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 of those characterization efforts are available to the public on PHMSA's Stakeholder Communications website.[1]

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 questions are structured to address current high-priority issues, such as enforcement, exemptions and data collection and analysis.

[1] 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
- ⊗ = No information available or not applicable

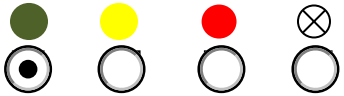
Some of the nine elements are evaluated more easily than others. Accordingly, the numbers of questions for the elements within this characterization tool vary and should not be construed as indicative of importance among the elements. For this effort, each of the nine elements is considered equally important.

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.[2]

[2] http://primis.phmsa.dot.gov/comm/DamagePreventionSummary.htm

State Name: Rhode Island

Element 1 ï 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."

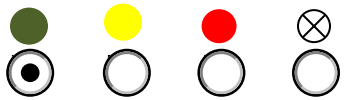
	Characterization Criteria	●	●	●	⊗	Notes
1.a	State law/regulation requires all excavators to contact the one-call center within a specified period of time prior to beginning an excavation, to notify facility operators of excavation plans and request that nearby underground facilities be located and marked.	◉	○	○	○	Rhode Island General Laws § 39-1.2-1
1.b	No **entities** are exempt from the requirement to notify the one call center before beginning an excavation.	◉	○	○	○	
1.c	Exemptions for specific **activities** from the requirement to call the one-call center are justified through the use of supporting data. *Please list exemptions and the basis for the exemptions.*	◉	○	○	○	Rhode Island General Laws § 39-1.2-1: As used in this chapter: ... (6) Excavation means...; excluding the movement of earth by tools manipulated only by human or animal power and the tilling of soil for
1.d	The one-call center can accept excavation notifications / locate requests any time of the day or night, every day of the year.	◉	○	○	○	In 2014, the 811 Dig Safe app was launched to enable individuals and organizations planning excavations to notify owners and operators of buried
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	◉	○	○	○	20 feet outside of the pre-mark does not require marking. While it is not required by law, it is a best practice that is often recommended.

	Characterization Criteria	●	●	●	⊗	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.	◉	○	○	○	If its over 500 feet, State law does not require the operator to pre-mark the area.
1.h	State law/regulation requires the use of a uniform color code for marking the locations of underground facilities.	◉	○	○	○	State law/regulation does not require a uniform set of markings; however, the law requires marks to be distinctive. 39-1.2-7.(d) For the purposes of this
1.i	State law/regulation requires the use of a uniform set of marking symbols.	◉	○	○	○	State law/regulation does not require a uniform set of markings; however, the law requires marks to be
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	●	●	●	⊗	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.l	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.	◉	○	○	○	Dig Safe provides a web based application that members can log into using their own unique password to view their map database. After each map change, a member is sent a notice and given
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.	◉	○	○	○	Section 39-1.2-5 of the General Laws in Chapter 39-1.2 entitled "Excavation Near Underground Utility Facilities" was amended effective July 2014 and states "If an excavator determines that a public
1.o	State law/regulation requires excavators to notify the facility operator directly or through the one-call center if an unmarked underground facility is found.	◉	○	○	○	39-1.2 entitled "Excavation Near Underground Utility Facilities" was amended effective July 2014 and states "If an excavator determines that a public utility facility has been mismarked, the excavator
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.	◉	○	○	○	Section 39-1.2-11 of the General Laws in Chapter 39-1.2 entitled "Excavation Near Underground Utility Facilities" was amended effective July 2014 and states "Upon the occurrence of any contact with or damage to any pipe, cable or its protective coating, or any other underground facility of a public utility, the appropriate or affected public utility shall be notified immediately by the person or public agency

	Characterization Criteria	●	●	●	⊗	Notes
1.r	State law/regulation requires that an excavator discovering or causing damage to a pipeline facility notify the one-call center.	○	○	◉	○	State law requires excavators to notify the appropriate affected utility company directly.
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.	○	◉	○	○	This is not required by State law/regulation. The State law requires the excavator to notify the affected utility company directly. One Call Rhode Island provides guidance that encourages the excavators to call 911 in order to dispatch local officials who will determine whether the community is in immediate danger, than notify the affected

