Statewide Damage Prevention Programs and the Nine Elements

The PIPES Act of 2006 placed strong emphasis on addressing and improving state damage prevention programs. PHMSA's position is that effective damage prevention programs should be developed and implemented at the state level. However, there is considerable variability among state damage prevention laws and related damage prevention programs.

PHMSA seeks to characterize and document the states' damage prevention programs relative to the nine elements of effective damage prevention programs defined in the PIPES Act. PHMSA's goal in this effort is to gain a better understanding of the variability in state damage prevention programs across the United States at a level of detail that will assist PHMSA with making decisions regarding where and how to apply resources. PHMSA has created this document as the foundation of the state damage prevention program characterizations.

The purpose of this effort is *not* to assign scores to states' damage prevention programs or to compare state programs against each other. Rather, this effort is designed to illustrate damage prevention program strengths and areas that could use improvement relative to the nine elements. PHMSA is interested in presenting a "Consumer Reports" style characterization of state damage prevention programs for presentation on PHMSA's Stakeholder Communications website. Thus, the characterization for each criterion will be indicated by the following symbols:

- ● = Largely implemented program element
- ◕ = Partially implemented or not fully developed program element; actions are underway or planned for improvements
- ◒ = Partially implemented or marginally effective program element that needs improvement; no actions are underway or planned for improvements
- ● = Program element is not implemented and needs to be addressed
- ⊗ = No information available or not applicable

Sources of Characterization Criteria

PHMSA believes that the criteria listed under each element below are representative, for the most part, of the findings and recommendations of all parties (NAPSR, EDPI, PHMSA, and others) that were involved in interpreting and providing guidance for implementing the nine elements. In many cases, the Common Ground Alliance (CGA) Best Practices state the recommendations in the most clear and concise way and are aligned with the intentions of the parties listed above. However, the use of CGA Best

Practices as criteria should not be construed as a mandate for adoption of the CGA Best Practices. Please note that only a selection of CGA Best Practices was used in this document and only if the Best Practices aligned with one or more of the nine elements. PHMSA recognizes that effective damage prevention programs can take many forms and the intent of this effort is to simply document what state damage prevention programs are currently doing.

Certain elements are more easily analyzed than others. Accordingly, the number of questions for each element varies. The number of questions for each element should not be construed as an indicator of the importance of the element. All elements are considered equally important. Finally, this document is not intended to be used by PHMSA as a basis for adjusting scores or reducing funding for state pipeline safety base grants.

No single document was the driver for development of the criteria. The resources used to develop the criteria were:

- PHMSA personnel and support staff recommendations
- PHMSA's Damage Prevention Assistance Program (DPAP) Guide (http://primis.phmsa.dot.gov/comm/publications/DPAP-Guide-FirstEdition-20080911.pdf?nocache=6648)
- Common Ground Alliance (CGA) Best Practices v. 6.0 (http://www.commongroundalliance.com/Content/NavigationMenu/Best_Practices/Best_Practices_2009/Best_Practices_Version_6_0.htm)
- Integrity Management for Gas Distribution (DIMP) Phase I Report, December 2005 (http://www.cycla.com/opsiswc/docs/S8/P0068/DIMP_Phase1Report_Final.pdf)
- Excavation Damage Prevention Initiative (EDPI) Guide to the 9 Elements (http://www.commongroundalliance.com/Content/ContentGroups/General_CGA/EDPI_GuideTo9Elements_CGAWebVersion.pdf)
- National Association of Pipeline Safety Representatives (NAPSR) member input

Documentation of State Damage Prevention Programs Not Included in This Document

- PHMSA's state damage prevention law review spreadsheet (currently under development)
- OCSI Resource Guide (2009-2010) one call law summary (p. 19)

