

**BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC.  
COMMON GROUND ALLIANCE – BEST PRACTICES**

<p style="text-align: center;"><b>ONE-CALL CENTER BEST PRACTICES</b> Best Practices Version 8.0 Published March 2011</p>	<p style="text-align: center;"><b>BLUE STAKES OF UTAH RESULTS / GAPS</b></p>
<p><b><i>1. Proactive Public Awareness, Education and Damage Prevention Activities</i></b></p> <p><b>Practice Statement:</b> The one-call center has a documented, proactive public awareness, education, and damage prevention program.</p> <p><b>Practice Description:</b> 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.</p> <p>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.</p>	<p><b>Results</b></p> <p>Blue Stakes provides the following information in promoting a pro-active public awareness, education, and damage prevention program.</p> <p>Promotional Handouts include:</p> <ul style="list-style-type: none"> <li>• “5 Steps to Safer Digging” Video, Color Code Stickers, Excavators’ Guide, Vehicle Stickers, Magnets, Key Chains, Trade Show Bags, &amp; Information Color Code Cards</li> </ul> <p>Media Advertising include:</p> <ul style="list-style-type: none"> <li>• Newspaper Advertisement</li> <li>• Trade Association Newsletter Articles</li> <li>• Press Releases</li> <li>• Television Spots</li> <li>• Posters in Trade Association Businesses (equipment rental companies &amp; irrigation supply companies)</li> <li>• Radio PSA Broadcasts</li> <li>• Billboards</li> </ul> <p>Damage Prevention Awareness Seminars</p> <ul style="list-style-type: none"> <li>• Moab, Blanding, Vernal, Price, Farmington, Coalville, Park City, Ogden, Provo, Salt Lake City, Cedar City &amp; St. George Areas</li> </ul> <p>Safety Meetings</p> <ul style="list-style-type: none"> <li>• Member Utilities &amp; Excavators</li> </ul> <p>Seminars, Trade Shows, &amp; Presentations</p> <ul style="list-style-type: none"> <li>• American Public Works Association APWA</li> <li>• Rural Water Association of Utah RWAU</li> <li>• Deseret News &amp; Salt Lake Tribune Home &amp; Garden Shows</li> <li>• Utah Nursery &amp; Landscaping Association</li> <li>• Water Environment Association of Utah WEAU</li> <li>• Utah Association of Special Districts</li> <li>• Associated General Contractors (AGC)</li> <li>• Associated Builders &amp; Contractors (ABC)</li> <li>• UDOT Engineering &amp; Maintenance Conferences</li> <li>• Utah Water Users Association</li> <li>• Utah Local Technical Assistance Program – LTAP</li> <li>• Utah Flower &amp; Landscaping Show</li> <li>• Utah League of Cities and Towns ULCT</li> <li>• DOPL Continuing Education Classes</li> </ul>

<p><b>2. <i>Specifically Defined Geopolitical Service Area with No Overlap</i></b></p> <p><b>Practice Statement:</b> 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.</p> <p><b>Practice Description:</b> 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.</p> <p>There are three requirements a one-call program meets in order to be considered as having implemented this best practice:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• The program permits a facility owner/operator to join a single one-call center and receive all appropriate notices.</li> <li>• The program is designed so that all pertinent information is shared among one-call centers in the event more than one exists.</li> </ul>	<p><b>Results</b></p> <p>Blue Stakes of Utah Utility Notification Center, Inc. is the only one-call association in the State of Utah serving both member utilities and excavators.</p>
<p><b>3. <i>Formal Agreements with Members</i></b></p> <p><b>Practice Statement:</b> Each member of the one-call center abides by state/provincial statute where applicable or written agreement that states the rights and the responsibilities of the one-call members and the one-call center.</p> <p><b>Practice Description:</b> 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</p>	<p><b>Results</b></p> <p>The center has on file a written agreement with member utilities indicating that the member agrees to abide by the bylaws and policies &amp; procedures of Blue Stakes of Utah Utility Notification Center, Inc. as well as Utah Code Title 54, Chapter 8a, Damage to Underground Utility Facilities.</p>

<p>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.</p>	
<p><b>4. One-Call Center Governance</b></p> <p><b>Practice Statement:</b> 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.</p> <p><b>Practice Description:</b> 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.</p>	<p><b>Results</b></p> <p>Blue Stakes of Utah Utility Notification Center, Inc. is governed by a Board of Directors made up of individuals representing the following utility classifications:</p> <ul style="list-style-type: none"> <li>• Questar Gas</li> <li>• CenturyLink</li> <li>• Rocky Mountain Power</li> <li>• Local Telephone Carriers / Fiber Optics</li> <li>• City &amp; Municipality Owned Utilities</li> <li>• Sewer</li> <li>• Water</li> <li>• Cable Television</li> <li>• Long Distance Telephone Carriers / Fiber Optics</li> <li>• Power</li> <li>• Gas/Oil/Petroleum Gathering &amp; Transmission</li> </ul> <p>In addition, the board has approved Advisory Board Members representing the following stakeholder entities:</p> <ul style="list-style-type: none"> <li>• Construction – AGC / Associated General Contractors</li> </ul>
<p><b>5. Single Toll Free Statewide Number with Nationwide Access</b></p> <p><b>Practice Statement:</b> The one-call center(s) have a single toll free statewide number with nationwide access.</p> <p><b>Practice Description:</b> 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.</p>	<p><b>Results</b></p> <p>The center has only one statewide toll free telephone number with nationwide access – (800) 662-4111.</p> <p>In addition to the statewide toll free telephone number, the center has also incorporated the national 811 “Call Before You Dig” three digit number that is redirected in Utah to Blue Stakes of Utah.</p> <p>The toll free number with nationwide access the center uses to redirect and track 811 calls is (866) 833-0694.</p>

<p><b>6. Hours of Operation</b></p> <p><b>Practice Statement:</b> The one-call center can process locate requests 24 hours a day, 7 days per week.</p> <p><b>Practice Description:</b> 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.</p>	<p><b>Gap</b></p> <p>The one-call center operational hours are Monday – Friday 7:00 a.m. – 5:00 p.m.</p> <p>In addition to normal business hours, the center provides an emergency after hours on-call program for member utilities only (801) 554-7747.</p> <p>24 X 7 access of generating tickets is available to members and contractors utilizing the center’s Internet applications (Remote Ticket Entry – RTE, Quick Ticket Entry – QTE, Internet Ticket Entry – ITE, and Online Ticket Revision - OTR).</p>
<p><b>7. Voice Record of All Incoming Calls</b></p> <p><b>Practice Statement:</b> A voice recording is maintained of all voice transactions concerning requests to locate facilities.</p> <p><b>Practice Description:</b> 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.</p>	<p><b>Results</b></p> <p>All incoming phone calls made to Blue Stakes toll free and local phone numbers for locate request purposes are recorded and stored for future reference. The records retention period for recorded phone calls is 5 years.</p>
<p><b>8. Retention of Voice Records According to Applicable Statutes</b></p> <p><b>Practice Statement:</b> Voice records of all calls concerning requests to locate facilities are kept in retention according to applicable statutes.</p> <p><b>Practice Description:</b> 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 limitation the records may be destroyed. The one-call center has a procedure for processing requests for voice information.</p>	<p><b>Results</b></p> <p>All incoming phone calls made to Blue Stakes toll free and local phone numbers for locate request purposes are recorded and stored for future reference. The records retention period for recorded phone calls is 5 years.</p> <p>The center has established procedures to process requests for voice information on recorded tickets that have been generated.</p>

<p><b>9. Caller Feedback</b></p> <p><b>Practice Statement:</b> The one-call center provides the caller with the ticket number and the names of facility owners/operators who will be notified for each locate request.</p> <p><b>Practice Description:</b> 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.</p>	<p><b>Results</b></p> <p>The center provides each caller with a LRA number on every generated ticket based upon established operating procedures.</p> <p>The center has the ability of providing the caller with the names and contact information of all member utilities who will be notified in conjunction with the specific ticket request. As a matter of normal operating procedure, this information is only provided to the caller upon request.</p>
<p><b>10. Printed Ticket Recall</b></p> <p><b>Practice Statement:</b> The one-call center can provide a printed copy of any ticket for a period of time determined by applicable statutes.</p> <p><b>Practice Description:</b> 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.</p>	<p><b>Results</b></p> <p>The center can provide a printed copy of any ticket generated over a period of 5 years. The records retention period for locate requests is 5 years.</p> <p>The center has established procedures to process research requests for a hard copy printout of a LRA number upon request.</p>
<p><b>11. Documented Operating Procedures, Human Resource Policies, and Training Manuals</b></p> <p><b>Practice Statement:</b> The one-call center has documented operating procedures, human resource policies and training manuals.</p> <p><b>Practice Description:</b> The one-call center has documented operating procedures, human resource policies, and training manuals. Training manuals, practices, procedures, and policies are on the premises in a designated area or place, dated, and available for reference.</p>	<p><b>Results</b></p> <p>The center has in place procedures manuals covering contact center operations, member maintenance, information technology management, and administration. The center has detailed training manuals for Customer Service Representatives as well as external customers that use remote access and remote ticket entry / quick ticket entry. An employee handbook is provided covering various HR related issues.</p> <p>A copy of the procedures manuals are located online and available for review. Documents within the manuals are dated and require, at a minimum, an annual review.</p>

<p><b>12. Documented Owner Verification of Data Submitted by Facility Owners/Operators</b></p> <p><b>Practice Statement:</b> 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.</p> <p><b>Practice Description:</b> 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 or operator of buried facilities and the one-call center. Any deletions or additions made by the member are entered into the data base and documentation of the change sent back to the member for verification, prior to activation.</p>	<p><b>Results</b></p> <p>Member utilities select the notification grids or shape files they have facilities in at the time of being set up as a member or upon notifying the center requesting a notification area selection review. The center has also notified member utilities requesting they review their grid or shape file selections due to periodic updates to the mapping system used on the center's operating system. Prior to December 5, 2002, the review process necessitated a visit to the center by the member utility or a visit to the member's facility by a representative of the center making the review process very ineffective and labor intensive.</p> <p>Effective December 5, 2002, the center implemented a new mapping software application providing member utilities the ability to review and update their selected grids or shape files on-line over the Internet. This process permits easy access and availability to verify grid selections or shape files without center intervention.</p>
<p><b>13. Flexibility for Growth and Change</b></p> <p><b>Practice Statement:</b> The operating plan of the one-call center is sufficiently flexible to accommodate growth and change.</p> <p><b>Practice Description:</b> 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.</p> <p>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.</p>	<p><b>Results</b></p> <p>By-Laws for the notification center are in place and reviewed on a regular basis.</p> <p>An annual review of center operations takes place each year in January at which time performance results from the previous year are reviewed and goals for the new year are presented to the board for approval.</p> <p>During the budget preparation each fiscal year, a board meeting is set aside to review and approve the projected budget for the next fiscal year.</p>

<p><b>14. Meeting Between the Excavator and Facility Operator(s) Initiated by One-Call Notification</b></p> <p><b>Practice Statement:</b> 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.</p> <p><b>Practice Description:</b> 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.</p>	<p><b>Results</b></p> <p>The center’s operating procedures facilitate requests for meetings between excavators and member utilities. Requests for a meet can be set up by appointment between 9:00 a.m. and 2:00 p.m. at least two business days from the time of the request. Member utilities have two business days after the time of the meet to mark their facilities. If any member utility is unable to attend the meet request, it is the member utility’s responsibility to contact the excavator to make other arrangements. The following procedures must be followed when requesting a meet:</p> <ul style="list-style-type: none"> <li>• Excavators must be present at the exact time and location given on the meet request. Member utilities will only wait at the specified location for 15 minutes. If the excavator is not present at the requested time and place, the request will be void. All meeting sites are normally outside.</li> <li>• Excavators are required to provide member utilities with either a written description or a map of their excavation area with the exact excavation areas described or marked.</li> <li>• A requested meet cannot cover several non-adjointing sites. In situations where there are several sites, a meet request must be made for each site.</li> </ul>
<p><b>15. One-Call Center Accepts Notifications from Designers</b></p> <p><b>Practice Statement:</b> The one-call center accepts design requests and has the ability to process them as designated by the facility owners/operators.</p> <p><b>Practice Description:</b> To facilitate damage prevention, project designers have a need to 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.</p>	<p><b>Gap</b></p> <p>There are no provisions in the state statue, “Damage to Underground Utility Facilities Act” addressing <i>Planning and Design</i> requests.</p> <p>The center will however provide the following means by which excavators can submit non-excavation requests to member utilities requesting information on the location of their underground facilities for planning and design purposes:</p> <ol style="list-style-type: none"> <li>1. Provide caller with list of plan &amp; design contacts provided by member utilities with underground facilities at the location in question; or</li> <li>2. Individuals/Companies have access 24X7 to Blue Stakes Utility Contacts link on its website to enter information, map out area in question, and obtain list of plan &amp; design contacts for member utilities from Blue Stakes database; or</li> <li>3. Process a normal locate request to have member utilities locate and mark underground facilities within 48 business hours.</li> </ol>

<p><b>16. Locate Request</b></p> <p><b>Practice Statement:</b> 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 activity.</p> <p><b>Practice Description:</b> 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 additional information could include, for example:</p> <p>A. More detailed information to help determine the specific location of the excavation. Such information may include:</p> <ol style="list-style-type: none"> <li>1. City</li> <li>2. County/Parish/Township</li> <li>3. State / Province</li> <li>4. Street address</li> <li>5. Street name</li> <li>6. Length and direction of the excavation and the nearest adjacent cross streets (needed to bound area of excavation or extended excavation)</li> <li>7. Subdivision and lot number (for new development)</li> <li>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 a polygon. For a spatial rectangle (maximum/minimum latitude/longitude), the dig site must be wholly within the included area.</li> <li>9. Highway mile markers</li> <li>10. Railroad mileposts</li> <li>11. General directions/instruction</li> <li>12. Map grids</li> <li>13. Distance to nearest cross-street</li> <li>14. Any other pertinent references to help establish the location of the dig site</li> </ol> <p>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).</p>	<p><b>Results</b></p> <p>With exception of capturing the start date of excavation, the center captures all of the minimum information referenced in the practice statement as well as all of the additional information listed. The center implemented a new mapping software application during 2002 which provides additional functionality including a Township / Range / Section overlay.</p>
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<p>C. Type of the excavation activity (e.g., boring, blasting, trenching, etc.)</p> <p>D. Who the excavation work is being done for</p> <p>E. What is the purpose of the work (i.e., what will be installed and/or built)</p> <p>F. Additional remarks</p>	
<p><b>17. Practices to Reduce Over-Notifications</b></p> <p><b>Practice Statement:</b> 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.</p> <p><b>Practice Description:</b> 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:</p> <ul style="list-style-type: none"> <li>• Enable the call center to define the proposed excavation site buffer to within approximately 800 feet; and</li> <li>• Provide the facility owner/operator the ability to identify its desired area of notification to within approximately 100 feet.</li> </ul>	<p><b>Results</b></p> <p>The center's ticket entry and mapping application provides the ability to select dig sites and member notification areas with grids and/or polygons with buffer zones in accordance with this best practice ensuring over notification is kept to a minimum.</p>
<p><b>18. Disaster Recovery</b></p> <p><b>Practice Statement:</b> 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.</p> <p><b>Practice Description:</b> 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.</p> <p>The one-call center (the primary center) has a backup arrangement with another facility at a remote location (the secondary center). This arrangement includes:</p> <ul style="list-style-type: none"> <li>• Telecommunications – alternate routing schedules are in place, ready to be activated within minutes of the primary centers' failure.</li> <li>• Software and Hardware – the secondary center has compatible hardware with the primary</li> </ul>	<p><b>Results</b></p> <p>The center approved a Disaster Recovery / Business Continuity Plan effective May 26, 2004. Reference document in Directors Corporate Book for approved policy and procedures.</p> <p>Blue Stakes placed all of its critical operating system components in a commercial disaster mitigation center (VIAWEST) constructed to survive a disaster or equipment failure to include:</p> <ul style="list-style-type: none"> <li>• Earthquakes of up to 7.8 on the Richter scale</li> <li>• Flood Tolerant based upon building built in a 9-foot deep concrete tub and raised on rubber base isolators. It would take over 1.5 million gallons of water before any equipment would get wet</li> <li>• Uninterruptible Power Supply (UPS)</li> <li>• Two separate power grids</li> <li>• Dual on-line fault tolerant electrical systems</li> <li>• Scalable cooling systems</li> <li>• Diesel backup generators capable of providing for at least 2 weeks independent power generation, tested weekly</li> <li>• Redundant telecommunication connectivity (bandwidth &amp; voice communications)</li> <li>• Non-toxic, moisture-free fire suppression system</li> </ul>

<p>center. The secondary center always has a copy of the primary's current software.</p> <ul style="list-style-type: none"> <li>• Database – the secondary center receives the primary center's database including locate requests on a regular basis, preferably real-time.</li> <li>• Staffing – a portion of the secondary center's staff is cross-trained for the primary center's operation at all times.</li> <li>• Simulated Emergency Testing – At least once a year, on a random basis, the disaster recovery plan is implemented to verify that it is operational.</li> </ul>	<p>In addition to installing its critical operating system components in the disaster mitigation center, Blue Stakes also upgraded its telephone switch and recording equipment to an IP (Internet Protocol) platform. The IP platform will enable Blue Stakes to provide both data and voice communications between the disaster mitigation center and other sites including its general administrative office and Customer Service Representatives (CSR's) working from home.</p> <p>The IP platform's functionality eliminates the need to place duplicate switch and recording equipment in the administrative office for disaster recovery purposes and allows for future enhancements to be performed less costly by software upgrades versus hardware replacement.</p> <p>Blue Stakes also implemented during the 4<sup>th</sup> quarter of 2004 a fully redundant ticket operating system. The redundant operating system will ensure continued operation in the event of equipment failure of either one of the redundant operating systems.</p> <p>Blue Stakes Disaster Recovery Plan provides the flexibility of having CSR's available to process incoming locate requests in the event of disaster or equipment failure from the administrative office, from CSR's working at home, or in the worst case scenario, relocating CSR's to the disaster mitigation center (VIAWEST).</p>
<p><b>19. Direct Electronic Locate</b></p> <p><b>Practice Statement:</b> 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.</p> <p><b>Practice Description:</b> 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.</p>	<p><b>Results</b></p> <p>The center provides member utilities and excavators including home owners the functionality to access the center's WEB page on the Internet to enter ticket requests using Remote Ticket Entry – RTE, Quick Ticket Entry – QTE, Internet Ticket Entry – ITE, and/or Online Ticket Revision - OTR with little or no intervention of center personnel. These applications reference the same operating system Customer Service Representatives in the center utilize.</p> <p>During 2011, the center experienced approximately 51% of all ticket requests generated through this remote functionality.</p>

<p><b>20. <i>Accept Multiple Reference Points for Locate Requests</i></b></p> <p><b>Practice Statement:</b> 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.).</p> <p><b>Practice Description:</b> 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.</p> <p>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.</p>	<p><b>Results</b></p> <p>The ticket entry operating system the center employs provides the functionality of accepting multiple types of points of reference to determine the exact location of an excavation. The center utilizes the following types of points of reference in processing ticket requests:</p> <ul style="list-style-type: none"> <li>• Valid Address</li> <li>• Street – Cross Street</li> <li>• Highway Mile Post Markers</li> <li>• Railroad Mile Post Markers</li> <li>• Latitude/Longitude Coordinates</li> <li>• Township/Range/Section</li> <li>• City Boundaries</li> <li>• County Boundaries</li> <li>• Ortho Imagery</li> </ul>
<p><b>21. <i>One-Call Center Security</i></b></p> <p><b>Practice Statement:</b> 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.</p> <p><b>Practice Description:</b> 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</p>	<p><b>Results</b></p> <p>Effective December 2003, the center established its primary communications center in a commercial disaster mitigation center (VIAWEST) to provide physical security for the building and its critical systems including:</p> <ul style="list-style-type: none"> <li>• Card, key-code, and biometric access</li> <li>• Security guards on premises 24/7/365</li> <li>• Visual authentication system</li> <li>• 24-hour camera surveillance inside and out</li> <li>• Fenced facility with gated entry and green field space</li> <li>• Man-traps at key access points</li> </ul>

<p>well need to be operational in times of natural disasters or in the face of other threats. Security components could include:</p> <ul style="list-style-type: none"> <li>• Physical security for the building and its employees through locked operations areas, lighting, employee key cards, guard patrols.</li> <li>• Physical security for critical systems components. This may include locating the facilities in locked enclosures and restricting access to necessary personnel.</li> <li>• General fire protection for the one-call center personnel and property.</li> <li>• Specialized fire protection for critical systems components.</li> <li>• Specialized theft protection for critical systems components.</li> <li>• Telephone demarcation points in a protected area within the One-Call Center.</li> <li>• Passwords and protections to limit access to computers and other systems.</li> <li>• Offsite storage of duplicate data base and necessary system software.</li> </ul>	<ul style="list-style-type: none"> <li>• Ceiling and sub-floor motion sensors</li> <li>• Sub-Floor caging</li> <li>• Secure equipment removal process</li> <li>• Appointment only site visits</li> <li>• Non-toxic, moisture-free fire suppression system</li> </ul> <p>The center does employ data security and Internet security software on its operating systems.</p> <p>Passwords are in place limiting access to computers and other systems.</p> <p>Offsite data storage is accomplished through a Storage Area Network (SAN) devise located at Blue Stakes disaster mitigation center and a SAN replication application located at Blue Stakes administrative office. Blue Stakes also maintains some offsite data storage in a safe deposit box located at a local bank including duplicate data base and systems software.</p> <p>Physical security for Blue Stakes administrative office consists of motion detectors and door sensors in an effort to detect unauthorized entry.</p>
<p><b>22. Hardware Designed to Tolerate a Single Point of Failure</b></p> <p><b>Practice Statement:</b> The one-call center uses fault tolerant hardware for its critical path operations, such as ticket taking, database access, and ticket delivery.</p> <p><b>Practice Description:</b> A fault tolerant 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 of malfunction.</p>	<p><b>Results</b></p> <p>The center employs hardware in its operating systems servers addressing the fault tolerant system requirements described.</p> <p>Blue Stakes implement during the 4<sup>th</sup> quarter of 2004 a redundant ticket entry operating system including delivery modems to ensure continued operation in the event of an equipment failure.</p> <p>In addition to the fault tolerant and redundant hardware employed on its critical operating systems, effective December 2003, placement of Blue Stakes critical operating systems in a commercial disaster mitigation center also provides redundancy on its telecommunications lines as well as its bandwidth connections (Internet).</p>
<p><b>23. One-Call Quality Standards</b></p> <p><b>Practice Statement:</b> The one-call center establishes and monitors performance standards for the operation of the center.</p> <p><b>Practice Description:</b></p> <p><b>A. Customer Quality of Service Performance Measurements</b> – It is best practice in the one-</p>	

call center to monitor the quality of service provided to the customer placing a locate request by telephone. Key performance indicators include, but need not be limited to, average speed of answer, call abandonment rate, busy signal rate, and customer satisfaction. The recommended benchmarks to fulfill a high quality of customer service while promoting accuracy, cost effectiveness and efficiency are identified below. Meeting or exceeding a benchmark would qualify as a “best” practice.

**1. Average Speed of Answer**

Average speed of answer (ASA) usually comprises the number of seconds between the time a caller is transferred from the IVR system and the time a voice welcomes the caller and begins the processing of a locate request averaged over a specified time interval and accumulated daily.

Service level objectives in the one call center industry are generally monitored daily, monthly and year to date. An ASA objective of 30 seconds or less is recommended.

**2. Abandoned Call Rate**

The incidence of abandoned incoming calls is a function of the number of one call center customer service representatives actively processing locate requests and the volume of incoming calls. Callers have an expectation that all calls will be answered within a reasonable time. A caller that has waited more than 60 seconds before hanging up is considered an abandoned call.

A monthly average abandonment rate that is less than 5% is recommended.

**3. Busy Signal Rate**

The incidence of callers experiencing busy signals is a function of the number of incoming telephone lines to the one call center and the incoming call volume. Callers have an expectation that there will be very few busy signals.

Typically, one call centers can extract information on busy signals from their

**Results**

The average speed of answer for the 2011 calendar year by month is:

January 2011	10 seconds
February 2011	14 seconds
March 2011	14 seconds
April 2011	18 seconds
May 2011	17 seconds
June 2011	20 seconds
July 2011	19 seconds
August 2011	24 seconds
September 2011	27 seconds
October 2011	20 seconds
November 2011	17 seconds
December 2011	13 seconds

**Results**

Percentage of abandonment rate for all calls received not just those of callers that waited more than 60 seconds for the calendar year 2011 by month is:

January 2011	0.55%
February 2011	1.31%
March 2011	1.19%
April 2011	1.85%
May 2011	1.44%
June 2011	1.51%
July 2011	1.51%
August 2011	2.55%
September 2011	2.25%
October 2011	1.62%
November 2011	1.44%
December 2011	0.92%

**Results**

During 2011, the center did not experience busy signals on its incoming lines that would have come close to exceeding the recommended service level.

<p>telephone systems or obtain the information from their communication service providers. The information usually comprises the number of callers experiencing a busy signal as a percentage of the total number of attempts to contact the one call center during normal business hours. Service level objectives are reported daily, monthly and year to date. It is recommended that the monthly average busy signal rate for the one call center not exceed 1%.</p> <p><b>4. Customer Satisfaction</b> A fundamental principal in measuring quality is that “the customer defines quality.” Periodic customer satisfaction surveys are conducted.</p> <p>The one call center makes all information/data collected on the quality of its performance available for review by the appropriate oversight authority and public up request.</p> <p><b>B. Locate Request Quality</b> The one call center has in place quality control and quality assurance programs to measure and monitor the accuracy and completeness of the information received by the one call center compared to the information transmitted by the one call center.</p> <p><b>C. Notification Delivery</b> The one call center establishes and monitors criteria for the transmission of notifications and notification audit reports.</p> <p>Typically, the one call center has the capability to transmit notification in an electronic format that allows receiving stations to parse/extract data.</p> <p>Notification audit reports are sent to receiving stations at a mutually acceptable frequency. It is a best practice to send an audit report at least once every business day.</p> <p>Typically, notification transmission is immediate.</p>	<p><b>Results</b> Blue Stakes Notification Center conducted Customer Satisfaction Surveys addressing telephone callers (3 quarterly surveys), remote ticket entry users (1 time), and Association members (1 time) during the 2009 calendar year.</p> <p><b>Results</b> CSR’s are evaluated monthly on the following performance measurements:</p> <ul style="list-style-type: none"> <li>• Quality Evaluations;</li> <li>• Problem Tickets;</li> <li>• Tickets Per Hour (TPH);</li> <li>• Overall Availability; and</li> <li>• Average Talk Time (ATT)</li> </ul> <p><b>Results</b> The center employed its operating system vendor to create a reporting mechanism to provide the times of delivery of locate requests as of June 2002. The average time of delivery for the months of January 2011 – December 2011 for emergency ticket transmissions, short ticket transmissions (rush ticket), and normal ticket transmission is:</p> <ul style="list-style-type: none"> <li>• Average Emergency Ticket Transmission <b>1.32</b> minutes</li> <li>• Average Short Ticket Transmission (Rush Ticket) <b>0.61</b> minutes</li> <li>• Average Normal Ticket Transmission <b>1.44</b> minutes</li> </ul> <p>Data is transmitted in an electronic data format allowing receiving equipment to parse/extract the data.</p> <p>An end of day audit report is automatically distributed daily.</p>
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<p><b>24. Web Services Solution</b></p> <p><b>Practice Statement:</b> The one-call center provides a method by which a member operator can receive their excavation notifications through a secure web service that utilizes an accepted standard for its ticket format, such as Extensible Markup Language (XML) 1.0.</p> <p><b>Practice Description:</b> In addition to all other methods and formats being used by one-call centers to communicate excavation notifications to underground facility owner operators that do not have automated ticket management systems, they should also provide one that is consistently secure and reliable. Establishing this format, such as Extensible Markup Language (XML) 1.0, will satisfy this practice. Providing e-mail and/or FTP communications methods alone will not satisfy this practice.</p>	<p><b>Results</b></p> <p>In conjunction with its ticket entry operating system vendor (Norfield Data Products, Inc.), the center has made available the Extensible Markup Language (XML) 1.0 formatting standard for members upon request.</p>
<p><b>25. Identification of Unknown Lines</b></p> <p><b>Practice Statement:</b> The one-call center has a defined and documented policy for handling calls from excavators regarding the discovery of an unidentified line.</p> <p><b>Practice Description:</b> To facilitate damage prevention, one-call centers should have an established procedure which is implemented when an excavator calls and reports an unidentified facility. The action taken could be as simple as re-notifying all affected facility operators in the absence of any other specific requirement of state or local law.</p>	<p><b>Results</b></p> <p>The center generates a Second Notice to member utilities who might have underground facilities in the area in question when an excavator contacts the center and reports an unknown underground facility.</p> <p>A description of the unknown facility is included on the Second Notice as reported. Member utilities in affected area are requested to respond if determined necessary based upon description provided.</p>
<p><b>26. One Call Membership</b></p> <p><b>Practice Statement:</b> Any entity that furnishes or transports products or services to a third party for their use or consumption by means of a underground facility or furnishes or transports products or services for its own internal use by means of an underground facility that occupies or crosses a right-of-way or utility easement is a member of a one call center.</p> <p><b>Practice Description:</b> Underground damage prevention begins with a notice of intent to excavate submitted by an excavator to the appropriate one call center. The process of notification depends on all affected member facility operators being notified of intent to excavate through the regional one call center.</p> <p>Membership in the one call center by underground</p>	<p><b>Results</b></p> <p>Section 9(1)(b)(i) of Utah Code Title 54, Chapter 8a, Damage to Underground Utility Facilities Act states that if an association is formed, each operator with an underground facility in the area shall become a member of the association and participate in it to:</p> <ul style="list-style-type: none"> <li>(A) receive a notice of a proposed excavation submitted to the association;</li> <li>(B) receive the services furnished by it; and</li> <li>(C) pay its share of the cost for the service furnished.</li> </ul> <p>Blue Stakes is the only association formed in the state of Utah for this purpose.</p> <p>There are currently 535 members participating in the association.</p>

<p>facility operators ensures that potential conflicts with existing facilities that may be encountered during excavation activities are identified by utilizing a single regional point of contact. Operators of those underground facilities described above that fail to become members of their local one call center risk public safety, damage to their facilities and endanger excavators who may come into contact with these aforementioned underground facilities.</p> <p>Some examples of an underground facility that would not suggest a requirement to be a one call center member follow: The internal use of owned underground facilities to provide safe operations in controlled rights of ways such as railroad operating corridors that facilitate the transportation of freight or passengers. The internal use of an entity's underground facilities by that entity solely on its own property. (Note: above ground use on one's rights of way or property, such as the transportation of freight or passengers by rail, are not within the purview of the CGA Best Practices)</p>	
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