

Excavation Damage Reporting:

The Basics of Data Collection and How States Require Strikes and Near Misses to Be Reported



Introduction

Every year, hundreds of thousands of construction projects result in damage to buried pipelines, cables, and wires. These excavation damages impose both direct and indirect costs on communities around the country totaling tens of billions of dollars annually. Steps to prevent these types of damage and to address the impacts began decades ago.

Comprising a diverse set of stakeholders at every level, *damage prevention* relies on communication between multiple parties to ensure no harm is done on job sites to underground facilities and that future damage is avoided by learning from mistakes. From individual companies to nonprofit organizations and state to federal agencies, collecting and analyzing data on excavation damages is an important task.

The more data that is available, the better equipped policymakers and industry leaders can be to prevent future damage and make better decisions. When quality information is collected and shared about a damage, that information can be evaluated to understand the root causes and improve upon laws and best practices. The ways damages are required to be reported by state legislatures and regulatory authorities vary across the country. This short paper surveys those laws in all 50 states to highlight the different types and nature of damage reporting requirements.

Reporting always starts with basic emergency response provisions if a public safety risk is present. Every state also requires reporting to the affected utility company so they can remediate the damage. Finally, states vary more widely in requiring damage reporting to other organizations or state entities. The more detailed information that may include investigative findings are of the most value, and where reporting requirements may have the most opportunity to be improved.

While stakeholder member organizations, like the Common Ground Alliance (CGA), collect voluntary reports submitted by industry participants around the country, each state has its own laws and regulations related to damage reporting. Generally, state laws and regulations require reporting from any party that committed an excavation damage or near miss to buried infrastructure and reporting from any party who becomes aware of such an incident.

Among the state laws requiring damage incident reporting are rules directing that the:

- Excavator report to the utility
- Excavator report to the call center
- Excavator report to a public agency
- Utility operator report to call center
- Utility operator report to public agency
- One-Call center report to public agency

Damage Reporting Elements

Each state’s laws and regulatory codes treat damage reporting differently and have different emphases and requirements. Because excavation damage has so great an impact on the public, it is important for each incident to be reported to both quickly remediate the impacts on site, and to provide data to public officials. With the constant need for better data in damage prevention, understanding and improving damage reporting standards are a natural starting point. From there, damage reports and accompanying data must be made available for analysis.

All states’ legislative and regulatory codes identify several basic elements, including: the party responsible for reporting, to whom to report, and what information to include. Without each of these elements, a reporting requirement would be ineffective. An additional element of timing, such as to report “immediately” is often included and provides more instruction to reporting parties.

As a survey of the various state laws, and to provide insight to industry leaders and public officials across the country, this paper does not score or rate the legal reporting requirements and instead provides examples to review and learn from.

There are two general types of reporting requirements found in state laws and regulations, each with different purposes. The first is immediate damage notification to alert the owner or operator of the facility of damage to their infrastructure so that they can quickly address the issue. These are baseline reporting requirements in all 50 states. The public interest is clear, as the state has an interest in public safety, environmental preservation, and infrastructure reliability, which are all advanced through these initial reporting requirements.

The state also has an interest in preventing future damage, which requires that details be shared with an organization conducting analysis of root causes or a public entity, which may be the state itself, making such data available to the industry, researchers, and the public. This type of reporting requirement usually applies to the utility operator or the one-call center, as it may require more data than is immediately available. Incident reporting alone without key details would function as nothing more than a damage count. These reporting standards are to collect information after damage is remediated and more information and possibly once root causes have been identified.

“
With the constant
need for better data
in damage
prevention,
understanding and
improving damage
reporting standards
are a natural
starting point.

”

Law and Regulation Examples

Some states require all parties to report under the same section of code, while others separate the reporting requirements for different stakeholders by subsection or in different areas of the law. Because the excavator is the most likely party to cause a damage or near miss,¹ state laws typically begin with the excavator or any party who becomes aware of a damage.² These parties are obligated to report to at least one of four entities depending on the state requirements: 911 or emergency services, the utility operator, the call center, or another state entity.

Notifying 911 or another state entity are less common for excavators, because emergency 911 notification relates primarily to hazardous materials and active public safety risks, while reporting to other state agencies is not of first priority when a damage occurs.³ Most excavation damages do not create immediate public safety or hazardous conditions, but in every state, emergency notification is the basic first type of reporting requirement when such circumstances arise.

After emergency reporting for active public safety or hazardous conditions, all states require that the excavator provide notice to the utility provider so that any facility damage can be repaired or remediated. All states require this type of notice but do so in a few different ways.

Some states require the excavator to directly notify the affected utility operator.

An excavator who, in the course of excavation, contacts or damages an underground facility **shall notify the operator**. If the damage causes an emergency, the excavator shall also alert the appropriate local public safety agencies and take reasonable steps to ensure public safety.

Alaska stat. §42.30.430 (b)

Report immediately to the operator any break in, or leak on, its utility lines, any dent, gouge, groove or other damage to such lines or to the coating or cathodic protection made or discovered in the course of the excavation or demolition work;

26 Delaware Code § 806 (a)(8)

Some states require reporting of an underground facility damage, but allow the notice to go to the utility operator *or* the one-call center. However, because excavators may or may not know who owns a particular facility, this structure affords them the option to contact the one-call center either to provide notice or obtain contact information on the facility owner or operator. In

¹ State laws generally include both damage and near misses in reporting requirements. Whether near misses are reportable may differ by state.

² Even when a root cause investigation may determine they were not the party at fault.

³ Excavators most commonly report only to the utility operator to immediately remediate damage. State agency reporting is often a later or follow on requirement when more information has been collected. There may be dollar or damage thresholds that designate when such reporting is needed.

these situations, state law often then requires the one-call center to notify the utility. With these most basic reporting requirements, the purpose remains immediate damage notice so that repairs can be made. For example, in requiring excavators to provide a notice and report of damage:

Each person responsible for any excavation or demolition operation that results in any damage to an underground facility, immediately upon discovery of such damage, **shall notify the operator** of such facility of the location of the damage **or the “One-Call Notification System”** operating on behalf of the underground facility owner...⁴

Alabama Code § 37-15-9 (a)

An excavator discovering or causing damage to a subsurface installation, including all breaks, leaks, nicks, dents..., **shall immediately notify the subsurface installation operator**. The excavator **may contact the regional notification center** to obtain the contact information of the subsurface installation operator. If the operator is unknown and the damage or discovery of damage occurs outside the working hours of the regional notification center, the excavator may follow the instructions provided by the regional notification center through its internet website or the telephone line recorded message.

California Code § 4216.4 (c)(1)

Another formulation of damage reporting requirements is where the excavator must notify the utility company **and** the one-call center.

The excavator performing an excavation or demolition that results in any damage to a facility must, immediately upon discovery of such damage, **notify the notification center and the facility operator**, if known, of the location and nature of the damage.

South Carolina Code § 58-36-90 (A)

any person engaged in blasting or in excavating with mechanized excavating equipment that strikes, damages, injures, or loosens any underground facility or sewer lateral, regardless as to whether the underground facility or sewer lateral is marked, shall immediately cease such blasting or excavating **and notify the UPC and the appropriate facility owner or operator**, if known.

Georgia Code § 25-9-8 (e)

each person responsible for any excavation or demolition operation described in §65-31-104 that results in any damage to an underground utility shall, immediately upon discovery of the damage, **submit a damage notice to the one-call service, notify the operator of the utility of the location and nature of the damage**, and allow the operator reasonable time to accomplish necessary repairs before completing the excavation or demolition in the immediate area of the utility.

Tennessee Code §65-31-111(a)

⁴ Emphasis added.

These types of reporting requirements focus on the excavator causing, being involved in, or becoming aware of a damage so that they can immediately allow the facility operator to address the issue and the relevant public safety authority to handle any imminent risks. Everything up to this point focuses on the requirement to report *that* a damage occurred. These are essential reporting provisions all states have. The next type of reporting requirement moves beyond making notice of an active situation to those who can address it and regards passing along information *about* the damages that occurred so that it can be analyzed or learned from.

Post-Repair Reporting

While excavators are commonly the first party required to make damage reports pursuant to a state's legal requirements, there are other parties who must also report. After a facility damage being mitigated or remediated, the next type of damage reporting is more informational and likely occurs after an investigation has been conducted.

The requirements to submit information on the damage after it has been remedied generally fall on the utility operator and the call center. In these situations, excavators have damaged a facility, reported it to the relevant parties, and the active situation or damage has been remediated. After basic facts are gathered or a full investigation is conducted, some states require the utility or call center to submit more finalized data to a designated public agency.⁵ These requirements may detail the format and type of information to submit, but sometimes point to outside organizations and their own rules to follow. The more details that are required at this stage, the better damage prevention value of the data to enable analysis of root causes and learnings to prevent future damage.

If the reporting scheme does not require inclusion of key details, these reports may merely be methods to collect damage *counts* rather than robust resources to study and learn from to prevent future damage.⁶ Information on the nature of a damage, such as “a severed phone line” or “a hole in a water pipe causing a leak” are useful and provide metrics on what infrastructure is being damaged, but do not necessarily offer insight into how to best prevent future incidents, like the status and activity of various stakeholders on site before and during the excavation work.

⁵ In some cases, utilities are directed to send this information to the call center.

⁶ CGA DIRT Reports have historically conducted statistical analysis and expert consultation to provide *estimated* total damages, indicating that not all damages are reported and there is no current system of aggregating all required reports from the various states.

Reporting to a Designated Public Agency or Commission

Not every excavation damage is required to be reported. In all states, reports are required for damage to natural gas and other hazardous material pipelines. With respect to other facilities, some states use a threshold to indicate when a facility strike must be reported, some use the size of the utility company, while others require general reporting of any damage.

An example of reporting requirements with respect to damage to natural gas pipelines:

Each operator shall report to the commission excavation **damage** to an underground **facility used in the transportation of gas or hazardous liquid** within thirty (30) calendar days of being informed of the damage. Each report of excavation damage shall be made by electronic mail or as otherwise prescribed by the commission.
Kentucky Revised Statutes § 367.4909 (4)

Reporting based on dollar thresholds may reference repair costs. In this example, the facility owner is not required to submit a report unless it arises to a dollar level or is a repeated damage to a utility's infrastructure.

No report may be required where the cost to repair the damage to the facility owner's lines is **less than two thousand five hundred dollars (\$2,500)**, unless the same person damaged the facility owner's lines two or more times within a six-month period.
Pennsylvania Statutes Title 73 § 177(10)

Another type of reporting threshold is triggered by dollar value as well as death or personal injury. In these types of statutes, unless otherwise indicated, facility strikes that do not meet these thresholds are not required to be reported.

Where not otherwise specifically prescribed by rule with respect to particular classes of public service corporations, **all public service corporations shall report** in writing by the end of the next working day **to the Commission all accidents** in which such public service corporations are involved, **which result in death, personal injury to any person necessitating off-site medical attention, or property damage exceeding \$5,000.00.** B. This report shall state, as accurately as possible, the dollar amount of the damage. If this amount is not known immediately, or if investigation discloses a 15% or greater variation from the amount in this report, a follow-up report shall be submitted.
Arizona Admin. Code § 14-2-101 (A)

Another way to structure reporting requirements for facility operators is to categorize damages based on the utility company's size and corresponding level of interaction with stakeholders. The provision mandates that if the facility owner receives enough locate requests in a year, they must report on all the damages that occurred to their lines. For smaller utilities receiving fewer locate requests, the law does not require that the utility send damage information to a public entity.

Each operator that received more than 2,000 requests for facility locations in the preceding calendar year **shall file a damage summary report** at least semiannually with **the Kansas corporation commission**. The report shall include information on each incident of facility damage resulting from excavation activity that was discovered by the operator during that period.

Kansas Admin. Regulations § 82-14-3 (v)

Reporting requirements may be penned so broadly as to simply require reports of any damage to the facility operator's infrastructure.

If an event damages any pipe, cable or its protective covering, or other underground facility, **the member operator receiving the notice shall file a report with the system**. Reports must be submitted annually to the system, no later than March 31 for the prior calendar year, or more frequently at the option and sole discretion of the member operator. Each report must describe, if known, the cause, nature, and location of the damage. The system shall establish and maintain a process to facilitate submission of reports by member operators.

Florida Statutes § 556.105 (12)(b)

Reporting to a Third-Party Organization

Four states establish mandates to submit reports to the Common Ground Alliance (CGA) through its Damage Information Reporting Tool (DIRT).⁷ The DIRT platform from CGA is normally a voluntary database, so state laws directing stakeholders there would greatly increase the value of the DIRT data by improving CGA's access to data. Two states include CGA's DIRT in their code, with two additional states referencing virtual private DIRT platforms.

Tennessee states that:

Each operator whose facilities have been damaged as described in this section shall report the incident using the Damage Information Reporting Tool (DIRT) utilized by Common Ground Alliance **or** by filing a damage notice with the one-call system.

The "or" may undermine the requirement to some extent, but the law continues with:

If a report is made by filing a damage notice with the one-call service, then the one-call service **may** submit a report of the incident report to DIRT.

Tennessee Code §65-31-111(f)

Likewise, Oklahoma requires information collecting and sharing and similarly references the DIRT platform but does not require its use.

⁷ Or to a state or regional CGA/DIRT platform (which relate to CGA's DIRT platform)

Each operator shall submit a semiannual damage summary report to the Commission's pipeline Safety Department. The report shall contain the following information on all damage resulting from excavation activity:

- (1) Name and address of operator;
- (2) Name, contact number, and address of party causing excavation damage;
- (3) The type of excavator equipment;
- (4) The location in which the damage occurred;
- (5) The type of facility damaged;
- (6) The date of the damage (day, month and year);
- (7) The primary cause of the damage.

...The report...can be submitted on a spreadsheet, single pages for each occurrence of excavation damage, **or if the operator participates** in the Common Ground Alliance's Damage Reporting Tool (DIRT) they **may submit a copy of the report** which reflects their data.

Oklahoma Admin. Code § 165:20-17-8

In California, in addition to reports made by excavators directly to the utility operator and reports by utilities once an investigation is conducted, the definition for "statewide information" includes the provision that excavators and utility operators may also submit information directly to the state's regional CGA platform.⁸

"Statewide information" means information submitted by operators and excavators using the California Regional Common Ground Alliance's Virtual Private Damage Information Reporting Tool. Supplied data shall comply with the Damage Information Reporting Tool's minimum essential information as listed in the most recent version of the Best Practices guide of the Common Ground Alliance.

California Code § 4216.6 (h)(2)

Likewise, in Washington, the law requires that:

Reports must be made to the commission's office of pipeline safety within forty-five days of the damage event, or sooner if required by law, using the commission's virtual private damage information reporting tool (DIRT) report form, or other similar form...

Washington Revised Code § 19.122.053 (3)

⁸ While most states have their one state-wide one-call center, California has two *regional* centers. Similarly, smaller states sometimes share one notification center.

Additional Requirements

Eight states have provisions that require reporting, but do not define the reporting standards within the legislative or regulatory code, instead directing stakeholders to another entity or procedure. Examples include rules that dictate the requirement to report and to whom, but which add that the reporting party must also follow other applicable reporting requirements (which may be non-legislative, such as a state agency reporting template).

When an excavator causes any damage to an underground facility, the excavator **shall...Report the damage to the Department** within 30 days **using a form deemed necessary and appropriate by the Department.**

220 Massachusetts Regulations 99.07 (8)

Similar to this are five states that require that reporting policies to be written. In these cases, the legislature requires reporting but delegates the specific details to another entity, and the law requires that that entity draft procedures without specifying in law what they must entail.

Not later than October 1, 2014, **the commission shall establish requirements** for reporting incidents involving damage to underground facilities...Beginning April 1, 2015, the commission shall maintain information on damaged facilities reported under subsection (5), including, but not limited to, any damage that occurs during excavation, digging, or blasting that is excluded from the definition of excavation under section 3(m). The commission shall make any information maintained under this subsection publicly available on its website.

Michigan Compiled Laws § 460.731 (5)

Non-Legislative Legal Reporting Requirements

This report has surveyed the general types of reporting requirements found in state laws and regulatory codes. They primarily require that an excavator report immediately to emergency personnel if applicable and in all cases to a facility operator about damage so that it can be fixed. They then require that the utility or the one-call center collect and report information to a state agency or other designated authority so that there is a centralized place to hold and potentially analyze or make available excavation damage data. While not every state requires that the data be centrally collected or published, many do have such requirements.

To continually evaluate and improve program effectiveness, the board shall analyze the data collected pursuant to section 55-2208, Idaho Code, including the number of reported damage and downtime events and trends, the causes of such damage and any recommendations to further reduce the number of damage or downtime events annually. The board shall make its analysis publicly available.
Idaho Code § 55-2203 (12)

In addition to these types of requirements, we have also noted that CGA serves as a data incident reporting collector, even though doing so voluntarily. There are still other mechanisms to require reporting, which reside outside of legislative or regulatory code, but which are enforceable legal provisions. One such example is contracts between stakeholder companies, where parties may hold one another responsible for certain information sharing written into the contract.

Separate from the state laws and contracts are also certain federal requirements. Damage involving interstate natural gas and hazardous material pipelines, or others under federal jurisdiction are required to be submitted to the Pipeline and Hazardous Materials Safety Administration.⁹ Certain other information may be required by agencies like the Environmental Protection Agency, the Occupational Safety and Health Administration, or submitted to the National Transportation Safety Board during an active investigation.