Element 1 – Effective Communications

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	●	◓	◒	●	⊗	**Notes**
1.a	Unless otherwise specified in state law, excavators call the one call center at least two working days and no more than ten working days prior to beginning excavation. (CGA Best Practices v. 6.0, Best Practice 5-1; PHMSA)	☐	☐	☐	☐	☐	
1.b	All excavators must request the location of underground facilities at each site by notifying the facility owner/operator through the one call center. Few excavation activities are exempted from the one call requirement. Please list exemptions. (CGA Best Practices v. 6.0, Best Practice 5-1; PHMSA)	☐	☐	☐	☐	☐	
1.c	The excavator has access to a one call center 24 hours per day, 7 days a week. (CGA Best Practices v. 6.0, Best Practice 5-7)	☐	☐	☐	☐	☐	
1.d	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. (CGA Best Practices v. 6.0, Best Practice 3-2)	☐	☐	☐	☐	☐	

	Characterization Criteria	●	◓	◒	●	⊗	**Notes**
1.e	All facility locate requests result in a positive response from the facility owner/operator to the excavator. A positive response may include one or more of the following: markings or documentation left at the job site, callback, fax, or automated response system. A positive response allows the excavator to know whether all facility owners/operators have marked the requested area prior to the beginning of the excavation. (CGA Best Practices v. 6.0, Best Practice 4-9)	☐	☐	☐	☐	☐	
1.f	The one call center, facility owners/operators, and excavators all have clearly defined written processes that define roles and responsibilities and facilitate communication between all parties. (CGA Best Practices v. 6.0, Best Practice 4-14)	☐	☐	☐	☐	☐	
1.g	The communications processes support and encourage feedback from stakeholders on how the communication process can be improved. (PHMSA)	☐	☐	☐	☐	☐	
1.h	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 locating facilities on large or complex jobs. (CGA Best Practices v. 6.0, Best Practice 3-14).	☐	☐	☐	☐	☐	
1i	When the excavation site cannot be clearly and adequately identified on the locate ticket, the excavator designates the route and/or area to be excavated using white pre-marking (white-lining) prior to the arrival of the locator. (CGA Best Practices v. 6.0, Best Practice 5-2)	☐	☐	☐	☐	☐	
1.j	A uniform color code and set of marking symbols is adopted. (CGA Best Practices v. 6.0, Best Practice 4-3)	☐	☐	☐	☐	☐	
1.k	There are processes in place to encourage facility owners/operators to respond to locate requests promptly, accurately, in compliance with state law. (NAPSR)	☐	☐	☐	☐	☐	

	Characterization Criteria	●	◓	◒	●	⊗	**Notes**
1.l	Facility owners/operators provide the one call center with mapping data that will allow proper notification of excavation activities near the facility owners'/operators' infrastructure. (CGA Best Practices v. 6.0, Best Practice 6-12)	☐	☐	☐	☐	☐	
1.m	The locator provides feedback to the one call center on land base mapping and location discrepancies [and the one call center has a process in place to address these discrepancies]. (CGA Best Practices v. 6.0, Best Practice 6-9)	☐	☐	☐	☐	☐	
1.n	The excavator notifies the facility owner/operator directly or through the one call center if an underground facility is not found where one has been marked or if an unmarked underground facility is found. (CGA Best Practices v. 6.0, Best Practice 5-21)	☐	☐	☐	☐	☐	
1.o	An excavator discovering or causing damage to underground facilities notifies the facility owner/operator and the one call center. All breaks, leaks, nicks, dents, gouges, grooves, or other damages to facility lines, conduits, coatings or cathodic protection are reported. (CGA Best Practices v. 6.0, Best Practice 5-24; 49 USC Section 60114(d)(3)(A))	☐	☐	☐	☐	☐	
1.p	In the event of a damage 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 immediately notifies 911 and the facility owner/operator. (CGA Best Practices v. 6.0, Best Practice 5-25; 49 USC section 60114(d)(3)(B))	☐	☐	☐	☐	☐	

Element 2 – Comprehensive Stakeholder Support

Overall Characterization: ● ◓ ◒ ● ⊗

"A process for fostering and ensuring the support and partnership of stakeholders, including excavators, operators, locators, designers, and local government in all phases of the program."