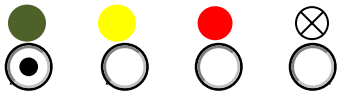
Element 2 – Comprehensive Stakeholder Support

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) leading an effort to improve the damage prevention program in the state. *Please identify.*	◉	○	○	○	-- Rhode Island Public Utilities Commission -- Managing Underground Safety Training (MUST) -- DIG Safe System, Inc.
2.b	There is at least one Regional Common Ground Alliance (or equivalent organization) active in the state. *Please describe.*	◉	○	○	○	Managing Underground Safety Training (MUST) Committee
2.c	State law/regulation exempts few facility operators at most from one-call membership. One-call membership exemptions are justified with documented data. *Please list exemptions and, if known, rationale for exemptions.*	◉	○	○	○	Although not specifically addressed in Rhode Island General Laws § 39-1.2, Rhode Island PUC has stated that only public utilities are required to mark their underground utilities, so Rhode Island D.O.T. does not mark their underground electric lines on highways, and non-regulated water companies do
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.	◉	○	○	○	While Dig Safe Systems, Inc. is governed by a Board of Directors, State law/regulation does not require/address Board make-up.
2.e	The CGA Best Practices are utilized for establishing policy, procedures, programs and processes, as appropriate.	◉	○	○	○	

Element 3 – Operator Internal Performance Measurement

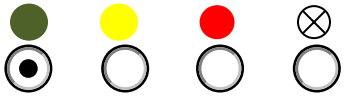
Overall Characterization: 

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

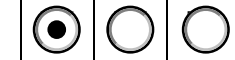
	Characterization Criteria	●	●	●	⊗	**Notes**
3.a	Pipeline operators have programs in place to routinely monitor the performance of facility locators that include training, qualification and performance measures.	◉	○	○	○	Rhode Island only has one gas company. Rhode Island PUC has a positive working relationship with this gas company.
3.b	Performance issues for persons performing locating services for pipeline operators are addressed through mechanisms such as re-training, process change, or changes in staffing levels. *Please provide examples.*	◉	○	○	○	Regular meetings and training sessions are held to address performance issues.
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.	◉	○	○	○	Annual inspections are conducted with the one-call center.
3.d	During inspections of jurisdictional pipeline operators, the State pipeline safety agency examines samples of records 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	●	●	●	⊗	Notes
	excavating personnel are properly qualified 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

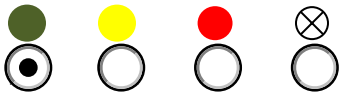
Overall Characterization: 

"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 statewide organization collaborates to develop appropriate training programs to educate stakeholders about their role with respect to damage prevention. *Please describe statewide training program or programs.*					Annual seminars by the MUST Committee and training sessions by the RI PUC Damage Prevention investigators are held annually.
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. *Provide examples as evidence.*					While voluntary and open to suggestions, all stakeholders may participate in the development of the MUST Committee training sessions and specific training is provided at the seminars for each utility type.
4.c	Damage prevention training programs for operators, excavators, and locators are periodically evaluated for effectiveness and needed changes. *Provide examples and identify review periods.*					Investigators frequently change training material in response to damage trends. Evaluations are provided at all MUST training sessions.
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					RI PUC tracks all damages and analyzes the trends; addressing them, as appropriate.

	Characterization Criteria	●	●	●	⊗	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. *Provide examples, if available*	◉	○	○	○	Damage prevention training programs require attendee sheets. Certificates of completion are provided to the attendees.

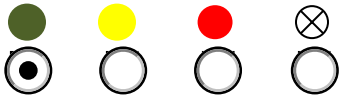
Element 5 – Public Education

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	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.					All excavators in the State are invited to free training sessions.
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: **Call** 811 before you dig; **Wait** the required time; **Locate** accurately; and, **Dig** 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.					Evaluations from MUST seminars and trends are observed and are used to improve training sessions.