⁹ <https://www.phmsa.dot.gov/incident-reporting>

Conclusion

The direct and indirect impacts of excavation damage present significant costs to the economy, dangers to the public, and threats to infrastructure reliability. That makes collecting reports of damage incidents of utmost importance for the industry and for policymakers. State-mandated reporting requirements are one of the first lines of defense for collecting this type of data. Across the United States, there are many ways these laws are structured, and they lead to differences in the type and quality of data reported.

States considering updating their laws should not only look for ways to integrate technological best practices but identify ways to strengthen reporting requirements to achieve the most clarity, which may result in better data quality and improved compliance. Consideration must also be given to enforcement.

Lawmakers should consider the strength and effectiveness of reporting elements and how they impact quality and compliance, including elements such as:

- Mandatory language, employing “shall” or “must”
- A named entity to which to submit damage reports
- Clear and easy to understand language
- Details for what to report, including location, type of work, extent of damage
- Specified timing for when to submit the report
- Any follow up steps needed and penalties for failure to comply

Future research may be useful to determine the level of reporting compliance in each state and comparing this data to known or estimated damage totals. Likewise, research that can identify relationships between reporting requirements and damage rates would be invaluable to lawmakers in every state.

Before the collected data can be of use in preventing future damage, it must rise above being merely a damage count index and include investigative findings and information pointing to root causes. It should also be made available to legislators, stakeholders, and the public to learn from.

Finally, all these reporting requirements present an opportunity for nationwide data aggregating. This can be done by requiring in law for reports to be made to CGA or by each state passing on its collected information annually to the DIRT platform. Additionally, an independent organization may compile publicly available information from each state into a single database. Given the current level and trajectory of excavation damages nationwide and the lack of robust, high-quality data in the industry, all these state reporting requirements seem to stop short of making their maximal impact. Tightening laws, improving both compliance and enforcement, and then aggregating all damage reports from every damage event across every state is needed.



Author

Benjamin Dierker, JD, MPA
Executive Director, Alliance for Innovation and Infrastructure

*For more information or inquiries on this report, please contact the Aii
Media Coordinator at info@aii.org*

The author thanks Mr. Owen Rogers for his assistance with research and preparation of this report.

Recommended Citation for this report

Dierker, B. (July, 2024). *Excavation Damage Reporting: The Basics of Data Collection and How States Require Strikes and Near Misses to Be Reported*. Alliance for Innovation and Infrastructure. Aii.org.

About Aii

The Alliance for Innovation and Infrastructure (Aii) is an independent, national research and educational organization that explores the intersection of economics, law, and public policy in the areas of climate, damage prevention, energy, infrastructure, innovation, technology, and transportation.

Aii is a think tank consisting of two non-profits: the National Infrastructure Safety Foundation (NISF), a 501(c)(4) social welfare organization, and the Public Institute for Facility Safety (PIFS), a 501(c)(3) educational organization. Both non-profits are legally governed by volunteer boards of directors. These work in conjunction with the Alliance's own volunteer Advisory Council.

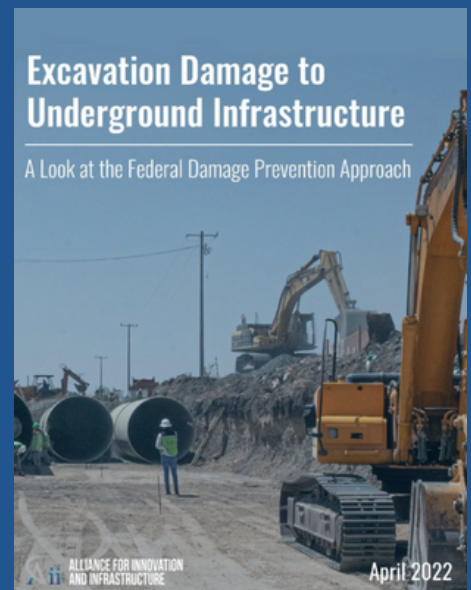
Board of Directors

Timothy Butters, Director
Surya Gunasekara, Director
Chris Kilgore, Director
Brigham McCown, Founder, Chairman

Jack Reape, Director
Robert Sumwalt, Director
David Venable, Director, Senior Cybersecurity Fellow

3033 Wilson Blvd, Suite 700
Arlington, Virginia 22201

Related Works



@AiiNonProfit

info@Aii.org | (703) 574-7376