	Characterization Criteria	●	◓	◒	●	⊗	**Notes**
2.a	There is a prominent and recognizable damage prevention program champion (organization or person) in the lead on improving the damage prevention program in the state.(PHMSA)	☐	☐	☐	☐	☐	
2.b	There are ongoing outreach efforts to engage and recruit stakeholders as partners in the damage prevention process. (PHMSA)	☐	☐	☐	☐	☐	
2.c	There are few facility owners/operators that are exempt from one call membership. (CGA Best Practices v. 6.0, Best Practice 3-26)	☐	☐	☐	☐	☐	
2.d	The one call center board of directors is composed of representatives of all stakeholders, assuring that the viewpoints of all stakeholders will be considered in the policies and programs of the one call center. (CGA Best Practices v. 6.0, Best Practice 7-2: Incentive – One Call Center Board of Directors, p. 53)	☐	☐	☐	☐	☐	
2.e	All stakeholders have opportunity for providing input and feedback regarding the damage prevention process, including any efforts to change the state damage prevention law, rules, best practices, etc. (PHMSA; NAPSR).	☐	☐	☐	☐	☐	

	Characterization Criteria	●	◓	◒	○	⊗	Notes
2.f	The one call center or another entity routinely hosts and conducts in-house and field meetings with excavators, locators, and operators to educate, raise awareness, and encourage communication among stakeholders on how the damage prevention process can be improved. (PHMSA)	☐	☐	☐	☐	☐	

Element 3 – Operator Internal Performance Measurement

	●	◓	◒	○	⊗
Overall Characterization:	☐	☐	☐	☐	☐

"A process for reviewing the adequacy of a pipeline operator's internal performance measures regarding persons performing locating services and quality assurance programs."

Note: As stated in the PIPES Act, this element is focused on hazardous liquid and gas pipeline operators. The PHMSA DPAP Guidance expands the scope of this element to include all underground facility operators, although other facility operators are less likely to have such internal performance and QA programs.

	Characterization Criteria	●	◓	◒	○	⊗	Notes
3.a	Pipeline operators have a quality assurance program in place for monitoring the locating and marking of facilities. Facility owners/operators conduct regular field audits of the performance of locators/contractors and take action when necessary. (CGA Best Practices v. 6.0, Best Practice 4-18, NAPSR)	☐	☐	☐	☐	☐	
3.b	Pipeline operators include performance measures in facility locating services contracts with corresponding and meaningful incentives and penalties. (NAPSR)	☐	☐	☐	☐	☐	

	Characterization Criteria	●	◓	◒	●	⊗	**Notes**
3.c	Locate contractors address performance problems for persons performing locating services through mechanisms such as re-training, process change, or changes in staffing levels. (PHMSA)	☐	☐	☐	☐	☐	
3.d	Facility owners/operators periodically review the Operator Qualification plan criteria and methods used to qualify personnel to perform locates. (NAPSR)	☐	☐	☐	☐	☐	
3.e	During inspections of jurisdictional operators, the state pipeline safety agency reviews operators' locating and excavation procedures for compliance with state law and regulations. (NAPSR)	☐	☐	☐	☐	☐	
3.f	During inspections of jurisdictional operators, the state pipeline safety agency examines a sample of records to determine if locates are being made within the timeframes required by state law and regulations. (NAPSR)	☐	☐	☐	☐	☐	
3.g	During inspections of jurisdictional operators, the state pipeline safety agency determines if locating and excavating personnel are properly qualified in accordance with the operator's Operator Qualification plan and with federal and state requirements. (NAPSR)	☐	☐	☐	☐	☐	

Element 4 – Effective Employee Training

Overall Characterization: ☐ ☐ ☐ ☐ ☐

"Participation by operators, excavators, and other stakeholders in the development and implementation of effective employee training programs to ensure that operators, the one call center, the enforcing agency, and the excavators have partnered to design and implement training for the employees of operators, excavators, and locators."

	Characterization Criteria	●	◓	◒	●	⊗	**Notes**
4.a	A multi-stakeholder training committee or equivalent has been established, with participation by the one call center, facility owners/operators, the state enforcement agency, excavators, locators, and other interested stakeholders. Input from the committee is factored into the identification of training needs and the development and implementation of employee training programs for operators, excavators and locators. Damage prevention program training needs are systematically and periodically identified. (NAPSR; PHMSA)	☐	☐	☐	☐	☐	
4.b	Training curricula are prepared, readily available, and periodically reviewed for needed changes. (PHMSA)	☐	☐	☐	☐	☐	
4.c	Employee training programs and the development process for these programs are periodically evaluated for effectiveness and needed changes. (PHMSA)	☐	☐	☐	☐	☐	
4.d	For all stakeholders, Employee training programs and needs are tailored to available data trends relative to performance, complaints, near misses or damage incidents and, if necessary, in response to specific incidents. (PHMSA)	☐	☐	☐	☐	☐	
4.e	A training calendar is maintained and training is scheduled in support of the needs of stakeholders. (NAPSR)	☐	☐	☐	☐	☐	
4.f	Training records for individuals are maintained. (PHMSA)	☐	☐	☐	☐	☐	

Element 5 – Public Education

Overall Characterization: ● ◓ ◒ ● ⊗

"A process for fostering and ensuring active participation by all stakeholders in public education for damage prevention activities."

	Characterization Criteria	●	◓	◒	●	⊗	**Notes**
5.a	Public education programs are used to promote compliance. A single entity is charged to promote comprehensive and appropriate programs to educate all stakeholders about the existence and content of the damage prevention laws and regulations. This is not meant to discourage individual stakeholders from providing educational programs. (CGA Best Practices v. 6.0, Best Practice 7-1 A)	☐	☐	☐	☐	☐	
5.b	The state damage prevention education program establishes strategic relationships in an effort to leverage common resources. These relationships are established between governmental agencies, emergency responders, associations of all types, media outlets, grass roots organizations, and others and involve partnering to further damage prevention education efforts. (CGA Best Practices v. 6.0, Best Practice 8-8)	☐	☐	☐	☐	☐	
5.c	The state damage prevention education program includes a comprehensive, strategic marketing/advertising plan that focuses on setting realistic goals and allocating sufficient resources required to achieve these goals within specified timeframes. (CGA Best Practices v. 6.0, Best Practice 8-1)	☐	☐	☐	☐	☐	
5.d	Damage prevention stakeholders, including facility owners/operators, locators, excavators, government representatives, and others use field representatives to provide education anytime and anywhere it is needed. (NAPSR)	☐	☐	☐	☐	☐	

	Characterization Criteria	●	◓	◒	●	⊗	Notes
5.e	The state damage prevention education program includes identification of target audiences and their individual needs. (CGA Best Practices v. 6.0, Best Practice 8-2)	☐	☐	☐	☐	☐	
5.f	The one call center has a documented, proactive public awareness, education and damage prevention program. (CGA Best Practices v. 6.0, Best Practice 3-1)	☐	☐	☐	☐	☐	

Element 6 – Dispute Resolution

	●	◓	◒	●	⊗
Overall Characterization:	☐	☐	☐	☐	☐

"A process for resolving disputes that defines the State authority's role as a partner and facilitator to resolve issues."

Interviewers: please ask for description of existing dispute resolution/enforcement process and description of any initiatives underway with respect to these elements. Document in summary paragraph on last page.