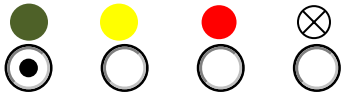
Element 6 – Dispute Resolution

Overall Characterization: 

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

	Characterization Criteria	●	●	●	⊗	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.	◉	○	○	○	Meetings are held with MUST and the Dig Safe Systems Board of Directors.
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.	◉	○	○	○	

Element 7 – Enforcement

Overall Characterization: 

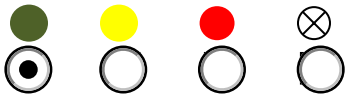
"Enforcement of State damage prevention law and regulations for all aspects of the damage prevention process, including public education, and the use of civil penalties for violations assessable by the appropriate State authority."

	Characterization Criteria	●	●	●	⊗	**Notes**
7.a	The State damage prevention laws/regulations designate an enforcement authority. *(If "Not Implemented", please Skip to Element 8.)*	◉	○	○	○	
7.b	The State enforcement authority has a defined process for receiving reports of violations from any stakeholder.	◉	○	○	○	In July 2014, new law requires both parties to report damages.
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.	◉	○	○	○	This information is available on the RI PUC and Dig Safe Systems websites.
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.	◉	○	○	○	Civil penalties range from $350 to $2000. Further, State law does not all egregious repeat violators go bid on State contracts.
7.g	The civil penalty system is structured so that both	◉	○	○	○	

	Characterization Criteria	●	●	●	⊗	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.	○	◉	○	○	RI PUC is not required to perform investigations or require the submission of documentation; however, has a policy in place to record and/or document pipeline damage incidents.
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.)*	◉	○	○	○	RI PUC has an adjudication process in place.
7.l	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	●	●	●	⊗	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

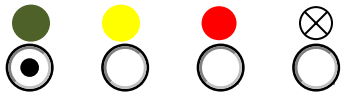
Overall Characterization: 

"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	Damage prevention program technology needs are systematically and periodically identified.	◉	○	○	○	MobileApp was implemented in 2014. Further, there is a computerized system to track Digg Safe
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.	◉	○	○	○	Damage Prevention investigators utilize a database (RDMS) via tablets out in the field as well as a customized web-based application. There is also another web-based application (OKTODIG) which is utilized by both the investigators as well as excavator & operators to
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.	◉	○	○	○	Dig Safe tickets by coordinates and other techniques to improve accuracy. The Investigator's use of the RDMS database and tablets.
8.e	The one-call center provides users a means of direct, electronic ticket entry for a locate request,	◉	○	○	○	

	Characterization Criteria	●	●	●	⊗	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

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	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. *Please describe the process.*	◉	○	○	○	
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.	◉	○	○	○	Dig Safe has in place a QC program for the ticket taking process as well as reporting tools to gather telephone data to ensure the call center is running as efficiently as possible.
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.	○	○	◉	○	State law/regulation does not require reporting to DIRT.
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.	○	◉	○	○	Pipeline operators are required to report all gas line damages to the State.
9.e	Reported damage data are aggregated, analyzed and	◉	○	○	○	

	Characterization Criteria	●	●	●	⊗	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.	◉	○	○	○	

Additional Information **(add additional pages as necessary):**

- *Summary: In a paragraph, please summarize results, key points, challenges and initiatives underway relative to underground facility damage prevention for the state.*

Rhode Island is considering a change in its damage prevention law to exempt shale depth of cover cut of cement and the establishment of a safe area for removing payment without calling 811. The exemption will be modeled after a law in Connecticut and may reduce superfluous 811 tickets.

Sections 39-1.2-5 and 39-1.2-11 of the General Laws in Chapter 39-1.2 entitled "Excavation Near Underground Utility Facilities" were amended and enacted June 14, 2014; effective July 1, 2014.

- *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, etc.*

Question 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" is poorly written and does not clearly articulate its purpose. It is not clear if this question is pertaining to Natural Gas Master Meter Operators.

- *Who (stakeholder entities) participated in completing this self-assessment and who else (stakeholder entities) should be consulted?*

Don A. Ledversis, Gas Safety Engineer, Rhode Island Division Public Utilities & Carriers, participated in completing this self-assessment on Friday, August 19.

Robert Finelli, Executive Director, Dig Safe System, Inc., did not participate in the meeting; however, was provided the results of the self-assessment by e-mail.

Date: Friday, September 19, 2014

Name/ Organization/e-mail address:
Participants: Don Ledversis, Rhode Island PUC, 401-780-2123, Don.Ledversis@dpuc.ri.gov

Participants: