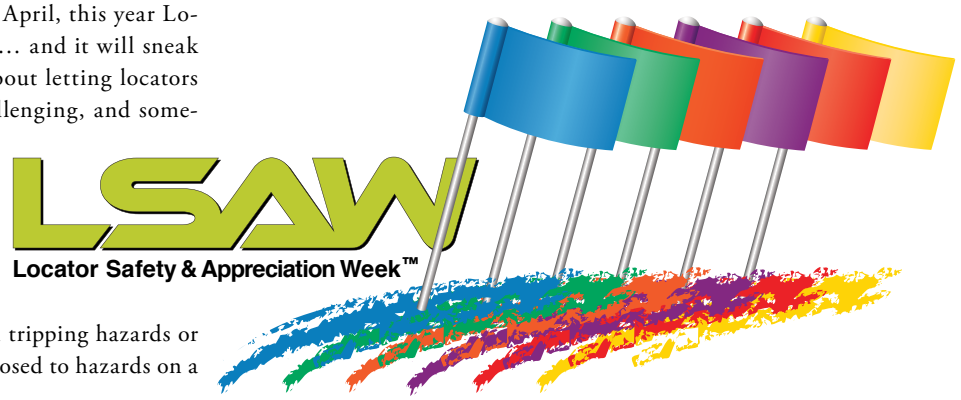
"This is a partnership we have seen continue to grow and expand over the last eight years," said Barb Owen, Public Relations Manager for JULIE. "Reading is such an important fundamental skill that will help students excel in school and life, which is why we are happy to be a part of the program. The program also offers a fun platform for promoting our message about safe digging."

JULIE is recognized as an official educational partner of the Wolves and receives exposure on the Wolves jumbotron and 360 LED Ribbon during school day games. An educational workbook produced by the Chicago Wolves has math related content with Wolves Jersey numbers for students to solve, (HINT: 8-1-1 is the answer!). DP

Kevin Chmura is the Director of Public Relations for JULIE, Inc. Kevin is a member of the CGA's Educational Programs and Marketing Committee and One Call of America's Mark-it! Madness Committee. Visit illinois1call.com or contact him at chmura@illinois1call.com.

Locator Safety & Appreciation Week

ALWAYS OBSERVED on the last full week of April, this year Locator Safety & Appreciation Week is April 20-26… and it will sneak up on you sooner than you think! LSAW is all about letting locators know how much we appreciate the difficult, challenging, and sometimes dangerous work they do protecting our underground utilities.



Working outdoors, at private residences and public facilities, exposing themselves to the risks of dog bites, insect stings and extreme weather conditions, in terrain that may be uneven and contain tripping hazards or poison ivy and other skin irritants, locators are exposed to hazards on a daily basis that make their job difficult.

Given the challenges of the job on which so much depends, LSAW is a great time to show appreciation for these unsung heroes of the damage prevention industry. There are many creative ways to do this and the most effective strategies are ones that invite people to take responsibility for safe practices and encourages them to campaign for safety both on and off the job. Here are a few ideas:

- Hold a safety contest on your website or Facebook page. Offer a daily prize to everyone who identifies an unsafe practice in various daily photos. This is a great way to have locators return to your page each day for additional safe locating information.
- Ask locators to come up with ideas for safety slogans. Getting people to invest in building a safety culture is a great way to engage people and give them a sense of ownership in your program.
- Ask people why they work safe and why it is important, and then film their answers. What a great way to get people thinking about safety! Uploaded and share the videos through YouTube.
- Hold a locator safety coffee break and provide coffee and treats. Engage in both formal and informal discussions on safety while communicating thanks to locators for their hard work.
- Instead of a coffee break, do the last suggestion as an appreciation lunch.
- Play safety games: Safe Practices Bingo, or Safety Word Search puzzles are just a couple ideas. Be creative and try to involve everyone in the planning. The more people feel invested, the more they can share their excitement with others.
- Let locators know they are appreciated with small gifts like coffee mugs and t-shirts that combine a safety message with your company logo. Not only does this make the locator feel appreciated, but it's a great way to get the word out.
- Reach out to the media to get some local coverage. Even a small notice in a newspaper or a 30-second story on a local television or radio station can help educate the community at large about the valuable role that locators play in keeping neighborhoods safe. It's also a perfect opportunity to enhance your image within the community.

These are just a few of the possibilities. When you add your creative ideas to the mix and take advantage of all the FREE resources provided by Infrastructure Resources on the LSAW website (www.locatorsafety.com), planning your involvement in Locator Safety & Appreciation Week could not be easier.

This year, as in previous years, suggested daily social media posts are available for download. Post or share these messages to provide daily safety reminders throughout LSAW. Public interaction like this helps to increase positive attitudes about the important job locators perform. What better way to show appreciation for locators than by spreading the message about the critical work they do?

Other free downloads are also available on the website including safety greeting cards to distribute to your locators, safety posters to hang in your break room and web buttons to proudly share your participation in LSAW on your website.

Don't miss this wonderful opportunity to let locators know that their hard work is appreciated. Safety is important year around, day-in and day-out, but LSAW is a time to build general safety awareness that can empower locators to take responsibility for their own safety as well as the safety of others. DP

Share your LSAW ideas and successful events with us by sending them to Karin@emailir.com for publication in an upcoming issue of dp-PRO.

Infrastructure Resources Initiative
IR is dedicated to helping the industry save lives through education. Look for this icon identifying articles on programs and initiatives created by IR to help us meet this goal.

Updates on Minnesota's One Call Law (MS216D)

• BY MIKE MENDIOLA •

AS THE SPEED of technology grows, so does the ability to easily submit locate requests. This, in combination with accessibility via mobile devices, results in the growth of ticket volumes year after year. Excavators have the responsibility to comply with One Call laws and dig safely while facility operators are challenged with responding to tickets quickly and accurately. The demand to thoroughly facilitate locate requests affects everyone from the One Call center to the locate technician in the field. For everyone to comply with state regulation while improving public safety, each state should periodically review One Call laws to identify areas of improvement.

As 2020 legislative sessions approach for states across the nation, stakeholders in Minnesota have already begun conversations to improve the state's One Call Law — Minnesota State Statute 216D (MS216D). The Minnesota Office of Pipeline Safety (MNOPS) is currently facilitating review meetings to bring stakeholders in the damage prevention industry to the table and work together to improve Minnesota's One Call Law. Stakeholders in the excavation, facility (utility) operator, One Call center, locate, engineer/survey, and municipal industries met the week of Nov. 18, 2019, to engage in effective communications. Stakeholders met again the week of Jan. 13, 2020.

During these meetings, MNOPS listened to feedback and continued to improve the proposed statutory language that was initially submitted for legislative review in October 2019. While not every stakeholder shares the same view on each proposed language change, it is important everyone has an opportunity to share their own experience and offer solutions for improving state laws.

Jon Wolfgram, chief engineer of the MN Office of Pipeline Safety, conducting one of the MS216D meetings.

Anyone who has been involved with legislation understands the amount of time and effort it takes to ensure conversations are constructive and meaningful. The key element in improving One Call laws is working together as a unified voice. This involves sharing ideas, supporting viewpoints with metrics and data, and keeping in mind how our work affects public safety. In doing so, we in Minnesota, and other states, will be able to hold ourselves accountable for the betterment of public safety. DP

To view the proposed Minnesota One Call Law changes, visit dps.mn.gov/divisions/ops/forms-documents/Documents/MS216D_12-18-2019%20proposed%20language%20revisions.pdf. To view current Minnesota One Call Laws, visit revisor.mn.gov/statutes/cite/216D for state statutes (MS216D) and revisor.mn.gov/rules/7560/ for rules (MN rules 7560).

MISS DIG 811 Celebrates 50 years!

• BY BILL FISHER •

MISS DIG 811 was established in 1970 by five major Michigan utility companies as a pilot program in Oakland County to reduce damages to their underground facilities, prevent injuries, and save lives. Since its inception, we have expanded significantly by adding two additional notification centers, moving from phone calls to primarily web-based ticket taking, and introducing the ability to place design tickets. Additionally, House Bill Public Act 174 was passed in 2013 to provide definitions and enforcement as key parts of the protection of underground utilities.

2020 marks our 50th year in operation. To celebrate, we will be hosting many events across the state to spread awareness of our organization and safe digging practices. Festivities were kicked off this January with our Annual Meeting and Education Expo in Mt. Pleasant; former employees and Board members were brought in to show our appreciation for their dedication to underground utility safety. To observe National Safe Digging Month in April, we are hosting an event in Utica at Jimmy John's Field. In honor of 8/11 Day in August, we will have the 811 Hot Air Balloon present at celebrations at the Michigan International Speedway, the Michigan Infrastructure & Transportation Association, United Shore Professional Baseball League, and the Woodward Dream Cruise.

As we acknowledge our history, we look forward to a bright future! DP

What's Wrong With this Picture?

WHAT DID YOU FIND WRONG?

- Too many people in the small area.
- Using a hoe when shovels would be more prudent.
- The excavation has not been shored to keep remanding walls of spoil from falling in.
- It would be difficult to see the person directing the excavator operator behind the large bucket.
- The proper PPE is not being worn by several people in the picture.
- An excavator is digging out the buried man; that process should be hand digging or vacuum excavator.
- I see no emergency professionals on site!

Photo courtesy of Eric Giguere, Founder of Safety Awareness Solutions

Our Winter Edition Winner is Tim Branderhorst, *Engineering Inspector II, Orange County Public Works,* in Orlando, Florida.

Congratulations Tim!
Your $100 gift card is on the way!

What's Wrong With this Picture?

AS WE ENTER a new decade, it's clear we have come a long way in damage prevention. When it comes to safety, it's all in the details. Every day, we're faced with choices between safety, efficiency, and productivity. While we can't always know the circumstances surrounding a situation, and we should never jump to conclusions, sometimes dangerous situations are obvious. Being able to identify those situations and taking action to fix them increases everyone's safety. What would you change to make this situation safer? *Photo courtesy of Michael Twohig, Subsurface Utility Mapping at DGT Associates, Boston.*

Every correct answer received will be entered in a drawing for a $100 gift card!*

**One submission per person. Please include your contact information. Spring contest closes April 17, 2020.*

- **email your answer to karin@emailir.com**
- **text it to 651.321.4246**
- **capture the QR above and answer online**

DO YOU HAVE A PICTURE FOR OUR "WHAT'S WRONG WITH THIS PICTURE" DEPARTMENT? SEND IT TO KARIN@EMAILIR.COM DP

Damage Prevention: Legislation or Collaboration?

• MIKE SULLIVAN •

FOR ALMOST four years of my life, bill S229 seemed to be all I lived and breathed! Working with Senator Grant Mitchell, MP Lloyd Longfield, Parliamentary lawyers, stakeholders and interested parties across the country as we drafted and refined legislative language was a tremendous experience. There were successes and challenges – perhaps none bigger than when S229 was challenged as a money bill in 2017 after it had been adopted by the Senate and just before the House of Commons rose for the summer. Across the country, damage prevention partners held their collective breath until the Speaker of the House, Geoff Regan, responded in September and clarified S229 was in fact not a money bill. Soon after, S229 was tabled in the House of Commons by MP Lloyd Longfield. Although it never proceeded further along that legislative path, it also didn't perish.

While the Canadian Common Ground Alliance (CCGA) worked on the bill, Public Service and Procurement Canada (PSPC) was, in parallel, reviewing the proposed legislation, as well as seed documents from which S229 emerged, and saw an opportunity to enhance their current capability for underground infrastructure.

> "After one month, PSPC was surprised to learn it had been notified of ground disturbances near their underground infrastructure over 160 times, triggering 46 locates."

Consequently, PSPC reached out to the CCGA to explore the notion of a damage prevention pathfinder project for the National Capital Area (NCA) and after an agreement and Memorandum of Understanding was established with PSPC, a team was assembled under the leadership of Ralph Collins and Ravi Sundararaj to register all PSPC assets in the NCA, and their buried energy and utility networks, with Ontario One Call.

In April 2019, PSPC completed registration of its underground infrastructure in the Ottawa portion of the NCA with Ontario One Call. They were ready to receive notifications of proposed ground disturbances near their assets and to initiate a damage prevention process to protect the integrity of their buried plant and all customer services relying on them.

After one month, PSPC was surprised to learn it had been notified of ground disturbances near their underground infrastructure over 160 times, triggering 46 locates. This early data set PSPC on pace for an estimated 1,200 to 1,500 notifications during the 2019 digging season – and for the most part, these ground disturbances would not have been identified without registering PSPC data with Ontario One Call.

