# Statewide Damage Prevention Programs and the Nine Elements – 2014

The Pipeline Inspection, Protection, Enforcement, and Safety (PIPES) Act of 2006, and the Pipeline Safety, Regulatory Certainty and Job Creation Act of 2011, both placed strong emphasis on improving State excavation damage prevention programs. However, data show that excavation damage continues to be the reported cause in a significant number of pipeline incidents – especially for gas transmission and distribution pipelines.

PHMSA believes effective excavation damage prevention programs should be developed and implemented at the state level, to best impact the occurrence of excavation damage to pipelines. However, while many State excavation damage prevention programs are considered effective, and some have improved over the past several years, there continues to be considerable variability among State damage prevention laws/regulations and the effectiveness of related State programs.

PHMSA has characterized State excavation damage prevention programs with respect to the nine elements of effective damage prevention programs cited in the PIPES Act, through the use of a "characterization tool" that contains questions drawn from the Common Ground Alliance (CGA) Damage Prevention Best Practices and input from State pipeline safety regulators. Utilizing this tool, PHMSA communicated with key damage prevention stakeholders in each state, initially in 2009 and again in 2011, to determine the extent to which State excavation damage prevention programs align with each of the nine elements. Those characterization efforts have helped promote subsequent discussions concerning State damage prevention programs and the nine elements; they may also have promoted changes in some State damage prevention laws. The results qh'those characterization efforts are available to the public on PHMSA's Stakeholder Communications website.<sup>1</sup>

PHMSA now seeks to refresh the State damage prevention program characterization information. The questions documented in this revised characterization tool have been reviewed and updated since the last characterization effort conducted in 2011. The changes are based on feedback from those earlier characterization efforts, recent changes in State damage prevention laws, and the evolving nature of damage prevention programs and practices across the country. Many of the updated questionu are structured to address current high-priority issues, such as enforcement, exemptions and data collection and analysis.

<sup>&</sup>lt;sup>1</sup> http://primis.phmsa.dot.gov/comm/SDPPCDiscussion.htm

PHMSA's goal in this effort is to better understand the variability in State excavation damage prevention programs at a level of detail that can assist PHMSA with making decisions regarding how available resources might be applied to further support State damage prevention program efforts, and to convey information to stakeholders in an easy-to-read format. It should be noted that PHMSA will not use the results of this characterization effort to adjust funding for State pipeline safety base grants, assign ranking scores to State programs, or compare individual State damage prevention programs against one another. Rather, this effort is designed to illustrate State program strengths, as well as areas that could use improvement relative to the nine elements of effective damage prevention programs.

The results of this updated characterization effort will again be publicly available on PHMSA's Stakeholder Communications website. In each completed State program characterization, the characterization for each damage prevention program element criterion will be indicated by the following symbols:

- = Program element implemented
- Partially implemented or not fully developed program element; describe actions underway to improve
- Program element is not implemented
- $\otimes$  = No information available or not applicable

Some of the nine elements are evaluated more easily than others. Accordingly, the numbers of questions for the elements within this characterization tool vary and should not be construed as indicative of importance among the elements. For this effort, each of the nine elements is considered equally important.

For further reference, in a separate initiative PHMSA has developed and compiled information about individual State damage prevention laws/regulations. That information is also available on PHMSA's Stakeholder Communications website.<sup>2</sup>

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<sup>&</sup>lt;sup>2</sup> http://primis.phmsa.dot.gov/comm/DamagePreventionSummary.htm

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Overall Characterization:		

"Participation by operators, excavators, and other stakeholders in the development and implementation of methods for establishing and maintaining effective communications between stakeholders from receipt of an excavation notification until successful completion of the excavation, as appropriate."

	Characterization Criteria		$\otimes$	Notes
1.a	State law/regulation requires all excavators to contact the one-call center within a specified period of time prior to beginning an excavation, to notify facility operators of excavation plans and request that nearby underground facilities be located and marked.			
1.b	No <b>entities</b> are exempt from the requirement to notify the one call center before beginning an excavation.			
1.c	Exemptions for specific <b>activities</b> from the requirement to call the one-call center are justified through the use of supporting data. <i>Please list exemptions and the basis for the exemptions.</i>			
1.d	The one-call center can accept excavation notifications / locate requests any time of the day or night, every day of the year.			
1.e	Each notified underground facility operator is required to provide a positive response to the excavator, prior to excavation and within the time specified in the state law/regulation, that either: 1) the operator's underground facilities have been			

	Characterization Criteria		$\otimes$	Notes
	located and any potential conflicts within the areas of planned excavation have been appropriately marked; or 2) no potential conflicts exist.			
1.f	The one-call center has a process for receiving and transmitting requests for meetings between the excavator and facility operator(s) for the purpose of discussing project designs and/or locating facilities on large or complex jobs.			
1.g	State law/regulation requires, at a minimum, that when the planned excavation area cannot be clearly and adequately identified on the locate ticket, or when requested by the facility locator, the excavator must pre-mark (white line) the route and/or area to be excavated.			
1.h	State law/regulation requires the use of a uniform color code for marking the locations of underground facilities.			
1.i	State law/regulation requires the use of a uniform set of marking symbols.			
1.j	State law/regulation establishes the required response time for a facility operator for locating and marking underground facilities as no more than three days or 72 hours.			
1.k	Excavators must observe a tolerance zone comprised of the width of the underground facility plus a minimum of 18 inches on either side of the outside edge of the facility on a horizontal plane. When excavation is to take place within the specified tolerance zone, the excavator must exercise such reasonable care as may be necessary			

	Characterization Criteria		$\otimes$	Notes
	for the protection of any underground facility in or near the excavation area. This practice is not intended to preempt any existing state/provincial requirements that currently specify a tolerance zone of more than 18 inches.			
1.1	The one-call center requires that member facility operators provide the one-call center with mapping data to allow proper notification of planned excavation activities near each facility operator's infrastructure.			
1.m	The one-call center returns the geographic description database documentation to the facility operator annually and after each change, for the operator's verification and approval.			
1.n	State law/regulation requires excavators to notify the facility operator directly or through the one-call center if an underground facility is not found where one has been marked.			
1.0	State law/regulation requires excavators to notify the facility operator directly or through the one-call center if an unmarked underground facility is found.			
1.p	State law/regulation requires excavators to call the one-call center to refresh the ticket when excavation continues past the life of the ticket.			
1.q	State law/regulation requires that an excavator discovering or causing damage to a pipeline facility notify the pipeline operator. It requires that all breaks, leaks, nicks, dents, gouges, grooves, or other damages to facility lines, conduits, coatings or cathodic protection are to be reported.			

	Characterization Criteria		$\otimes$	Notes
1.r	State law/regulation requires that an excavator discovering or causing damage to a pipeline facility notify the one-call center.			
1.s	State law/regulation requires that, in the event of damage to a pipeline that results in the escape of any flammable, toxic, or corrosive gas or liquid, or endangers life, health or property, the excavator responsible for the damage must immediately notify 911 and the facility operator.			

### <u>Element 2 – Comprehensive Stakeholder Support</u>

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Overall Characterization:				
"A process for fostering and ensuring the support and par	tnership	of stak	eholder	s, including excavators, operators, locators,
designers, and local government in all phases of the progr	ram."			

	Characterization Criteria		$\otimes$	Notes
2.a	There is a prominent and recognizable damage prevention program champion (organization or person) leading an effort to improve the damage prevention program in the state. <i>Please identify</i> .			
2.b	There is at least one Regional Common Ground Alliance (or equivalent organization) active in the state. <i>Please describe</i> .			
2.c	State law/regulation exempts few facility operators at most from one-call membership. One-call membership exemptions are justified with documented data. <i>Please list exemptions and, if known, rationale for exemptions.</i>			
2.d	The one-call center is governed by a board of directors composed of stakeholder representatives, and ensures that the viewpoints of all stakeholders will be considered in the policies and programs of the one-call center.			
2.e	The CGA Best Practices are utilized for establishing policy, procedures, programs and processes, as appropriate.			

### <u>Element 3 – Operator Internal Performance Measurement</u>

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Overall Characterization:		

<sup>&</sup>quot;A process for reviewing the adequacy of a pipeline operator's internal performance measures regarding persons performing locating services and quality assurance programs."

	Characterization Criteria		$\otimes$	Notes
3.a	Pipeline operators have programs in place to routinely monitor the performance of facility locators that include training, qualification and performance measures.			
3.b	Performance issues for persons performing locating services for pipeline operators are addressed through mechanisms such as retraining, process change, or changes in staffing levels. <i>Please provide examples</i> .			
3.c	During inspections of jurisdictional pipeline operators, the State pipeline safety agency reviews each operator's locating and excavating procedures for compliance with Federal and State laws/regulations.			
3.d	During inspections of jurisdictional pipeline operators, the State pipeline safety agency examines samples of <u>records</u> to determine if facility locates are being made accurately and within the timeframes required by Federal and State laws/regulations.			
3.e	During inspections of jurisdictional operators, the State pipeline safety agency conducts field inspections to determine if locating and			

	Characterization Criteria		$\otimes$	Notes
	excavating personnel are properly <u>qualified</u> in accordance with the operator's Operator Qualification Plan and with Federal and State requirements.			
3.f	The State pipeline safety agency promptly addresses deficiencies in pipeline operators' performance monitoring programs for locators.			
3.g	Gas distribution service lines are located and marked in response to locate requests to operators that use the service lines in business to derive revenue by providing a product or service to an end-use customer via the service line.			

### **Element 4 – Effective Employee Training**

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Overall Characterization:				
"Participation by operators, excavators, and other stakeho				
programs to ensure that operators, the one call center, the	enforci	ing ager	ıcy, and	the excavators have partnered to design and
implement training for the employees of operators, excava-	tors, an	d locate	ors."	

	Characterization Criteria		$\otimes$	Notes
4.a	A statewide organization collaborates to develop appropriate training programs to educate stakeholders about their role with respect to damage prevention. <i>Please describe statewide training program or programs</i> .			
4.b	Damage prevention training programs, whether through a statewide collaborate effort or independently for operators, excavators, and locators, are open to enable and receive input from other stakeholders into the design, development and implementation of those training programs. <i>Provide examples as evidence</i> .			
4.c	Damage prevention training programs for operators, excavators, and locators are periodically evaluated for effectiveness and needed changes. <i>Provide examples and identify review periods</i> .			
4.d	Damage prevention training programs for operators, excavators, and locators are tailored to consider available data trends relative to performance, complaints, near misses, or damage incidents, and if necessary, in response to specific			

	Characterization Criteria		$\otimes$	Notes
	incidents. Provide examples.			
4.f	Damage prevention training programs for operators, excavators, and locators include the development and maintenance of training records for individuals that participate in the programs, and training records are available for review by the State enforcement authority if needed. <i>Provide examples, if available</i>			

### **Element 5 – Public Education**

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Overall Characterization:		

<sup>&</sup>quot;A process for fostering and ensuring active participation by all stakeholders in public education for damage prevention activities."

	Characterization Criteria		$\otimes$	Notes
5.a	Statewide, public damage prevention education is most visibly led by a single entity, such as the one-call center or regional CGA, and includes programs to educate all stakeholders about damage prevention and the requirements of the State damage prevention law/regulations.			
5.b	A process is implemented that enables and ensures active participation by representatives of all stakeholders in public damage prevention education.			
5.c	Statewide damage prevention education efforts target audiences and their individual needs, and incorporate planned approaches that effectively utilize available resources.			
5.d	Statewide damage prevention education efforts include at a minimum the following key messages: <b>Call</b> 811 before you dig; <b>Wait</b> the required time; <b>Locate</b> accurately; and, <b>Dig</b> with care.			
5.e	Statewide damage prevention education efforts include structured annual or biennial (every two years) measurement(s) to gauge success and/or needed improvements.			

### **Element 6 – Dispute Resolution**

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	Overall Characterization:				
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<sup>&</sup>quot;A process for resolving disputes that defines the State authority's role as a partner and facilitator to resolve issues."

	Characterization Criteria		$\otimes$	Notes
6.a	A designated State authority has a clearly defined role as a partner and facilitator in addressing damage prevention policy and programmatic issues.			
6.b	The designated State authority regularly meets with damage prevention stakeholders to discuss challenges and resolve issues relating to the State damage prevention program.			
6.c	The designated State authority actively engages stakeholders, seeking input and participation, with the goal of reaching consensus on damage prevention policies and procedures.			
6.d	The State damage prevention program has a clearly defined dispute resolution process.			

#### $\underline{Element\ 7-Enforcement}$

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Overall Characterization:		

<sup>&</sup>quot;Enforcement of State damage prevention law and regulations for all aspects of the damage prevention process, including public education, and the use of civil penalties for violations assessable by the appropriate State authority."

	Characterization Criteria		$\otimes$	Notes
7.a	The State damage prevention laws/regulations designate an enforcement authority. ( <i>If "Not Implemented"</i> , please Skip to Element 8.)			
7.b	The State enforcement authority has a defined process for receiving reports of violations from any stakeholder.			
7.c	The State enforcement program includes provisions for civil penalties for violations of the State damage prevention law/regulations			
7.d	The review process and civil penalty assessment considerations for violations of the State damage prevention laws/regulations are published and easily accessible to stakeholders.			
7.e	The State enforcement authority has issued civil penalties against violators of the State damage prevention law/regulation within the last 12 months, where appropriate.			
7.f	The provisions for civil penalties in the State damage prevention laws/regulations distinguish violations by levels of severity and/or repeat offenses.			
7.g	The civil penalty system is structured so that both			

	Characterization Criteria		$\otimes$	Notes
	pipeline operators and excavators are held equally accountable.			
7.h	The State enforcement authority's processes encourage stakeholder involvement in the periodic review and modification of enforcement processes.			
7.i	The State enforcement authority has the resources to respond to notifications of alleged violations in a timely manner.			
7.j	Anytime pipeline damage is reported, the State enforcement authority is required to perform an investigation, which may include on-site work or submission of documentation by the affected parties. This is to determine not only the responsible party but also the root cause of the damage.			
7.k	A structured review process is used to impartially adjudicate alleged violations. The review process is performed by either:  Type 1: A single entity, like the State pipeline safety regulatory authority, State Attorney General, or State-designated board with authority to adjudicate violations.  Type 2: A designated advisory committee (made up of stakeholders), which may make recommendations to the State enforcement authority for further adjudication. (Please indicate the entity performing reviews in notes.)			
7.1	The State enforcement authority uses other incentives, such as performance and education credits, in addition to civil penalties to encourage compliance to the State damage prevention			

	Characterization Criteria		$\otimes$	Notes
	laws/regulations.			
7.m	The State enforcement authority collects and makes available to interested parties annual statistics on the numbers of incidents, investigations, enforcement actions, proposed penalties, and collected penalties.			

#### Element 8 – Technology

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Overall Characterization:		

"A process for fostering and promoting the use, by all appropriate stakeholders, of improving technologies that may enhance communications, underground pipeline locating capability, and gathering and analyzing information about the accuracy and effectiveness of locating programs."

	Characterization Criteria		$\otimes$	Notes
8.a	Damage prevention program technology needs are systematically and periodically identified.			
8.b	Stakeholders work together to evaluate technologies that may improve damage prevention communications, capabilities, and processes. This includes participation in efforts to understand and improve technology at a state, region or national level through participation in committees, workshops, etc.			
8.c	As appropriate, the one-call centers, facility owners/operators, the State enforcement authority, excavators, locators, and other interested stakeholders participate in decision-making regarding the implementation and use of new technology.			
8.d	Implementation and use of improved technology is generally tailored to data trends relative to performance, complaints, near misses or damage incidents and, if necessary, in response to specific incidents.			
8.e	The one-call center provides users a means of direct, electronic ticket entry for a locate request,			

	Characterization Criteria		$\otimes$	Notes
	that maintains comparable ticket quality to an operator-assisted entry.			
8.f	The one-call center provides a method by which a member operator can receive excavation notifications through a secure internet web service that uses an accepted standard for its ticket format, such as Extensible Markup Language (XML) 1.0.			
8.g	The following technologies are incorporated into the one-call process:  • Geographic Information System (GIS)  • Global Positioning System (GPS)  • Orthographic and satellite imagery			

### **Element 9 – Damage Prevention Program Review**

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Overall Characterization:		

<sup>&</sup>quot;A process for review and analysis of the effectiveness of each program element, including a means for implementing improvements identified by such program reviews."

	Characterization Criteria			$\otimes$	Notes
9.a	The State authority or damage prevention leadership organization has an evaluation process that utilizes data to track the effectiveness of the damage prevention program against each of the nine elements of effective damage prevention programs. <i>Please describe the process</i> .				
9.b	Performance standards are established and monitored for the operation of the one-call center, including average speed of answer, abandoned call rate, busy signal rate, customer satisfaction, locate request quality, and notification delivery and other appropriate metrics.				
9.c	State law/regulation requires facility operators, locators, and excavators to report to the CGA Damage Information Reporting Tool (DIRT) or equivalent, information on incidents that could have or did lead to a damaged pipeline facility.				
9.d	Pipeline operators are required to report damages to the State pipeline safety regulator, with information that include the damaging party and the apparent cause of the damage.				
9.e	Reported damage data are aggregated, analyzed and		$  \; \sqcup \;  $		

	Characterization Criteria		$\otimes$	Notes
	used to assess and improve the State excavation damage prevention program.			
9.f	Aggregated damage data are used to establish program metrics. For example, a commonly accepted metric that compares how many underground damages occurred over a specific time period versus the total number of notification tickets issued during that period.			
9.g	Aggregated damage data are compiled into reports and made available to the public and other stakeholders.			

#### ${\bf Additional\ Information\ (add\ additional\ pages\ as\ necessary):}$

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•	Does the questionnaire include the appropriate questions to effectively characterize your state damage prevention program? PHMSA would like feedback concerning this initiative, whether specific to one element, several the process used, etc0
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