	Characterization Criteria	●	◓	◒	●	⊗	Notes
6.a	A state authority is designated as having a clearly defined role as a partner and facilitator in resolving/mediating damage prevention disputes. (PHMSA)	☐	☐	☐	☐	☐	
6.b	There is a due process for resolving disputes related to damage prevention issues. (PHMSA)	☐	☐	☐	☐	☐	
6.c	The state authority operates under a transparent set of rules and procedures to resolve damage prevention disputes. (PHMSA)	☐	☐	☐	☐	☐	
6.d	Dispute resolution is accomplished through a balanced committee of stakeholders. (PHMSA)	☐	☐	☐	☐	☐	

Element 7 – Enforcement

Overall Characterization: ☐ ☐ ☐ ☐ ☐

"Enforcement of State damage prevention laws 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	●	◓	◒	●	⊗	**Notes**
7.a	A damage prevention enforcement authority is defined by state law or regulation. (PHMSA)	☐	☐	☐	☐	☐	
7.b	The enforcement authority (if one exists) has a defined process for receiving reports of violations from any stakeholder. and a transparent violation review process and violation assessment considerations. (CGA Best Practices v. 6.0, Best Practice 7-5 A)	☐	☐	☐	☐	☐	
7.c	The violation review process and violation assessment considerations are transparent. (CGA Best Practices v. 6.0, Best Practice 7-5 A)	☐	☐	☐	☐	☐	
7.d	The enforcement authority (if one exists) collects and makes available to interested parties annual statistics on the numbers of incidents, investigations, enforcement actions, proposed penalties, and collected penalties. (PHMSA)	☐	☐	☐	☐	☐	
7.e	Damage prevention law and regulations are reasonably enforced. Reasonable enforcement refers to actions by enforcement authority officials and enforcement processes, both of which aim to fairly arrive at rational outcomes without imposing unnecessarily high transaction costs on any participant. The penalty system (if one exists) does not allow any violator or class of violators to be shielded from the consequences of a violation (i.e., all stakeholders are held accountable). (CGA Best Practices v. 6.0, Best Practice 7-3) (CGA Best Practices v. 6.0, Best Practice 7-2; NAPSR)	☐	☐	☐	☐	☐	

	Characterization Criteria	●	◓	◒	●	⊗	Notes
7.f	The compliance program (if one exists) includes penalties for violations of the damage prevention laws or regulations. Performance and penalty incentives are equitably administered among stakeholders subject to one call provisions. The penalty system (if one exists) uses a tiered structure to distinguish violations by the level of severity or repeat offenses (e.g., warning letters, mandatory education, civil penalty amounts). (CGA Best Practices v. 6.0, Best Practice 7-3)	☐	☐	☐	☐	☐	
7.g	The enforcement authority (if one exists) has a defined process for involving stakeholders in periodic review and modification of enforcement processes. (CGA Best Practices v. 6.0, Best Practice 7-5 A)	☐	☐	☐	☐	☐	
7.h	The enforcement authority (if one exists) has the resources to respond to notifications of alleged violations in a timely manner. (CGA Best Practices v. 6.0, Best Practice 7-5 A)	☐	☐	☐	☐	☐	
7.i	Any time a pipeline damage occurs, the enforcement authority (if one exists) performs a proper investigation. This is to determine not only the responsible party but also the root cause of the damage. (CGA Best Practices v. 6.0, Best Practice 4-16)	☐	☐	☐	☐	☐	
7.j	During investigations of incidents or accidents resulting from excavation damage, the state pipeline safety agency determines if state laws and regulations on locating and proper excavation were followed. (NAPSR)	☐	☐	☐	☐	☐	
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 a state pipeline regulatory authority, Attorney General, etc. Please indicate the entity performing reviews in notes.. ☐ Type 2: An advisory committee (made up of stakeholders) partnered with the enforcement authority.	☐	☐	☐	☐	☐	

	Characterization Criteria	●	◓	◒	○	⊗	Notes
7.l	Regardless of type, the review process is considered effective by most stakeholders. (CGA Best Practices v. 6.0, Best Practice 7 B)	☐	☐	☐	☐	☐	
7.m	The enforcement authority (if one exists) uses incentives, such as performance and education credits, to encourage compliance by stakeholders. (NAPSR)	☐	☐	☐	☐	☐	

Element 8 – Technology

	●	◓	◒	○	⊗
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	●	◓	◒	○	⊗	Notes
8.a	A multi-stakeholder committee or equivalent has been established to evaluate technologies that may improve damage prevention processes. The committee includes participation by the one call center, facility owners/operators, the state enforcement agency, excavators, locators, and other interested stakeholders. Damage prevention program technology needs are systematically and periodically identified. (PHMSA)	☐	☐	☐	☐	☐	

	Characterization Criteria	●	◓	◒	●	⊗	**Notes**
8.b	Implementation of technology among stakeholders is generally tailored to data trends relative to performance, complaints, near misses or damage incidents and, if necessary, in response to specific incidents. (PHMSA)	☐	☐	☐	☐	☐	
8.c	Effective training accompanies the implementation of new technologies. (PHMSA)	☐	☐	☐	☐	☐	
8.d	Critical stakeholders (such as the one call center and the enforcement authority) maintain records of key technologies that have been implemented, including disaster recovery and continuity of operations plans. (PHMSA)	☐	☐	☐	☐	☐	
8.e	The one call center uses available technology whenever possible to enhance all aspects of its communications with members, excavators, and the general public. (NAPSR)	☐	☐	☐	☐	☐	

Element 9 – Damage Prevention Program Review

Overall Characterization: ● ◓ ◒ ○ ⊗

"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	●	◓	◒	○	⊗	**Notes**
9.a	Data analysis and program evaluation are used to support the effectiveness of the program and the One Call law, identification and implementation of program improvements, such as process changes, enforcement actions, legislative actions, rulemaking/regulatory actions, and decisions regarding resource allocation. (PHMSA)	☐	☐	☐	☐	☐	
9.b	The one call center establishes and monitors performance standards for the operation of the center, including average speed of answer, abandoned call rate, busy signal rate, customer satisfaction, locate request quality, and notification delivery. (CGA Best Practices v. 6.0, Best Practice 3-23)	☐	☐	☐	☐	☐	
9.c	Facility owners/operators, locators, excavators, or stakeholders with an interest in underground damage prevention report damages to the CGA Damage Information Reporting Tool (DIRT) or equivalent. (CGA Best Practices v. 6.0, Best Practice 9-1; PHMSA)	☐	☐	☐	☐	☐	
9.d	Training and education on how and when to complete the damage reporting form (via DIRT or equivalent) is made available. (CGA Best Practices v. 6.0, Best Practice 9-8)	☐	☐	☐	☐	☐	
9.e	The reported damages data is used to assess and improve underground damage prevention efforts. (CGA Best Practices v. 6.0, Best Practice 9-16)	☐	☐	☐	☐	☐	

	Characterization Criteria	●	◓	◒	●	⊗	**Notes**
9.f	Results of damage reports are quantified against a standardized risk factor. The risk factor considers a stakeholder's exposure to potential damage. This risk factor may be based on factors such as the number of miles of line installed or the number of one call center notification tickets. For example, a risk factor may compare how many underground damages occurred in a certain time period versus the total number of notification tickets issued. (CGA Best Practices v. 6.0, Best Practice 9-20)	☐	☐	☐	☐	☐	
9.g	Performance levels and trends are assessed against other organizations. (CGA Best Practices v. 6.0, Best Practice 9-21)	☐	☐	☐	☐	☐	
9.h	The reported damages data (in whole or summarized) is made available to the public. (PHMSA)	☐	☐	☐	☐	☐	

Would it have been helpful to have other people on this call? If so, who?

Summary: In a paragraph, please summarize results, key points, challenges and initiatives underway for each state.

Interviewer:

Persons interviewed/organization:

Date: