



UNDERGROUND SAFETY BOARD ANNUAL REPORT

to the

GOVERNOR & LEGISLATURE

2021

For a hard copy of this report, contact the Underground Safety Board, Office of Energy Infrastructure Safety, (916) 902-6000. The report may also be accessed on the Board's website:
<https://energysafety.ca.gov/who-we-are/underground-safety-board>

Table of Contents

EXECUTIVE SUMMARY	<u>3</u>
MISSION, VISION, VALUES STATEMENT	<u>4</u>
BOARD MEMBERS	<u>5</u>
SAFETY REQUIRES EFFECTIVE COMMUNICATION	<u>6</u>
BOARD LAUNCHES EDUCATION COURSE	<u>6</u>
CONSULTATION WITH THE CPUC	<u>7</u>
EXCAVATORS LOSING TRUST IN UTILITY RESPONSIVENESS	<u>8</u>
SAFETY STANDARDS	<u>9</u>
AUDITING UTILITY ELECTRONIC COMMUNICATIONS	<u>10</u>
REGULATORY FEE STREAMLINED	<u>10</u>
IDEA REGISTER CREATES PUBLIC INVOLVEMENT	<u>11</u>
CONCLUSION	<u>11</u>

EXECUTIVE SUMMARY

Each year, the Underground Safety Board reviews what we have accomplished and plans for the year ahead. The Board's review provides an opportunity to communicate what it has learned as well as articulate additional opportunities for improving underground safety in the future.

Much of the Board's 2021 work revolved around promoting effective safety communication among workers in the field. The Board's education course, launched in 2021, showed participants how resolving inconsistent jobsite information has a two-fold benefit; not only does it help a person to act safely, but it helps that person communicate with others on the jobsite to also make safe decisions.

The Board drew from its experience in safety communication in meeting one of the most significant challenges in safe excavation today—the eroding trust between excavators and utility locators. Excavators must start jobs on time, and utility locators need to respond to the rapidly multiplying number of excavation notices. In surveys and workshops, the Board heard from excavators hungry for more information and greater detail about the location of buried lines in their work areas.

In 2022, the Board will begin developing a new process to allow these two groups to coordinate earlier and more effectively. Standards will more clearly outline each party's expectations and responsibilities. These tools are necessary tools—and ones that will help regrow those bonds of trust.

This report demonstrates how many of the state's excavation safety challenges, and their solutions, stem from communication. The Board has taken care to hear from the vast array of people affected by its actions—from large utilities to road construction crews to municipal public works officials—through surveys, workshops, and the Board's Idea Register.

CALIFORNIA UNDERGROUND FACILITIES SAFE EXCAVATION BOARD



Mission:

The California Underground Facilities Safe Excavation Board (Underground Safety Board) improves public and worker safety by facilitating communication and learning among excavators and the operators of subsurface installations, by investigating accidents to determine their causes, and by developing solutions to improve safety outcomes. The Underground Safety Board staff strives to create a model regulatory and investigatory board for other states to emulate.

Vision:

The Underground Safety Board is committed to a California in which the state's excavators and subsurface installation owners know and understand

- How to identify the locations of subsurface installations,
- How to protect against dangerous contact with those installations, and
- How to resolve unexpected situations that may arise, and

in which the state's excavators and subsurface installation owners exercise that knowledge and understanding to promote a culture of mutual respect and dedication to the cause that everyone goes home safe.

Values:

The actions and decisions of the Underground Safety Board members and staff will be guided and informed by their commitments to have:

- Respect for and attentiveness to the expression of differing backgrounds and perspectives of the Board's members, the public, and stakeholders, as well as for the missions of excavators, operators of subsurface installations, and other federal, state, and local agencies.
- A culture of continuous learning based on the development and free exchange of safety information.
- Inquiry into the facts of and context behind accidents, near misses, and latent safety-related conditions in the field.
- Accessibility to the public and stakeholders, within the bounds of the law, constitutional principles of due process, and ethical conduct.
- Integrity in serving in the public interest and devotion to maintaining the public's trust.

Board Members

The Underground Safety Board currently seats seven members with two vacancies.



Chair – Marjorie Del Toro



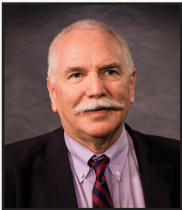
Co-Chair – Amparo Munoz



Ron Bianchini



Randy Charland



Bill Johns



Marshall Johnson



Carl Voss



Safety Requires Effective Communication

The California Underground Facilities Safe Excavation Board (Board) was established by the Legislature in the Dig Safe Act of 2016 following a pair of deadly dig-in accidents in 2015 in Fresno and Bakersfield.

These fatal incidents (out of more than 5,000 gas pipeline “dig-ins” annually) spurred the Legislature to create the Board and direct it to do the following:

- Coordinate the state’s safe excavation education and outreach programs
- Develop safety standards where none existed
- Investigate “dig-in” accidents
- Make enforcement recommendations to partner state agencies
- Directly enforce the law on those within its own enforcement jurisdiction



Board Launches Education Course

SB 865 (Hill, 2020) requires the Board to offer violators the option of completing an education course for violations neither persistent nor egregious. The Board launched the course in September 2021 to an audience of 70 participants who represented 43 organizations—including Pacific Gas & Electric, Shell, AT&T, SoCal Gas, SMUD, and others—during its annual Education and Outreach meeting.

The course focuses on safety communication and presents three case studies:

- 1. Paso Robles:** In 2008, a construction crew struck a water main, flooding a trench where three men were working. One individual made it out, but the other two were trapped in a pipe and drowned.
- 2. Kansas City:** In 2013, an electric company failed to identify how many gas and electric lines it had in the ground. This led to a construction crew mistakenly adding an additional electric line instead of a gas line, leading to a gas line strike that killed one and injured 15.
- 3. Walnut Creek:** In 2004, a construction crew struck a high-pressure petroleum pipeline while installing a water main after the petroleum company failed to identify a bend in the pipeline, killing five workers and injuring another four. This incident occurred despite the fact that the petroleum company had provided the water project contractor with plans showing where the bend in the pipeline was located.

Each case study demonstrates how poor communication can have disastrous results. The instructor-led discussion elicits participants to identify when they have encountered similar problems in their own work. The Board designed the four-hour online course to allow participants to recognize unsafe mindsets, reflect on any unsafe practices they may unwittingly use or promote, and commit to changing the behavior.

Government Code Section 4216.17, the Board's Enforcement Philosophy (Policy B-05), and the Board's Value (Policy B-04) of "culture of continuous learning based on the development and free exchange of safety information" has driven the Board to an education-first enforcement approach. In each case presented before the Board, it has required or recommended violators to take the course.

Consultation With The California Public Utilities Commission

Communication problems are not exceptional. They pervade interactions between the excavators and utility personnel. In February of 2021, the Board began to address two-way communications issues in the industry by working directly with Pacific Gas & Electric (PG&E) to improve their communications with excavators, per Decision 20-02-036 of the California Public Utilities Commission (CPUC).

The CPUC found that PG&E did not locate its buried facilities and provide surface marks on time, as required by statute, though in thousands of occasions over several years it had identified that its surface marks were made timely. The Decision required that PG&E and the CPUC's Safety Enforcement Division consult with the Board regarding methods to improve communications between PG&E and excavators.

The Board recommended that PG&E's improved two-way communication efforts—as opposed to one-way "dig safe" marketing by the utility—may have direct benefits to utility operators. Excavators are a low-cost, quality assurance mechanism for the utility to use in monitoring the effectiveness of internal controls to maintain compliance.



The Board relied on survey data from the non-profit Common Ground Alliance (CGA) to make its recommendations. CGA found that 97 percent of locators believed that increased communication between locators and excavators would be at least "somewhat effective" in improving the accuracy and timeliness of marks, with 69 percent of respondents believing it would be "very effective."

CGA survey data also showed that decision-makers at locating companies believe that in addition to a discussion between locators and excavators at the jobsite level, collaborative discussion at the industry level would help address systemic issues.

Excavators Losing Trust in Utility Responsiveness

During the Board's May meeting, the executive director of the USA North 811 one-call center outlined concerns about the health of the “call before you dig” system—specifically, that operators were having difficulty locating their facilities before the legal start date and time, and that excavators were losing faith in the system.

These concerns led the Board to create a Ticket Process Committee, run by Members Ron Bianchini and Randy Charland, to review communication through the one-call centers and examine drivers behind late utility locates. The committee identified two main problems: locator workload volatility and the absence of a mechanism to allow excavators and utility operators to plan farther in advance.



1. Locator workload is volatile, but greater excavator trust is needed to mitigate volatility with voluntary measures

Tickets are requested disproportionately on Mondays, and the majority request a utility response within the statutory minimum of two working days. This leads to an uneven workload throughout the week, which can make staffing difficult for operators. The Board's quantitative review of locator workload volatility using California ticket data identified that much of the problem can be addressed if excavators voluntarily notify utilities of excavation work in advance of the two-day statutory minimum. Excavators often do not trust that all utilities will respond on time, so they build in buffer days.

2. Excavators and utility operators do not have a tool to coordinate in advance of the two-day excavation notice

Large projects are planned well in advance of breaking ground. However, the state does not have any standard mechanism to allow contractors and utility locators to coordinate in advance of the “call before you dig” ticket. Colorado, on the other hand, recently developed a ticket type used for planning and design work. Better communication between excavators and utility locators during planning and design can reduce a crunch in locator workload while providing excavators with contacts to leverage when unexpected situations arise in the field.



The Board discussed two major obstacles to effective communication that exists at the beginning of excavation projects:

1. **Communication among parties during the planning and design phase is inconsistent because there is no existing ticketing process.**
2. **Ticket notification volatility dramatically impacts locator workloads. This can cascade to variability in locate and mark timing and the time available for coordination between locators and excavators.**

The Board's initial findings were discussed in November 2021 with two proposals for improving communication. First, the Board will take the next steps toward instituting a planning and design ticket process by learning from the experience of stakeholders and implementation by other states, such as Colorado. Second, the Board analyzed ticket notification data provided by the one-call centers and found that by simulating the addition of a few more days to the start date of the ticket, ticket volatility could be significantly reduced. The Board directed staff to begin surveying California's municipal officials to learn what requirements they place on contractors and permittees. In 2022, the Board will pursue solutions along these two paths to restore trust in the 811 system.



Safety Standards

Government Code Section 4216.18 of California's Dig Safe Law directs the Board to develop standards for excavators and utility operators to avoid unsafe contact with buried utility infrastructure. Through surveys, workshops, and one-call center data, the Board has identified the ineffective communication of safety information as an obstacle to safe excavation.

Earthwork and road construction involve shallow excavation over large swaths of land, creating numerous opportunities for excavation equipment to strike buried utility infrastructure. In surveys and workshops, excavators identified outdated contacts and incomplete utility location information as obstacles to safely doing their jobs. Respondents expressed a desire for more information about the location of underground utilities, such as those contained in utility maps. They reported that many operators have not provided this information.

Survey results also identified systemic obstacles to basic communication. These included challenges in reaching operators through available contact information and difficulties establishing mutual timelines and scheduling on-site meetings. Excavator concerns are supported by data provided by USA North 811's one-call center, which showed that, as of September 2021, approximately 47 percent of its members have not updated their contact information within the past year and 21 percent have not updated their contact information in the past two years.

Standards planned for development in 2022, including those for finding active and abandoned lines and for maintaining contact information, will feature best practices in communication.



Auditing Utility Electronic Communications

Per AB 1166 (Levine, 2019), on Jan. 1, 2021, all utility operators—including local municipalities—were required to electronically report their responses to each “call before you dig” excavation request to the one-call centers. This process improves safety by allowing excavators to view facility operator responses online before rolling equipment to a jobsite.

To better understand utility compliance, the Board directed an audit of the new requirement. As a result, the Board's Investigation Division mailed notices to 392 operator members found to have a record of 100% non-compliance with electronic reporting. With Board approval, audits will continue in 2022 to track the improvement in utility compliance.

Regulatory Fee Streamlined

Per Government Code Section 4216.16, Board operations are funded through a fee paid by utility operators. In July 2021, the Board adopted a revised regulation to streamline the fee collection process and to provide fee payers more advance notice of upcoming bill amounts by changing the billing term from the calendar to fiscal year. This approval followed public discussion during four meetings in 2020. The Board will post member fee amounts to its website on March 1 in advance of the July 1 billing date for all members to access.

As the Board repaid its startup loan in 2021, the new regulation allowed a drop in the total amount utility operators pay from \$7 million to \$5 million a year. The regulation also relieves many small businesses and utility districts from paying the fee at all. The minimum ticket threshold for payment increases from 200 to 500 new tickets, reducing by a third the number of members who pay.

The transition to this new process will reduce confusion between Board and one-call center fees and provide local governments advance notice prior to budget approvals. There will be an abbreviated billing period from January to June 2022 to accommodate the transition and the Board will conduct further outreach to members regarding the regulatory change.

Idea Register Creates Public Involvement

The Board directed the creation of an Idea Register in 2020 to bring stakeholders into the annual planning process.

The Board's stakeholders are practitioners; they are the first to be able to identify safety hazards. By soliciting stakeholder insights, experiences, and industry knowledge, the Board will be better equipped to develop solutions to safety problems as they arise.

The Idea Submission Form may be found on the Board's website, energysafety.ca.gov/who-we-are/underground-safety-board. Submitted ideas are collected in the [Idea Register](#), accessible on the website, and then considered by the Board during its annual planning process.



In total, the Idea Register has received 12 Idea Register submissions, with five submitted between October and November of 2021.

Conclusion

During the Board's first years, it distinguished itself through its focus on listening to the industries it regulates. In 2018, the Board developed SB 92 (Committee on Budget, 2017) regulations regarding area of continual excavation after meeting with county Farm Bureaus and undertaking farm tours. In 2019, Board members held workshops to hear from excavators and utility operators who were affected by regulations on power tool use required by AB 1914 (Flora, 2018). In 2020, the Board surveyed small utilities, including municipal public works departments, about what would hold them back from compliance with the electronic response requirements of AB 1166 (Levine, 2019).

In 2021, the Board implemented lessons learned from its past activities—such as the vital role of safety communication—and more broadly, standards development, compliance auditing, and other areas for its education course. In 2022, the Board will continue to apply these lessons in developing new tools for excavators and operators to better communicate and to enforce the law against those who do not meet established communication requirements.

Notes:

