



AGA's Commitment to Enhancing Safety: Revised February 2016

AGA and its members are dedicated to the continued enhancement of pipeline safety. As such, we are committed to proactively collaborating with federal and state regulators, public officials, emergency responders, excavators, consumers, safety advocates and the public to continue improving the industry's longstanding record of providing natural gas service safely, reliably and efficiently to 177 million Americans. AGA and its members support the development of reasonable regulations to meet federal objectives and National Transportation Safety Board recommendations.

Below are voluntary actions that are being taken by AGA or individual operators to help ensure safe and reliable operation of the nation's 2.5 million miles of natural gas pipeline which span all 50 states with diverse geographic and operating conditions. AGA and its individual operators recognize the significant role that their state regulators or governing bodies play in supporting and funding these actions.

It is the consensus of AGA members that the actions listed below enhance safety, gas utility operations, and reduce greenhouse gas emissions when implemented as an integral part of each operator's specific safety programs. However, both the need to implement and the timing of implementation of these actions will vary with each operator. Each operator will need to evaluate the actions in light of system and geographic variables, the operator's independent integrity assessment, risk analysis and mitigation strategy and what has been deemed reasonable and prudent by their state regulators. Therefore, not all of these recommendations will be applicable to all operators.

Building Pipelines for Safety

Construction

- Expand requirements of the Operator Qualification rule to include new pipeline construction.
- Review established pipeline construction oversight procedures to ensure adequacy and compliance with those procedures.
- Implement industry leading practices when installing new pipelines to help prevent damage to other facilities.

Emergency Shutoff Valves

- Support a risk based approach to the installation of automatic and/or remote control isolation valves where technically and operationally feasible on newly constructed or entirely replaced transmission lines.
- Work with regulatory agencies and policy makers to develop guidelines for consideration of automatic and/or remote control isolation valves on transmission lines that are in service.
- Expand the use of excess flow valves (EFVs) to new and fully replaced branch services, small multi-family facilities, and small commercial facilities where technically and operationally feasible.

Operating Pipelines Safely

Integrity Management

- Advance integrity management programs and principles to mitigate system specific risks. This includes operational activities, repair, replacement or rehabilitation of pipelines and associated facilities where it will most improve safety and reliability.
- Collaborate with stakeholders to develop and promote effective cost-recovery mechanisms to support pipeline assessment, repair, rehabilitation, and replacement programs.
- Develop industry guidelines for data management to advance data quality and knowledge related to pipeline integrity.
- Support development of processes and guidelines that enable the tracking and traceability of new pipeline components.

Excavation Damage Prevention

- Support strong enforcement of the 811 – Call Before You Dig program, and advocate for the reduction of excavator exemptions within state damage prevention laws.
- Improve engagement between the operator and excavators on the need to call before digging to reduce excavation damage.

Physical and Cybersecurity/System Controls

- Take actions that help strengthen the physical and cybersecurity of the gas utility industry.
- Enhance system monitoring and control of gas systems.

Enhancing Pipeline Safety

Safety Knowledge Sharing

- Expand the voluntary national Peer Review Program to allow companies to observe their peers, identify what is working well, identify opportunities to improve, and share leading practices.
- Evaluate the work of other industries to improve safety. Identify and implement models that will assist in enhancing safety and encourage knowledge exchange among operators, contractors, government and the public.

Workforce Development

- Collaborate with industry, government, educational institutions and labor groups to develop solutions to address the need for a qualified, diverse workforce.

Public Awareness and Emergency Response

- Evaluate methods to effectively communicate with public officials, excavators, consumers, safety advocates and the public about the presence of pipelines. Implement tested and proven communication methods to enhance those communications.
- Partner with emergency responders to share information and improve emergency response coordination.

Pipeline Planning Engagement

- Work with a coalition of Pipelines and Informed Planning Alliance (PIPA) Guidance stakeholders to increase awareness of risk based land use options and adopt existing PIPA recommended best practices.

Advancing Technology Development

- Increase investment, continue participation, and support research, development and deployment of technologies to improve safety.

AGA's Commitment to Enhancing Safety: Industry Actions That Exceed 49 CFR Part 192

Building Pipelines for Safety

Construction

- Maintain a clearinghouse on effective cost-recovery mechanisms that states have used to fund infrastructure repair, replacement and rehabilitation projects.

Emergency Shutoff Valves

- Install EFVs on new and fully replaced branch services, small multi-family facilities, and small commercial facilities where technically and operationally feasible.

Operating Pipelines Safely

Integrity Management

- Advocate programs to accelerate the risk-based repair, rehabilitation and replacement of pipelines.
- Support development of processes and guidelines that enable tracking and traceability of pipeline components.
- Continue the Plastic Pipe Database Committee's work to collect and analyze plastic material failures.
- Incorporate systems and/or processes to reduce human error.
- Promote the use of API RP 1171, *Functional Integrity of Natural Gas Storage in Depleted Hydrocarbon Reservoirs and Aquifer Reservoirs*, and API RP 1170, *Design and Operation of Solution-mined Salt Caverns Used for Natural Gas Storage*. This includes teleconferences, workshops and roundtables to share lessons learned from companies voluntarily adopting the recommended practices,

Excavation Damage Prevention

- Use a risk-based approach to improve excavation monitoring.
- Support the Common Ground Alliance, the use of 811 and other damage prevention initiatives through outreach, education, intervention and enforcement.
- Influence and/or support state legislation to strengthen damage prevention programs.
- Encourage participation in One-Call by all underground operators and excavators.

Physical and Cybersecurity/System Controls

- Participate in a Downstream Natural Gas Information Sharing & Analysis Center (DNG ISAC).
- Conduct cybersecurity vulnerability assessments.
- Collaborate with government to develop and implement guidance, such as *DOE ONG-C2M2*, *DOE Energy Sector & TSA Transportation Sector Framework Implementation Guidance* and *NIST Energy Sector Cybersecurity Framework Implementation Guidance*
- Create industry guidance and hold events to strengthen the physical and cybersecurity of the natural gas infrastructure, including the *Natural Gas Utility Threat Analysis Elements & Mitigations Guidance*, *Cybersecurity Procurement Language Guidance*, an AGA Energy Delivery Cybersecurity Executive Summit, cyber threat analysis workshops, insider threat workshops, workshops on the Oil and Natural Gas Cybersecurity Capability Maturity Model (ONG C2M2), and an annual AGA/EEI Security Conference.

Enhancing Pipeline Safety

Pipeline Safety Management Systems

- Promote the use of API RP 1173, Pipeline Safety Management System (PSMS) Recommended Practice, including piloting of the PSMS, teleconferences and workshops to share lessons learned, and tools that can help the industry implement the PSMS.
- Promote the AGA Safety Culture Statement and a positive safety culture throughout the natural gas industry.

Safety Knowledge Sharing

- Continue AGA Board Safety Committee initiatives, such as sharing lessons learned through the Safety Information Resource Center, safety alerts through the AGA Safety Alert System, safety communications with customers, supporting AGA's Safety Culture Statement, and holding an annual Executive Leadership Safety Summit.
- Recognize statistical top safety performers, promote safety performance and encourage knowledge sharing through AGA Safety Awards.
- Continue the work of the AGA Best Practices Programs to identify superior performing companies and innovative work practices that can be shared with others to improve operations and safety.
- Conduct workshops, teleconferences, discussion groups, and other events to share information including pipeline safety reauthorization, DIMP/TIMP, fitness for service, records, in-line inspection, emergency response, and other key safety initiatives

Workforce Development

- Support of the efforts of the Center for Energy Workforce Development, Energetic Women, natural gas boot camps, regional gas associations, and educational institutes on solutions to address the need for a qualified, diverse workforce.

Public Awareness and Emergency Response

- Explore ways to educate, engage and provide appropriate information to stakeholders to increase pipeline public awareness and the need to call if you smell gas.
- Support public awareness programs targeted at damage prevention and pipeline safety awareness
- Use industry training facilities and evaluate opportunities to expand outreach/education programs to external stakeholders.
- Reach out to emergency responder community in order to enhance emergency response capabilities.
- Collaborate with stakeholders near existing transmission lines to increase awareness/adoption of appropriate PIPA recommended best practices.
- Conduct organizational response drills to improve emergency preparedness.
- Participate in state, regional and national multi-agency emergency response training exercises.
- Support industry participation in a mutual assistance program.
- Search for new and innovative ways to inform, engage and provide appropriate information to stakeholders, including emergency responders, public officials, excavators, consumers, safety advocates, and the public living near pipelines.
- Educate the Pipeline Safety Trust and other public stakeholders on distribution and intrastate transmission pipelines, AGA and industry initiatives to improve pipeline safety, and receive input.
- Develop publications dedicated to improving safety and operations.

Pipeline Planning Engagement

- Build an active coalition of AGA member representatives to work with PHMSA and other stakeholders to implement PIPA recommended practices pertaining to encroachment around existing transmission pipelines.

Advancing Technology Development

- Support R&D investment, pilot testing and technology implementation.
- Work with PHMSA and other stakeholders on opportunities to increase R&D funding and deployment of technologies.
- Advocate to state commissions the inclusion of research funding in rate cases.



AGA's Commitment to Enhancing Safety: Actions Completed

Building Pipelines for Safety

Construction

- ✓ Review and revise established construction procedures to provide for appropriate (risk-based) oversight of contractor installed pipeline facilities.
- ✓ Extend Operator Qualification to include tasks related to new main & service construction.
- ✓ Implement applicable portions of AGA's technical guidance document, "Oversight of new construction tasks to ensure quality."

Emergency Shutoff Valves

- ✓ Expand EFV installation beyond single family residential homes to small commercial and multi-family residential services.
- ✓ Begin risk-based evaluation on the use of automatic shutoff valves, remotely controlled valves or equivalent technology in HCAs.

Operating Pipelines Safely

Integrity Management

- ✓ Confirm the established Maximum Allowable Operating Pressure (MAOP) of transmission pipelines.
- ✓ Under DIMP, evaluate risk associated with trenchless pipeline techniques and implement initiatives to mitigate risks.
- ✓ Under DIMP, identify distribution assets where increased leak surveys may be appropriate.
- ✓ With PHMSA, create a Data Quality & Analysis Team to analyze data PHMSA collects, determine what the data is telling us, issue reports, identify missing information and how best to collect that data, and key metrics that indicate safety concerns.
- ✓ Implement appropriate meter set protection practices identified through AGA Gas Utility Best Practices Program.

Excavation Damage Prevention

- ✓ Implement applicable portions of AGA's technical guidance, "Ways to improve engagement between operators & excavators."

Physical and Cybersecurity/System Controls

- ✓ Create a DNG ISAC.
- ✓ Create a Cybersecurity Task Force to develop products and programs that strengthen cybersecurity.
- ✓ Conduct an all hazard threat analysis and physical security benchmarking survey.
- ✓ Work with TSA to develop and implement Pipeline Security Guidelines.
- ✓ Create a Cybersecurity Assessment Program, including workshops that will allow industry to address their cybersecurity risks.
- ✓ Hold workshops and events: Workplace Violence Prevention & Insider Threats, SCADA, Control Room Management.

Enhancing Pipeline Safety

Safety Knowledge Sharing

- ✓ Create a voluntary AGA Peer Review Program that allows subject matter experts from gas utilities to review peer companies, identify areas that are working well and areas for potential improvement.
- ✓ Work with INGAA, API, AOPL, Canadian Gas Association and Canadian Energy Pipeline Association on a comprehensive safety management study that explores initiatives currently utilized by other sectors and the pipeline industry.
- ✓ Create a Safety Information Resources Center for the sharing of safety information.
- ✓ Hold regional operations executives' roundtables annually to discuss safety initiatives.
- ✓ Annually host roundtables focused on operator experience and lessons learned during the AGA Operations Conference.
- ✓ Develop guidance: To determine a distribution or transmission pipeline's fitness for service and MAOP, and the critical records needed for that determination; For oversight of new construction tasks to ensure quality; For trenchless pipeline installations; That presents benefits and disadvantages of the installation of ASV/RVC block valves on new, fully replaced and existing transmission pipelines; On intergenerational transfer of knowledge for Field Supervisors; Emergency response; Natural gas infrastructure physical security.

Workforce Development

- ✓ Annual AGA Executive Leadership Development Program.
- ✓ Annual Center for Energy Workforce Development (CEWD) Summits.
- ✓ Create an AGA Diversity & Inclusion Task Force.
- ✓ Participate in government/industry initiatives to foster workforce development, such as the Utility Workforce Advisory Council composed of the Departments of Energy, Defense, Labor, Veterans Affairs; AGA, Edison Electric Institute, Nuclear Energy Institute, National Rural Electric Cooperative Association, National Rural Electric Association, International Brotherhood of Electrical Workers, Utility Workers Union of America, and CEWD.

Public Awareness and Emergency Response

- ✓ Incorporate an Incident Command System (ICS) type of structure into emergency response protocols.
- ✓ Integrate applicable provisions of AGA's emergency response white paper and checklist into emergency response procedures.
- ✓ Create a Safety Alert Notification System that will allow AGA or its members to quickly notify other AGA members of safety issues that require immediate attention.
- ✓ Develop an Emergency Planning Resource Center and a Mutual Assistance Database.
- ✓ Implement AGA discussion groups to address safety issues including technical training and knowledge transfer, material supply chain issues, DIMP implementation, TIMP risk models, Pipeline Safety Management Systems, pipeline safety/compliance/oversight, GPS/GIS and work management systems, contractor/quality management, management of company standards, odorization, compressor operations, public awareness, and damage prevention.

Pipeline Planning Engagement

- ✓ Develop a task group comprised of AGA staff and members to work closely with Pipelines and Informed Planning Alliance (PIPA) to ensure AGA member concerns are addressed in joint PIPA initiatives.

Advancing Technology Development

- ✓ Work with INGAA, research consortiums and other pipeline trade associations to provide the NTSB with a compilation of the progress that has been made in advancing in-line inspection technology.