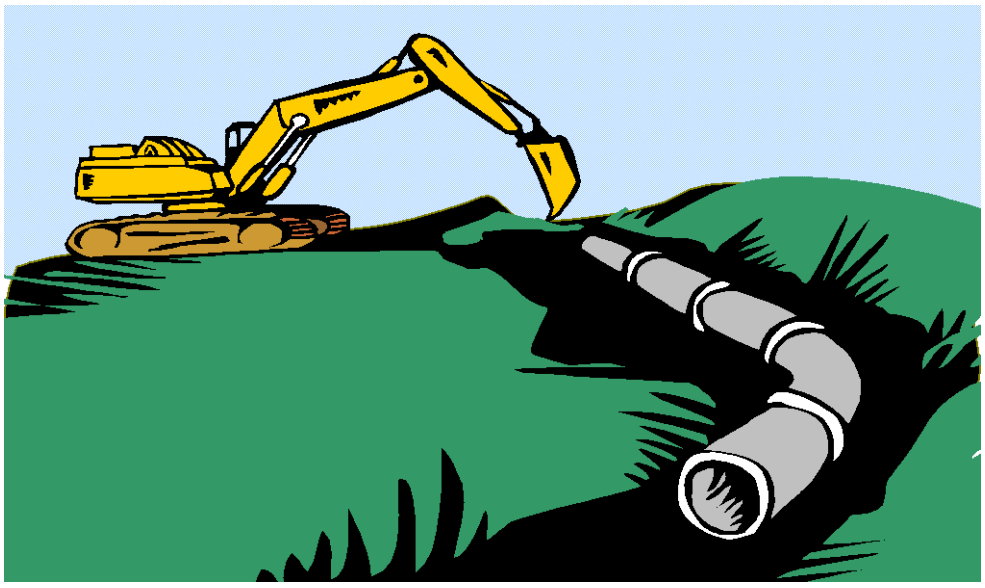

Best Practices - Damage Prevention

Pipeline Safety

Washington Utilities and Transportation Commission

December, 2000

Introduction

When the Washington State Legislature adopted the Washington State Pipeline Safety Act, (Engrossed Second Substitute House Bill 2420 - Chapter 191, Laws of 2000), it identified one-call systems as a key ingredient to preventing damage to underground utilities, including pipelines.

Section 16 of the bill (codified as RCW 19.122.027) requires the Washington Utilities and Transportation Commission (WUTC) to make recommendations to the Legislature regarding the one-call system as follows:

> *"(1) By December 31, 2000, the utilities and transportation commission shall cause to be established a single state-wide toll-free telephone number to be used for referring excavators to the appropriate one-number locator service.*
> *(2) The utilities and transportation commission, in consultation with the Washington utilities coordinating council, shall establish minimum standards and best management practices for one-number locator services consistent with the recommendations of the governor's fuel accident prevention and response team issued in December 1999. By December 31, 2000, the commission shall provide its recommendations to the appropriate standing committees of the house of representatives and the senate.*
> *(3) One-number locator services shall be operated by nongovernmental agencies."*

This report makes recommendations regarding minimum standards and best practices for one-call locator services. The WUTC does not have authority to provide oversight to the one-call system; therefore, the recommended minimum standards cannot be adopted by rule. The study reviewed best practices and involved stakeholder discussions of implementation issues.

The requirement to establish a single, statewide toll-free telephone number for referring excavators to the one-call system is addressed in section five of the best practice guidelines and recommendations portion of this report. The WUTC asked the Washington Utilities Coordinating Council's (WUCC) One Number team to work on implementation of this requirement. The result of this process was that on December 13, 2000, a transfer agreement was signed between the WUCC and the Utility Underground Locating Center giving ownership of the statewide toll-free telephone number to the WUCC (see Appendix B). The phone number is 1-800-424-5555.

Summary of Study Process

The WUTC, in concert with the WUCC, used a broad public process to develop the recommendations in this report. The group used a 1999 report initiated by the U. S. Department of Transportation's Office of Pipeline Safety (OPS), called "*Common Ground* - Study of One-Call Systems and Damage Prevention Best Practices" as the foundation for its work. The WUTC hosted a number of workshops to discuss best management practices in the *Common Ground* report. The workshops provided stakeholders and interested parties an opportunity to comment on the best practices as outlined by the OPS. A wide range of interests, organizations, and viewpoints on preventing damage to underground facilities were represented at the workshops. In addition, a number of interested parties submitted comments in writing. This report is intended to reflect the comments of all interested parties who took the time to attend the meetings or submit written comments.

Summary of Recommendations

The WUTC strongly recommends that the governing boards that oversee the one-call locator centers adopt the best practices recommended in the *Common Ground* study with modifications as noted in this report. The discussions summarized in this report will help each board focus on the logistical issues raised that need to be resolved before adopting the practice statements.

As the multiple call centers in Washington converge in their use of a single vendor for locator services, call center governing boards will more likely be able to adopt the best practices without incurring substantial new costs. The widespread use of the same vendor, *One Call Concepts,* throughout the state will increase the number of facility owners and excavators having access to automated locate information and enhance the quality of Washington's damage prevention system.

Background

Damage to underground facilities is usually preventable and most frequently occurs due to a breakdown in the damage prevention process. The responsibility for preventing excavation damage is shared by all stakeholders. One-call systems are at the heart of damage prevention. The one-call process allows operators with facilities in the vicinity of a proposed excavation site to mark the location of their equipment and facilities in the advance of the excavation. With this knowledge, excavators can proceed safely with their job. These systems improve accuracy and consistency in shared information by providing a reliable and efficient way for excavators to notify facility owners/operators of planned excavations.

In Washington State, there are six one-call notification centers:

- Underground Utilities Location Center (UULC), located in Bellevue;
- Northwest Utility Notification Center (NUNC), serving counties in Eastern and Southwest Washington;
- Inland Empire located in Spokane; and
- Individual centers serving Pend Oreille, Cowlitz, and Chelan/Douglas counties.

As of the Fall of 2000, the UULC, NUNC, Inland Empire, and Pend Oreille County utilized the same vendor for their notification center, *One-Call Concepts,* based in Portland, Oregon. As such, 36 of Washington's 39 counties are now served by a single call center. The centers serving Cowlitz, Chelan and Douglas counties use local answering services as their vendors.

The WUCC is the organization through which the one-call centers cooperate and share information. Its purpose is to promote public safety by facilitating cooperation among its members to reduce damages to subsurface structures and above-ground facilities. The WUCC is an umbrella organization for local utility coordinating councils throughout the state. Local councils were formed as early as 1950 and the WUCC was formed in 1972. The WUCC is made up of utilities, governmental agencies, contractors, excavators, and other interested organizations.

The genesis of the effort to establish best practices in Washington State originated from recommendations made in the Governor's Fuel Accident Prevention and Response Team report issued in late 1999. The Governor created the team following the rupture of the Olympic Pipeline Company's 16-inch pipe in Bellingham. The team was made up of state government agencies and local elected officials. Recognizing the importance of a healthy damage prevention system, the report to the Governor included a recommendation that the lead pipeline safety agency develop best management practice standards. The report also recommended establishment of a single, statewide telephone number for call-before-digging notification and a request to the WUCC to analyze the existing one-call notification system, focusing particularly on overlapping territories of one-call centers and the U.S. Department of Transportation's *Common Ground* Report.

OPS Best Practice Guidelines and Recommendations for Washington State

Stakeholders consulted for this study expressed support for over half of the 23 best practices identified by the *Common Ground* study. For those practices that generated more discussion, many stakeholders agreed that the state's locator centers should implement the best practice.

A number of themes emerged in the discussion of the practices. First, the existence of multiple call centers in Washington is a major obstacle to adopting a single set of best practices. The different one-call centers each have different levels of automated processes and capabilities to achieve a best practice in the short term. Call centers that contract with *One Call Concepts* could adopt these practice standards (as modified) without significant changes in operations or ticket prices.

Following each practice statement are summaries of implementation issues identified by the stakeholders. This report intends to reflect the consensus of the participants. The full text of the *Common Ground* practice descriptions is included in the appendix.

One issue raised in the process, but not thoroughly discussed, was the relationship of railroad companies and other multi-state facility owners to the present one-call system. There is a fair amount of confusion about how these private entities currently coordinate with the one-call centers. Solutions to the issues raised were not addressed by the group and deserve further clarification and study.

1. Pro-active Public Awareness, Education, and Damage Prevention Activities

Practice Statement: The one-call center has a documented, pro-active public awareness, education, and damage prevention program.

Discussion: The stakeholders supported this practice, with one concern noted. There is some confusion about the applicability of the one-call law to private as well as public lands (it applies to both). Discussions of other practices raised other areas of confusion that could be cleared up through education campaigns. In particular, in locations with overlapping service areas, excavators may not know that they have to call more than one call center and facility owners may not know that they have to join more than one call center.

Recommendation: The full scope of applicability needs to be advertised (to public and private land). In locations where service areas overlap, call centers must make the extra effort to educate users on how services will be coordinated among the call centers, and whether facility owners and excavators will be responsible for contacting more than one center.

2. Specifically Defined Geopolitical Service Area with No Overlap

Practice Statement: The one-call center(s) serving a specifically defined geopolitical area is (are) structured so that an excavator need only make one call, and a facility owner/operator need only belong to a single one-call center.

Discussion: This practice generated much discussion about the phrase "specifically defined geopolitical area." There was broad agreement that there should be no overlap in call center service areas. However, if the group were to agree on a phrase to describe geographic boundaries and then prohibit overlap of those boundaries, under the present system in our state, some call centers would lose business. As a result, in the time period allotted to this discussion, no agreement was reached on this subject. In addition, the group thought that references to a single call center in the practice description were not relevant in Washington, since we have multiple call centers.

Although difficult issues are raised by overlapping service areas and multiple call centers, it is useful to focus instead on the practice statement's objective that an excavator should only have to make one call and a facility owner should have to only join one center. The problems resulting from not meeting this objective are over-notification of dig requests to utilities, and confusion regarding which call center to belong to or notify of dig requests.

Even though the practice references a single call center, it also provides that in the event that more than one center exists, coordination and sharing of information among call centers would eliminate the need for facility owners and excavators to call or join multiple call centers. As such, the best practice would focus more directly on coordination among call centers, especially in those areas where more than one center operates.

Recommendation: Change the title of the practice to emphasize the objective of allowing excavators and utility owners to call or join only one center. Make coordination among multiple call centers more prominent in the practice description. As the multiple call centers consolidate, the issue of overlapping service areas will likely be resolved. Until that time, the practice statement could make no reference to "specifically defined geopolitical area."

3. Formal Agreements with Members

Practice Statement: Each member of the one-call center abides by state statute where applicable or written agreements state the rights and the responsibilities of the one-call members and the one-call center.

Discussion: The stakeholders supported this practice with few concerns.

Recommendation: Adopt the practice as stated.

4. One-Call Center Governance

Practice Statement: A board of directors representing many interests governs the one-call center. This may include facility owners/operators, designers, contractors/excavators, and government.

Discussion: The stakeholders generally supported this practice, with many agreeing that the state's locator centers should or would ideally follow it. A comment was made that call center boards should also represent the geographic diversity of their service areas.

Recommendation: Adopt the practice with an added reference to geographic diversity of the board.

5. Single Toll-Free Statewide Number with Nationwide Access

Practice Statement: The one-call center(s) have a single toll-free statewide number with nationwide access.

Discussion: A separate process was pursued to establish a single toll-free statewide number in Washington. The WUCC took the lead in discussing with its members the technical issues involved in establishing a single call system in Washington.

The result of this process was that on December 13, 2000, a transfer agreement was signed between the WUCC and the Utility Underground Locating Center giving ownership of the statewide toll-free telephone number to the WUCC (see Appendix B). The phone number is 1-800-424-5555. The 36 counties using *One Call Concepts* as their vendor will now link callers directly to the appropriate locate center. For the call centers continuing to use answering service based systems, callers will be referred from *One Call Concepts* to the proper call center. The WUCC has indicated that as communications systems are upgraded at these centers to handle transferred calls the one call centers will then be able to directly route all calls.

The WUCC formed a standing committee whose sole purpose will be to oversee the operation of the toll-free number. This same group will be responsible for developing a marketing plan for the new number. As new phone books have already gone out this year, the number will not be in phone books until 2001.

Recommendation: The WUCC should be commended for their hard work in establishing one statewide number. Those call centers not currently using *One Call Concepts* should work to overcome technical issues preventing the transfer of phone calls.

6. Hours of Operation

Practice Statement: The one-call center can process locate requests 24 hours a day, 7 days per week.

Discussion: The stakeholders supported this practice with few concerns. The need for continuous operation of a call center exists for two reasons - emergency locate requests, and the convenience of

excavators who prefer to call after close of business. Each of these requires a different response from the center. Emergency requests require immediate response. Routine locate requests made after hours can be treated like all other requests and are subject to the same 48-hour processing period.

Recommendation: Adopt practice as stated. A separate practice should be adopted regarding procedures for responding to emergency locate requests both during and after hours.

7. Voice Record of All Incoming Calls

Practice Statement: A voice recording is maintained of all voice transactions concerning requests to locate facilities.

Discussion: The stakeholders supported this practice with no concerns expressed.

Recommendation: Adopt practice as stated.

8. Retention of Voice Records According to Applicable Statutes

Practice Statement: Voice records of all calls concerning requests to locate facilities are kept in retention according to applicable statutes.

Discussion: The stakeholders supported this practice with no concerns expressed.

Recommendation: Adopt practice as stated.

9. Caller Feedback

Practice Statement: The one-call center provides the caller with the ticket number and the names of facility owner/operators who will be notified for each locate request.

Discussion: The stakeholders supported this practice with no concerns expressed.

Recommendation: Adopt practice as stated.

10. Printed Ticket Recall

Practice Statement: The one-call center can provide a printed copy of any ticket for a period of time determined by applicable statutes.

Discussion: The stakeholders supported this practice with no concerns expressed.

Recommendation: Adopt practice as stated.

11. Documented Operating Procedures, Human Resource Policies, and Training Manuals

Practice Statement: The one-call center has documented operating procedures, human resource policies and training manuals.

Discussion: The stakeholders supported this practice with no concerns expressed.

Recommendation: Adopt practice as stated.

12. Documented Owner Verification of Data Submitted by Facility Owners/Operators

Practice Statement: The one-call center returns the geographic description data base documentation to the facility owner/operator annually and after each change for verification and approval.

Discussion: As stated, the practice description generated considerable discussion principally because of the cost associated with this requirement. In particular, it was thought that annual data updates would be excessive. If this were replaced with a requirement that facility owners update the geographic description database documentation when necessary to keep the database accurate, the stakeholders would be very supportive of the practice statement.

Additional discussion took place on the use of the word "database," given that some call centers blanket-notify every member utility in a zip code (or other designated geographic area) and do not maintain an automated database.

Recommendation: Adopt practice statement without reference to annual reporting, instead require reporting when necessary to keep the call center database accurate.

13. Flexibility for Growth and Change

Practice Statement: The operating plan of the one-call center is sufficiently flexible to accommodate growth and change.

Discussion: The stakeholders supported this best practice with few concerns expressed.

Recommendation: Adopt practice as stated.

14. Meeting Between the Excavator and Facility Operator(s) Initiated by One-Call Notification

Practice Statement: The one-call center has a process for receiving and transmitting requests for meetings between the excavator and the facility operator(s) for the purpose of discussing locating facilities on large or complex jobs.

Discussion: The opinions expressed about this practice ranged from those who thought it was a necessary service of one-call centers to those who thought it should not be included at all as a best practice.

The concern was that if the one-call center is required to act as a "middleman," brokering meetings between excavators and facility owners, responsibility and thus liability shifts to the one-call center. A representative from Qwest provided information about how this practice works in other states. When requested, the call center issues a "meet ticket" which is provided as documentation of the meeting. This is distinct from the locate ticket which is a legal document specifying responsibilities of the parties involved. For large, complex jobs, the meet ticket provides a means for gathering information for the locate request and improving the accuracy of the information provided to the excavator. The start and stop dates are not triggered until the locate ticket is issued.

Recommendation: Call centers' governing boards should consider adopting this practice. A meeting facilitation process which is voluntary and focuses on improving the accuracy of locate information for complex jobs would enhance call center services. Boards need to consider liability issues when developing procedures for this purpose.

15. One-Call Center Accepts Notification from Designers

Practice Statement: The one-call center accepts design requests and has the ability to process them as designated by the facility owners/operators.

Discussion: The stakeholders supported this practice, with some concerns expressed.

Comments on this subject included the importance of making the distinction between providing notification of existing facilities to designers versus permitting new facilities to be installed. In addition, it was noted that there are no timelines associated with this service, and it would need to be prioritized differently from other locate requests.

Recommendation: Call centers' governing boards should consider adopting this practice.

16. Locate Request

Practice Statement: The one-call center captures the following information, at a minimum, on a locate request: the caller's name and phone number, the excavator's/company's name, address and

phone numbers; the specific location of the excavation; the start date and time of the excavation, and the description of the excavation.

Discussion: The stakeholders supported this practice with no concerns expressed.

Recommendation: Adopt practice as stated.

17. Practices to Reduce Over-Notification

Practice Statement: The one-call center employs practices designed specifically to reduce the number of notices transmitted to facility owners/operators, in which the reported excavation site is outside the owner's/operator's desired area of notification.

Discussion: The stakeholders supported this practice with some concerns expressed.

Call centers that continue to use answering services generally notify all utility owners in an area of an excavation project. This blanket-notification practice limits liability associated with the answering service making determinations as to whom to notify. The consequence of this practice is that utility owners receive notifications of excavations that do not affect their facilities. Because there is considerable expense in moving from an answering service using blanket notification to an automated, map-based system, this is a decision for the call center governing boards.

Others pointed out that using a map-based system that targets notifications increases ticket costs but decreases overall locate costs for facility owners. Finally, one commenter noted that over-notification is a function not only of the quality of information provided by facility owners, but also of the quality of the information given by the caller.

Recommendation: Call centers' governing boards should consider adopting this practice.

18. Disaster Recovery

Practice Statement: A one-call center develops, implements, and maintains an effective disaster recovery plan enabling the one-call function to continue in the event of a disaster.

Discussion: The stakeholders supported this practice with no concerns expressed.

Recommendation: Adopt practice as stated. The call center governing boards should consider this practice together with practice 21 that addresses physical and systems security and practice 22 that encourages the use of fault-tolerant hardware for the call center's critical operations.

19. Remote User Interface

Practice Statement: The one-call center provides users a means of direct, electronic entry of locate requests that maintain comparable ticket quality to an operator-assisted entry.

Discussion: As written, few stakeholders supported this practice. One participant noted that for efficiency purposes this practice makes sense, however, when applied in California, the quality of the ticket information dropped off dramatically. Another noted that the operators at the centers receive three to four weeks of training to ensure data accuracy, so there is a high probability that untrained users of the systems will not enter data as accurately as trained staff. In addition, companies choosing to enter their data remotely will be liable for inaccuracies resulting in damage. Finally, some were concerned about the potential of "hacking" into the system.

A proposal was made to allow for the entry of data subject to verification by trained call center staff, for quality control purposes. If language were added to the practice statement addressing the quality control issue, many more stakeholders would be supportive.

Recommendation: Call center governing boards need to exercise caution in adopting this best practice. High quality information is a priority in an effective damage prevention system. To the extent that data accuracy is negatively affected, this efficiency measure is not recommended.

20. Accept Multiple Reference Points for Locate Requests

Practice Statement: The one-call center is able to accept multiple types of points of reference to define the exact location of an excavation site (i.e., latitude/longitude, highway/railroad/pipeline, mile markers, address, street and cross-street, etc.).

Discussion: The stakeholders supported this practice with no concerns expressed.

Recommendation: Adopt practice as stated.

21. One-Call Center Security

Practice Statement: The one-call center provides appropriate physical and systems security, fire protection and electrical protection to protect the one-call center and its critical components.

Discussion: The stakeholders supported this practice with no concerns expressed.

Recommendation: Adopt practice as stated. The call center governing boards should consider this practice together with practice 18 that addresses disaster recovery and practice 22 that encourages the use of fault-tolerant hardware for the call center's critical operations.

22. Hardware Designed to Tolerate a Single Point of Failure

Practice Statement: The one-call center uses fault-tolerant hardware for its critical path operations, such as ticket taking, database access, and ticket delivery.

Discussion: Stakeholders were highly supportive of the practice statement if it included a reference to using "state-of-the-art" hardware for backing up information.

It was noted that the purpose of including this statement in the *Common Ground* report was to push call centers to eliminate periods of time when service is not available due to system failure. This is related to having a disaster plan in place, but is somewhat narrower. The idea would be for centers to use every possible option to avoid computer system shutdowns. For instance, centers should invest in a second hard drive and a tape drive back up.

Recommendation: Adopt practice as stated. The call center governing boards should consider this practice together with practice 18 that addresses disaster recovery and practice 21 that addresses physical and systems security.

23. One-Call Quality Standards

Practice Statement: The one-call center establishes performance standards for the operation of the center for the purpose of promoting accuracy, cost effectiveness and efficiency.

Discussion: The concept of performance standards set by a call center board was generally supported. There was concern some standards will create considerable cost and will raise ticket prices. For this reason, the group felt local boards should set the standards.

Recommendation: The call center governing boards are strongly encouraged to adopt quality standards in the categories of customer service, locate request quality, database quality and system functionality and locate request delivery timeliness.

Appendix A

OPS Best Practice Guidelines

1. Pro-active Public Awareness, Education, and Damage Prevention Activities

Practice Statement: The one-call center has a documented, pro-active public awareness, education, and damage prevention program.

Practice Description: The one-call center seeks opportunities to promote the need to "Call Before You Dig", to enhance awareness of responsibilities to safeguard workers and the public and protect the integrity of the buried infrastructure, to foster a cooperative approach between the owners of buried facilities and the digging community toward the prevention of damage to buried facilities and to promote the service it provides.

Typical Call Center activities include: promotional items; media advertising; participation at safety meetings; seminars and trade shows; contractor awareness programs; distribution of education material describing how the one-call system works; maintaining a database of active members of the local digging community; mediating and rationalizing the expectations of both the facility owners/operators and the digging community; and participation in local damage prevention or facility location and coordination committees.

2. Specifically Defined Geopolitical Service Area with No Overlap

Practice Statement: The one-call center(s) serving a specifically defined geopolitical area is (are) structured so that an excavator need only make one call, and a facility owner/operator need only belong to a single one-call center.

Practice Description: One-call programs are designed to promote ease of use for members (facility owners/operators) and for excavators. While this ease of use is enhanced when a one-call center serves a specifically defined geopolitical area that does not coincide with the service area of another one-call center, it is not essential.

There are three requirements a one-call program meets in order to be considered as having implemented this best practice:

- The program permits an excavator to use a single point of contact to submit and follow up on a notice of intent to excavate and notify affected facility owners/operators.
- The program permits a facility owner/operator to join a single one-call center and receive all appropriate notices.
- The program is designed so that all pertinent information is shared among one-call centers in the event more than one exists.

3. Formal Agreements with Members

Practice Statement: Each member of the one-call center abides by state statute where applicable or written agreement that states the rights and the responsibilities of the one-call members and the one-call center.

Practice Description: Operating procedures and bylaws are established. Procedures for the operation of a one-call center are simple. The concept is for service, not paperwork. Topics for procedures can be classified as: general, communications, center operations, reports, expenses, and publicity. These topics could be expanded to include guidelines and whatever else is needed for a particular system. Bylaws vary, depending on the type of organization. In some instances, they may prove unnecessary. If bylaws are adopted, simplicity is the key word. Items that could be incorporated include sections on membership (including rights), financial matters, meetings, elections and duties of officers. Any other agreements required are kept as simple as possible to facilitate understanding by all participants. Consideration is given to include "hold harmless" clauses, amounts of liability insurance, errors and omissions insurance, retention of records, cost allocations, reimbursements, area served (with options to expand as planned), and any special arrangements necessary. If an agreement to contract the service to an outside concern is made, it contains controls, checks and balances.