Next, PSPC is working to register its underground infrastructure in the Gatineau side of the NCA with Info-Excavation, Quebec's One Call notification service. And in the months that follow, PSPC underground infrastructure assets will be registered across Canada, applying a consistent approach to damage prevention.

At the same time PSPC undertook to champion the protection of underground infrastructure, it leveraged the results of the NCA Pathfinder Project to its regions and to other federal custodians of real property, all achieved without legislation, and demonstrating the same objectives can be achieved through government and industry collaboration. DP

Mike Sullivan is President of Alberta One-Call Corporation and serves as President of the Canadian Common Ground Alliance representing the collective voice of damage prevention across Canada. He can be reached at msullivan@canadiancga.com.

OCEANIA
DAMAGE PREVENTION CONFERENCE

Save the Date
November 18-20, 2020

Platinum Sponsor:

DIAL BEFORE YOU DIG
www.1100.com.au
The Essential First Step.

"It is the first conference that's brought together a large international contingent to learn about damage prevention and help develop our industry in both Australia and New Zealand."

- Innes Fisher, Utility Location Services Ltd

Registration Open

Join colleagues from across the Oceania region for the 2020 Oceania Damage Prevention Conference. This event educates stakeholders on damage prevention and safe excavation while showcasing best practices and international learnings on damage prevention efforts for underground assets and essential infrastructure.

"The knowledge sharing... is what it's all about."

– Neil Weatherly, APA Group

Call for Papers

Share your industry knowledge and be recognized as an expert in your field by telling an exceptional story, addressing a concern specific to one or more stakeholder group, providing distinctive training or education, and/or promoting the damage prevention message in a unique way.

Gold Coast Convention and Exhibition Centre
Queensland, Australia

OceaniaDPC.com

The Fiber Optic Association (FOA)

• JIM HAYES, PRESIDENT •

THE FIBER OPTIC Association (FOA) is the international professional society of fiber optics, chartered to promote professionalism in fiber optics through education, certification and standards. FOA is focused on enhancing the competence of the technicians who build the fiber optic networks that connect the world: the Internet, telecommunications systems (wired, wireless and fiber to the home), data centers, utility grids, corporate LANs and just about every communications system.

The FOA traces its roots to a meeting of a dozen fiber optic trainers at the 1995 "Fiber U Fiber Optic Training Conference." Fiber U was an annual week-long fiber optic training event created by FOTEC Inc., a fiber optic company in Boston, MA. Fiber U consisted of mornings devoted to classroom courses and afternoons where attendees got hands-on training by numerous vendors of fiber optic equipment.

The fiber optic industry was only about a decade old in 1995 and many people were interested in getting trained in this new technology. During that meeting of Fiber U instructors, the discussion focused on the need for a professional society that would set standards for fiber optic training and offer certification for fiber optic technicians. From that discussion, the FOA was founded.

Over the last 25 years, the FOA has grown to be a worldwide organization with over 200 affiliated training organizations in more than 40 countries, and has certified more than 80,000 fiber optic technicians. Born at the beginning of the Internet, the FOA is a virtual organization. There is no "brick and mortar" FOA headquarters, instead there are workers and volunteers around the world who communicate and collaborate over the communications networks they help build.

The FOA has created the world's largest knowledge base on fiber optics which is made available to everyone free of charge. The collective knowledge of FOA advisors has created six textbooks on fiber optics and cabling. There are almost 1,000 pages of technical information on the FOA website that are downloaded four million times a year. FOA's 100-plus YouTube videos have been viewed three million times. Most of the basic material is available in Spanish and French as well as English, and translations into more languages are in progress.

The FOA even has a website that offers free online self-study courses in 15 topics on fiber optics, from construction of cable plants to testing for terabit networks.

The FOA focus is on training fiber optic techs to ensure a competent workforce that knows how to install, test and operate fiber optic networks. FOA certified techs must meet the requirements of the FOA KSAs – the knowledge, skills and abilities – needed to install fiber optics properly and safely.

Safety in fiber optics involves personal safety when pulling, splicing or terminating fiber, of course, but safety in construction is just as, if not more, important.

Fiber optic techs working on OSP (outside plant) aerial and underground installations must know how to work safely. Aerial installers deal with the dangers of working on poles or in bucket trucks, often near high voltage electrical conductors. Underground construction deals with techniques like trenching, microtrenching and directional boring that are often done near other buried utilities that must be located and avoided.

FOA has been persistent at ensuring fiber techs understand the safety issues of construction, especially underground construction where installation is often in areas with many other buried utilities. In addition, all techs must know about the "Call Before You Dig" program and publications like *dp-PRO* where assistance is readily available. DP

Utility Designation Overseas

• DIMITRI PAYNE •

THE PROSPECT of flying halfway around the world for a project involving utility designation might seem like an exciting but nearly impossible task. When the opportunity came around for my firm, Utility Professionals Inc (UPI), I jumped at the chance. The challenges I tackled made me a better utility designator. I picked up a few lessons learned that I hope can do the same for you.

Base Naval de Rota is nestled on the western coast of Spain in the city of Rota, Cadiz. Home to the U.S. Naval Forces Europe, the base is the largest American military community in Spain, housing more than 3,000 U.S. Navy sailors, Marines and their families. Since it was established in 1953, the base is now in the process of updating and improving their infrastructure to support their growing population, which was how my firm got involved. UPI was brought on board in early 2019 to provide utility designation services to help create mapping for the expansion of the base.

The challenges of providing utility designation services overseas including traveling with equipment, lack of existing plans, and even wildlife did not stop us from completing our mission. At the end of our stint, the experience and hospitality we received will ever stay within our minds and provides the excitement to one day return. Here is how we dealt with some of the more difficult challenges that came along with utility designation overseas.

Shop Local

Traveling is expensive. Traveling with equipment, supplies and essentials, or shipping to the hotel, was not feasible, and so our team had to create a solution to ensure we had the tools needed to accomplish the work. We enlisted the help of a local hardware store that we visited and got many of our typical tools. Not all the tools we have here in the states were available, so in some cases we had to improvise. The tool I missed the most was the paint stick to hold the paint. I had to hand paint each mark for over 100 acres!

Enlist Allies

Working in older areas, we always look for plans and as-builts to help us in our prospecting of utilities, giving us an edge to know what to expect. When visiting the local department, we found that a staff member working on the base for over 30 years provided better information than the plans recovered. With an impeccable memory and many great stories, he helped us find out where undetectable utilities lie.

Respect Native Wildlife

Nothing prepared us for the biggest challenge – wildlife. Many of the sandy and palm tree-lined areas included dense shrubs that needed to be cleared. While planning, we could not remove any shrubs unless an environmentalist confirmed that the area was outside the homes of an endangered species, the chameleon. To keep the chameleons' habitats safe, we omitted mapping those portions of the site.

Give Back

Utility locating services brought UPI to Rota, however we got the opportunity to experience much more. Instead of disposing of tools and used and unused PPE, we donated everything to the Self-Help Program, which capitalizes on the skill levels and manpower of Navy personnel to perform minor maintenance and saves the Navy money.

The experience we gained, both externally and internally, made us understand and appreciate the success of our mission. We look forward to completing more projects overseas in 2020, including projects in Africa and Germany, where we will apply the lessons we learned in Spain and tackle new, exciting challenges. DP

LEADING
PEOPLE

BY MONICA WOFFORD, CSP

A Leader's Game of Telephone

Jack and Diane were leaders. Both believed they were good communicators and yet one was better understood than the other. It was Jack who shared the clearest coaching guidance and Diane who directed the best urgent action. Their styles were part of who they were. Their personalities both held leadership potential and skill, but their teams were very different. One leader modified any message to meet the team's preference and acumen. One didn't. One was understood well, and one wasn't. One felt they were in a game as old as the song with their same names. In truth, the game of telephone is likely older than the song and it happens every time a leader thinks what they said is clear, until it comes back around, having made the rounds of the entire team, and is twisted beyond recognition. Want to lead better? Stop playing games with your team and meet them where they live, so to speak. Speak how they speak and in ways they easily understand. The game of telephone begins with a need to conduct interpretation and is fostered by misunderstanding. Avoid the need for those you lead to do both. These three steps are critical and will help.

Mind the Gap

Jack was a laid-back guy. He cared immensely, unless you wronged him. He hated conflict and he hired a crew, over the years, that was very similar to him in nature. He got them. They liked him and they even, at times, hung out after work and on the weekends. The gap in how they thought, what they valued, and how they worked, was minimal. Diane was less fortunate. A driven, ambitious young leader, she'd recently taken over one of Jack's old divisions. He'd hired her new team before her arrival, and many of them were just like him. Diane was not just new, but radically different in her approach and style and preference. "We'll get to it." was not a favorite phrase, nor even really in her nature. She had no patience for "that's how we've always done it" and she didn't see the value in these words or phrases: relax, calm down, or chill out. The gap between her style and that of those she led was significant. The gap led to frustration, which made her strength come out even louder and stronger. Her direction, which she thought was clear, turned into reports that she was bullying and didn't like any of them. The game of telephone had struck again. What she said and how she said it was not what they heard nor how they interpreted her direction. The gap was slowing performance because so much time was spent on a lack of clear translation of her message and intention. How big is the gap between your style and that of those you lead? How might you close that gap and get back to everyone focusing on their work?

Make Changes

Insanity can be defined as doing the same actions repeatedly and expecting different outcomes immediately. In leadership, turnover is rooted in this same behavior. Poor performance can also be traced to a leader who fails to connect, much less motivate and influence, and makes no changes in their approach to employees who are different. If Diane didn't change a thing, what she wanted and needed from the team would continue to be slowed by the need to address perceived bullying, or at a minimum, rampant misunderstanding. Did she ever call the team slow or weak? Of course not! What she said was get it done and quick, but as the message filtered its way through the team, what she'd said and what was heard were two different things. The game of telephone persisted and provoked worse behavior until she made some changes. She began to be less frustrated and more interested in development. She reassured the "guys" that she and they would grow together. She let them know she had their back, regardless. She built trust and made that her focus. It wasn't what came easy, but it was what was needed to effectively lead her team members. What modifications might you need to be making? And are you willing to lead your own thinking in that you might need to initiate the changes before you see them in those you're leading?

Manage Expectations

Ready to change or not, whether your gap is large or small, chances are good that your expectations are partly to blame for any frustration experienced in your position. Your communication is only as clear as the level of understanding of those you lead. Your motivation is only as strong as the influence you've developed with this team. And both are measured by you based on what you expect they "should" be doing. If the gap between your style and theirs looks more like a canyon, your expectations are going frequently un-met. If you change nothing in your leading behavior, consider at least truly adjusting your expectations to what appears to come naturally to them. The alternative is continuing to lead as you wish, but not as they need, enduring perpetual miscommunication in what feels like a never-ending round of the telephone game we all sat in a circle and played as children.

Whether you lead a team who lays the lines, flips fuses, or locates buried cables, all leaders must be aware of these issues among those they have the privilege of leading. Minding the gap is like measuring pole-to-pole distance. Making modifications is like changing to a fuse that can handle more amperage. And managing expectations is leading the effort to connect even when there are issues not readily visible at the surface. The goal in all is to lead without mimicking a children's game. The goal in all is to lead with clear understanding of what you're asking of those looking to you for direction. The outcome is becoming a better leader who knows about the game and has enough self-leadership, humility, initiative, and skill to choose not to play it. DP

Monica Wofford, CSP is a leadership development specialist, keynote speaker, and executive coach. For more information on her books, training firm or coaching services, call 1-866-382-0121, or go to www.ContagiousCcompanies.com.

THIS COLUMN EXPLORES TIPS AND TECHNIQUES TO IMPROVE YOUR ABILITY TO COMMUNICATE WITH CO-WORKERS, CUSTOMERS AND INDUSTRY STAKEHOLDERS.

Think Global. Go Global. Be Global.

• TAMMY WILFONG, SR. MANAGER NETWORK ENGINEERING & OPERATIONS, VERIZON •

THIS PAST October, a team of missionaries began their travel to Guayaquil, Ecuador. For some, it may have been their first missionary experience, but for retired pastor Richard Dial, it was his 52nd mission to Equador. In 1993, Richard was called to join a construction team that would serve through building a place for the community to receive free medical assistance. Over the past 26 years, missionaries have witnessed events beyond imagination and this trip was no different.

Less than two weeks prior to our departure, Richard received an email from the mission facilitator. The email described a city under duress due to a government-imposed tax increase which resulted in significant inflation for gas and food prices. The mission facilitator cautioned, "There is chaos and disorder in our nation… All cities are paralyzed being affected by food shortages and the high cost of service." This news did not deter our missionary team. As we began to understand the severity, there were concerns that additional arrangements would need to be made to avoid a risk of exposing our team to crime, but we were more determined than ever to go and serve the community during such a tumultuous time.

Our team left as planned and did not encounter issues. Within ten days, the country had calmed and our entire week was conducted with purpose and true compassion. Over 750 Ecuadorians prayed and opened their lives to accept Jesus Christ as their Lord and Savior. Nearly 300 of them came together as a community to fellowship with each other as a new Church. Considering the struggle and strife their country has endured, we wanted to bring joy and peace. An 82-year-old woman shared that she had lived in that neighborhood her entire life, and this week was the best week she has ever experienced.

During our trip, Hands of Compassion, a non-profit organization, arrived as planned for the hundreds of people lining the entire block. Dentists and doctors performed free medical exams, spending hours providing much needed medical care.

I can personally say, serving as a missionary is at the top of my list of the most fulfilling life experiences.

"We must have Global Christians with a global vision because our God is a global God." – John RW Stott DP

READERRESPONSE

Article: Picture Perfect, Winter Issue 2019

by Troy Hoffman

I AGREE with the recommendations in the article and only offer the following supplemental suggestions:

1. A small dry erase board (maybe 1' x 1') is handy for making explanatory notes to set in the frame of the picture. Example notes could include "looking west from 10' N of gas meter" or "detail of damage to auger." Handwritten notes are great in a notebook, but nothing beats documentation in the photo itself.

2. The enlarged distance marker is a great idea for pictures of the overall scene, but remember to include a ruler or tape measure in pictures to capture the scale of photos showing detail of features having small dimensions/distances.

3. Portable lighting, even if just a good quality flashlight, can be useful in generating low angle light to highlight peaks and valleys on surface features that become less visible when ambient light is directly overhead. Examples include gouge marks on pipe. – ***Bill Amend*** DP

LOCATING

BY CHRISTOPHER KOCH

No UPSIDE

A line locator is a fairly simple tool – a coil (or coils) in the receiver produces an electric charge when exposed to a moving magnetic field. That charge is communicated to the user via an audible tone and/or a visible display. The source of that moving magnetic field, known as signal, is usually a transmitter, but it doesn't have to be. That's it. A current generated in the receiver indicates the presence of a signal. The stronger or more proximate the signal, the greater the induced current. As the receiver is moved horizontally through the magnetic field, current increases and decreases relative to that proximity.

It's a straightforward mechanical function that is highly reliable in most circumstances. It provides such a sense of reliability that state legislatures have seen fit to dictate 18-24 inch requirements for horizontal accuracy. Although disputes occur, locators and excavators are for the most part comfortable operating within these parameters. It's a testament, really, to the beauty and reliability of a technology that was first deployed a human lifetime ago.

For all the focus on horizontal accuracy, locate technicians are loathe to provide depth measurements to excavators, and in spite of their stringent requirements regarding horizontal accuracy, legislatures are remarkably mum on the subject of depth. Why is that?

While horizontal accuracy is a mechanical function, modern locating instruments provide estimated depth measurements based on an electronic calculation that compares relative signal strengths from multiple coils within the receiver housing. The calculations required for electronic depth measurement depend on very clean information received from each reference point, and as any experienced field locator can tell you, they are often embarrassingly inaccurate.

Still, our excavating customer knows that the receiver can provide depth information, are understandably interested in that information, and often request it even in the absence of a legal requirement that it be provided.

This puts locating technicians and their employers in a bind. The excavator knows that with the touch of a button, depth information is available to the locator. The locator knows this information is often unreliable and that there is no statutory requirement to provide it. By doing so, they are essentially putting themselves on the line to do someone a favor. If the reading is correct, the excavator is temporarily pleased, but beyond that, there is no reward or benefit to the locator. However, if the locating tech provides a depth and it proves wrong, they are made to look foolish or incompetent, their skill and the accuracy

of their equipment are called into question and, in the worst case, the excavator tries to hold them liable for a damage caused after they received inaccurate information. In short, the downside of giving out depth information vastly outweighs the upside. Why provide something for free, that we're not required to do, that may end up making us look dumb or getting us in trouble? Would the excavator do the same for us?

A word to excavators: when a locator gives you depth information, they are doing you a big favor. They're going out on a limb they don't have to and they're risking a lot. Don't be surprised if they're not interested in taking the risk, or if they ask you not to hold them to it. Then do them a favor back. Don't complain if the information turns out to be unreliable. DP

Christopher Koch is a training consultant and President of ZoneOne Locating. He is past president of Nulca and worked on both the 2009 and 2015 revisions to the Nulca Professional Competency Standard. He can be reached by email at Christopherkoch@live.com or on Twitter @kochauthor.

VIVAX METROTECH

The vLoc3 Series of Utility Locators, Uncompromising Performance for Damage Prevention

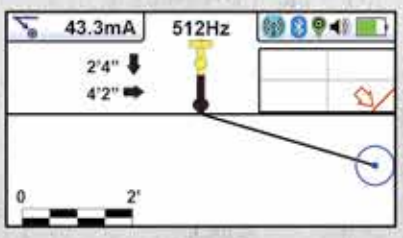
The vLoc3 series of utility locators introduces new innovative tools for locating buried utilities assuring damage prevention while gathering information for analysis.

vLoc3-Pro Receiver

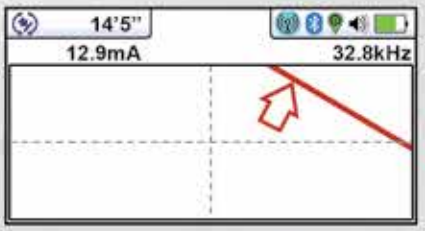
- Color-coded EM distortion warnings
- Offset vector locate mode
- Optional receiver/transmitter link
- Cloud-based data warehousing
- Internal data logging
- Optional Bluetooth connectivity

vLoc3-5000 Receiver

- Internal Bluetooth and GPS
- Sheath to earth fault locating (with A-frame accessory)
- Distortion Alert assist in recognizing signal bleed-over
- Offset vector locate mode
- Optional receiver/transmitter link
- Cloud-based data warehousing

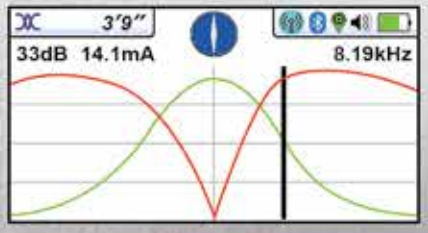


^ **Vector Locate** - shows orientation, line position, and distance relative to the locator in 3D

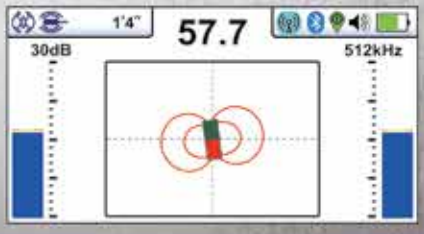


< **Plan View Screen** - displays the theoretical line in 2D from above ground in omnidirectional mode

v **Sonde Screen** - arrow guidance showing direction to the sonde and depth of cover



> **Transverse Plot Screen** - is used to display the peak and null to compare distortion shape



Call us for your no obligation on-site demonstration!

Vivax-Metrotech Corporation | 3251 Olcott Street, Santa Clara, CA 95054, USA | Toll Free: 800-446-3392
Phone: +1-408-734-1400 | Email: SalesUSA@vxmt.com | www.vivax-metrotech.com

INFRASTRUCTURE RESOURCES
4200 W Old Shakopee Road, Suite 103
Bloomington MN 55437

YOUR ASSETS ARE OUR BUSINESS

SAFELOCATE SOLUTIONS

- Site Track® Premier Asset Management Software
- 3M RFID Marker Sales, Scanner Rentals & Support
- Training Program to Certify Your Personnel
- Turnkey RFID Packages Tailored to Your Organization
- Field Locate & Survey Technicians Available

Site-Track
Powered by Key2iD

Ask us about our Trees For Markers program where trees are planted for every RFID marker sold.

If you buy RFID markers, buy from us. For best pricing and support visit:

www.safelocates.com

CALL US TODAY
1-800-471-6306