4. One-Call Center Governance

Practice Statement: The one-call center is governed by a board of directors representing the diverse makeup of the constituent groups, for example, facility owners/operators, designers, contractors/excavators, and government.

Practice Description: To ensure that a one-call system functions to the best benefit of the entire community, it is governed by a board of directors made up of representatives of the stakeholders. Board members are from a variety of industry types, such as facility owners/operators, contractors, designers, project owners and government representatives. Each board member is knowledgeable in their own industry and of how it interacts with the one-call system and all of the represented stakeholders.

5. Single Toll Free Statewide Number with Nationwide Access

Practice Statement: The one-call center(s) have a single toll free statewide number with nationwide access.

Practice Description: There will be only one statewide toll free telephone number for the one-call center(s) to receive locate requests. This number has nationwide access, meaning that a caller can reach the center(s) from anywhere in the country.

6. Hours of Operation

Practice Statement: The one-call center can process locate requests 24 hours a day, 7 days per week.

Practice Description: The one-call center has in place a process where a caller, at anytime of the day or night, every day of the year, who has a locate request can contact the one-call center and have that request processed.

7. Voice Record of All Incoming Calls

Practice Statement: A voice recording is maintained of all voice transactions concerning requests to locate facilities.

Practice Description: A voice recording of telephone communications for locate requests is made to ensure a precise record of the activity is retained. This recording can be legally supported in court as well as used for damage investigations.

8. Retention of Voice Records According to Applicable Statutes

Practice Statement: Voice records of all calls concerning requests to locate facilities are kept in retention according to applicable statutes.

Practice Description: Voice recordings are a factual record of the events that occurred between the caller and the one-call center. These factual records must be maintained and accessible until the applicable statute of limitations in the state have expired. Since these laws vary from state to state, no specific time period is set forth as best practice. In the absence of notice by some party to the contrary, after the expiration of the statute of limitations the records may be destroyed. The one-call center has a procedure for processing requests for voice information.

9. Caller Feedback

Practice Statement: The one-call center provides the caller with the ticket number and the names of facility owner/operators who will be notified for each locate request.

Practice Description: Providing the locate request number and the names of the facility owners/operators who will be notified enhances the efficiency of the one-call process. When provided the names of the facility owners/operators, the excavator knows which owners/operators will be notified in the area of the planned excavation. This helps the excavator determine if the facility owners/operators have responded to the locate request.

10. Printed Ticket Recall

Practice Statement: The one-call center can provide a printed copy of any ticket for a period of time determined by applicable statutes.

Practice Description: In the event of a damage investigation, litigation, or other event, it is often necessary to have a hard copy printout of a location request ticket. Local governments have statutory requirements for record retention in such cases. The one-call center has the ability to produce, as necessary, a copy of a location request ticket for the appropriate statutory period.

11. Documented Operating Procedures, Human Resource Policies, and Training Manuals

Practice Statement: The one-call center has documented operating procedures, human resource policies and training manuals.

Practice Description: The one-call center has documented operating procedures, human resource policies, and training manuals. Training manuals, practices, and policies are on the premises in a designated area or place, dated and available for reference.

12. Documented Owner Verification of Data Submitted by Facility Owners/Operators

Practice Statement: The one-call center returns the geographic description data base documentation to the facility owner/operator annually and after each change for verification and approval.

Practice Description: The one-call center can only work with the information related to the existence of buried facilities that its members provide. It is important that the one-call center be able to produce evidence that a member's data is accurate, according to that member. Regular verification of data is a part of the documented agreement or operating procedures between the owner and/or operator of buried facilities and the one-call center. Any deletions or additions made by the member are entered into the database and documentation of the change sent back to the member for verification, prior to activation.

13. Flexibility for Growth and Change

Practice Statement: The operating plan of the one-call center is sufficiently flexible to accommodate growth and change.

Practice Description: A successful one-call center maintains flexibility to respond to changes by forming and maintaining a responsive organization whose Board of Directors' composition allows adequate representation of the needs of all stakeholders.

A Board's ability to respond to change will be enhanced by drafting bylaws and operating procedures that reflect the current environment in which the one-call center serves. The most successful Boards review these documents on an ongoing basis to make sure they continue to reflect or respond to current conditions. These Boards conduct regular strategic planning sessions during which they review the current state of the Center's major systems, programs and outreach activities. Such assessments help them identify stakeholder needs for future growth and development.

Many members of Boards and center management teams keep themselves informed about and involved in the one-call industry by joining associations and attending conferences or other educational events that help them to better identify new opportunities for growth and change.

14. Meeting Between the Excavator and Facility Operator(s) Initated by One-Call Notification

Practice Statement: The one-call center has a process for receiving and transmitting requests for meetings between the excavator and the facility operator(s) for the purpose of discussing locating facilities on large or complex jobs.

Practice Description: The one-call center relays requests for job site facility meetings for excavators who request them with facility owners/operators. If a meeting is required to show the limits and schedule of the work, the one-call center indicates that a meeting is requested. The one-call center requires that the excavator provide sufficient information to fully identify the boundaries of the proposed work site. A meeting request does not necessarily eliminate the need for a locate request.

15. One-Call Center Accepts Notification from Designers

Practice Statement: The one-call center accepts design requests and has the ability to process them as designated by the facility owners/operators.

Practice Description: To facilitate damage prevention, project designers have a need for access to facility location information from facility owners/operators. If a design request is received, the one-call center provides a listing of facility owners/operators directly to the designer. Once the list is identified, the one-call center processes the request as designated by each facility owner/operator.

16. Locate Request

Practice Statement: The one-call center captures the following information, at a minimum, on a locate request: the caller's name and phone number, the excavator's/company's name, address and phone numbers; the specific location of the excavation; the start date and time of the excavation; and the description of the excavation.

Practice Description: A locate request is a communication between an excavator and one-call center personnel in which a request for locating underground facilities is processed. In addition to the minimum information required in the practice statement (above), the locate request should include any information, if available, that will help to establish the specific location of the excavation site. This information could include, for example:

A. More detailed information to help determine the specific location of the excavation. Such information may include:
    1. City
    2. County/Parish/Township
    3. State
    4. Street Address
    5. Street Name
    6. Length and direction of the excavation and the nearest adjacent cross streets (needed to bound area of excavation or extended excavation)
    7. Subdivision and lot number (for new development)
    8. Latitude/Longitude: Latitude-longitude coordinate(s) or specific address of the dig site may be done automatically by the GIS subsystem or determined by computer assisted customer service representative. The dig site can be a point, and area or box, or polygon. For a spatial rectangle (maximum/minimum latitude/longitude), the dig site must be wholly within the included area.
    9. Highway mile markers
    10. Railroad mileposts
    11. General directions/instructions
    12. Map grids
    13. Distance to nearest cross-street
    14. Any other pertinent references to help establish the location of the dig site

B. The intended start date and time of the excavation (i.e., the date excavation is actually expected to begin, which may be later than when excavation can legally begin based on the ticket date).
C. Type of excavation activity (i.e., boring, blasting, trenching, etc.)
D. Who the excavation work is being done for
E. What is the purpose of the work (i.e., what will be installed and/or built)
F. Additional remarks

17. Practices to Reduce Over-Notification

Practice Statement: The one-call center employs practices designed specifically to reduce the number of notices transmitted to facility owners/operators, in which the reported excavation site is outside the owner's/operator's desired area of notification.

Practice Description: The one-call center employs technology that allows the facility owner/operator to determine its desired area of notification by either polygons or grids. To reduce over-notifications, the technology should:

- enable the call center to define the proposed excavation site buffer to within approximately 800 feet; and

- provide the facility owner/operator the ability to identify its desired area of notification to within approximately 100 feet.

18. Disaster Recovery

Practice Statement: A one-call center develops, implements, and maintains an effective disaster recovery plan enabling the one-call function to continue in the event of a disaster.

Practice Description: The one-call center develops and implements an effective disaster recovery plan enabling it to continue operations in the aftermath of a disaster affecting the facility. Excavators and underground facility owners/operators outside of the area affected by the disaster can continue to conduct business with minimum to no delays in the services provided by the one-call center. The disaster recovery plan makes provisions for the one-call center to process emergency locate requests for the areas affected by the disaster.
The one-call center (the primary center) has a backup arrangement with another facility at a remote location (the secondary center). This arrangement includes:

- Telecommunications – alternate routing schedules are in place, ready to be activated within minutes of the primary centers' failure.

- Software and Hardware – the secondary center has compatible hardware with the primary center. The secondary center always has a copy of the primary's current software.

- Database – the secondary center receives the primary center's database including locate requests on a regular basis, preferably real-time.

- Simulated Emergency Testing – At least once a year, on a random basis, the disaster recovery plan is implemented to verify that it is operational.

19. Remote User Interface

Practice Statement: The one-call center provides users a means of direct, electronic entry of locate requests that maintains comparable ticket quality to an operator-assisted entry.

Practice Description: The one-call center has interactive data communications sufficient to permit remote data entry for members and excavators. The remote interface validates the input information and allows the user to make corrections if necessary. This correction is accomplished by referencing the same geographic database used at the one-call center when taking a voiced-in request. This process ensures that the ticket quality is maintained for all tickets.

20. Accept Multiple Reference Points for Locate Requests

Practice Statement: The one-call center is able to accept multiple types of points of reference to define the exact location of an excavation site (i.e., latitude/longitude, highway/railroad/pipeline, mile markers, address, street and cross-street, etc.).

Practice Description: The one-call center's locate request taking processes and computer system are designed to accept and process multiple types of reference points used by callers to (1) describe the location of their work and (2) define the excavation site. Examples of different types of reference points include: highway mile markers, railroad mileposts, valid address or street-cross street, latitude/longitude, township-range-section, city, county, political and mail address (zip code) boundaries, etc.

All stakeholders involved in the one-call process receive a corresponding benefit when the call center is able to define the excavation site as specifically as possible. The facility operator's job of determining the existence of a potential conflict is expedited, field personnel can find and mark the affected area much easier, and the excavator receives timely markings covering the area of excavation. Standardizing on a limited set of criteria reduces the flexibility of the system to serve the excavator and facility owner/operator. The one-call center invests in systems and processes that permit inclusion of a variety of types of reference points in defining the excavation site. The one-call center takes steps to link these reference points to the database used to register the facility operator's desired area of notification, thereby assisting in reducing over-notification.

21. One-Call Center Security

Practice Statement: The one-call center provides appropriate physical and systems security, fire protection and electrical protection to protect the one-call center and its critical components.

Practice Description: The one-call center needs protection from natural disasters and other threats. Since the one-call center is a critical link in the communication chain between the excavating community and facilities, it is important that the one-call center does whatever it can to provide adequate security, taking into account that it may well need to be operational in times of natural disasters or in the face of other threats. Security components could include:

- Physical security for the building and its employees through locked operations areas, lighting, employee key cards, guard patrols.
- Physical security for critical systems components. This may include locating the facilities in locked enclosures and restricting access to necessary personnel.
- General fire protection for the one-call center personnel and property.
- Specialized fire protection for critical systems components.
- Specialized theft protection for critical systems components.
- Telephone demarcation points in a protected area within the One-Call Center.

- Passwords and protections to limit access to computers and other systems.

- Offsite storage of duplicate database and necessary system software.

22. Hardware Designed to Tolerate a Single Point of Failure

Practice Statement: The one-call center uses fault tolerant hardware for its critical path operations, such as ticket taking, database access, and ticket delivery.

Practice Description: A fault system can withstand any single hardware malfunction without any interruption or degradation of service. These systems have the ability to identify the malfunctioning hardware component and permit its replacement while remaining online and processing its normal applications. These fault tolerant systems maximize the probability that the call center will be able to properly process an excavation request in the event of a failure or malfunction.

23. One-Call Quality Standards

Practice Statement: The one-call center establishes performance standards for the operation of the center for the purpose of promoting accuracy, cost effectiveness and efficiency.

Practice Description:

A. Customer Quality of Service Performance Measurements – It is best practice in the one-call center industry to monitor the quality of service provided to the customer calling the center. Key measurements include:

1. Speed of Answer

Process – Most call centers route incoming calls through an ACD (automatic call distributor) either via an on-premise PBX or a Centrex at the telephone company's central office. Both of these devices provide reports that identify, on the average, how long a caller had to wait before they were answered. This measurement is called average speed of answer (ASA) and is normally captured on a half hourly basis and accumulated for the day.

Service Level – An objective service level should be set based on customer satisfaction and economics. An ASA objective of 30 seconds or less is recommended.

2. Abandoned Calls

Process – The PBX or Centrex also provides this data. It will normally identify the number of calls abandoned and how long the callers waited before they hung up.

Service Level – An objective service level should be set based on percentage of calls. An abandonment rate of less than 5% by callers that waited more than 60 seconds is a reasonable objective.

3. Busy Signals

Process – The one-call center is equipped with sufficient incoming lines to minimize busy signals.

Service Level – The performance level for busy signals received by callers into the one-call center does not exceed 1% of the total incoming call volume.

4. Customer Satisfaction

Process – A fundamental principal in measuring quality is that " the customer defines quality." Periodic customer satisfaction surveys of callers are conducted.

Service Level – An objective service level is set based on percentage of caller's responses. An objective of 99% customer satisfaction is recommended.

B. Locate Request Content

The one-call center has in place a quality of service plan that includes measurements of accuracy, productivity, and defects in locate request tickets.

C. Relational Database Quality and System Functionality

The geographic relational database and the system that uses it confirm the hierarchical relationship between the street address, municipality, county and state.

D. Locate Request Delivery

The one-call center establishes the following minimum criteria for quality of locate request delivery. Transmission audit reports are sent to receiving locations daily.

1. Average emergency ticket transmission time(<5 minutes)
2. Average short notice ticket transmission time(<15 minutes)
3. Average normal ticket transmission time (<30 minutes)
4. The ticket information should be transmitted in an electronic data format that allows the receiving equipment to parse/extract the data.

E. Ratio of Incoming Locate Requests to Outgoing Ticket Transmission

The one-call center monitors the ratio of incoming locate requests to outgoing ticket transmissions. This data assists in evaluating the center's marketing, education, mapping, budgeting, and cost performance.