7th Annual
Maine Natural Gas Conference

Safety

Moderator: Brian Marshall, Verrill

Panelists:

- Nathan Dore, Maine Public Utilities Commission
- Jerry Livengood, Bangor Natural Gas
- Jamie Garland, Maine Natural Gas
- Susan Faloon, Maine Emergency Management Agency

PIERCE ATWOOD LLP

Verrill

Natural Gas Pipeline Safety Culture and the Regulatory Environment

Drivers of Continuous Improvement

Nathan Dore

Gas Pipeline Safety Inspector

Maine Public Utilities Commission

Discussion Topics

- Pipeline Safety Enforcement – Structure and Evolution
- Ongoing Concerns
- Exceeding Minimum Standards – Regulatory and Operator Community
- Quality Management Programs and Pipeline Safety Culture
- Incident Snapshot

Pipeline Safety Enforcement
Federal – State Partnership

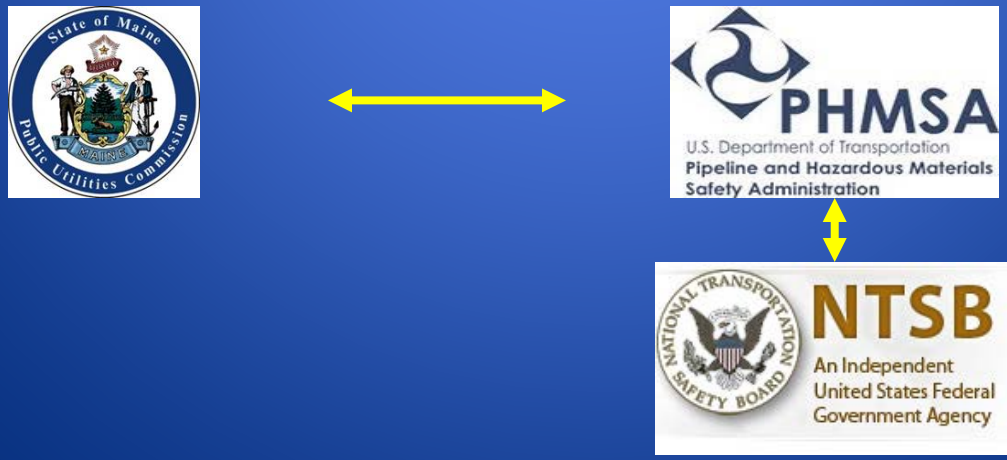
- State Programs obtain Certification or Agreement with US DOT Pipeline and Hazardous Materials Safety Administration (PHMSA)

- State Programs are audited by PHMSA
  -Includes focus on NTSB Recommendations

- "*Protect people and the environment* by advancing the safe transportation of energy…" -https://www.phmsa.dot.gov/about-phmsa/phmsas-mission

- "…Recommendations aimed at *preventing future accidents.*"

-https://www.ntsb.gov/about/Pages/default.aspx



Program Evolution Assumptions

- Natural Gas Pipeline Operating Companies must prioritize meaningful safety activities
- Enforcement Agencies must retain adequate authority to ensure compliance
- Information among industry partners and between industry and regulatory community helps identify areas of concern and promote best practices

Drivers of Safety Programs Evolution

- Major Incidents
- National Transportation Safety Board Recommendations
- Industry Initiative
- Federal, State or other Jurisdictional Enforcement Body Initiative

Pipeline Safety Benchmarks

1942

B31 Standard Code for Pressure Piping Final Version Established

1968

NGPSA Enacted by Congress

1974

NTSB established as independent agency

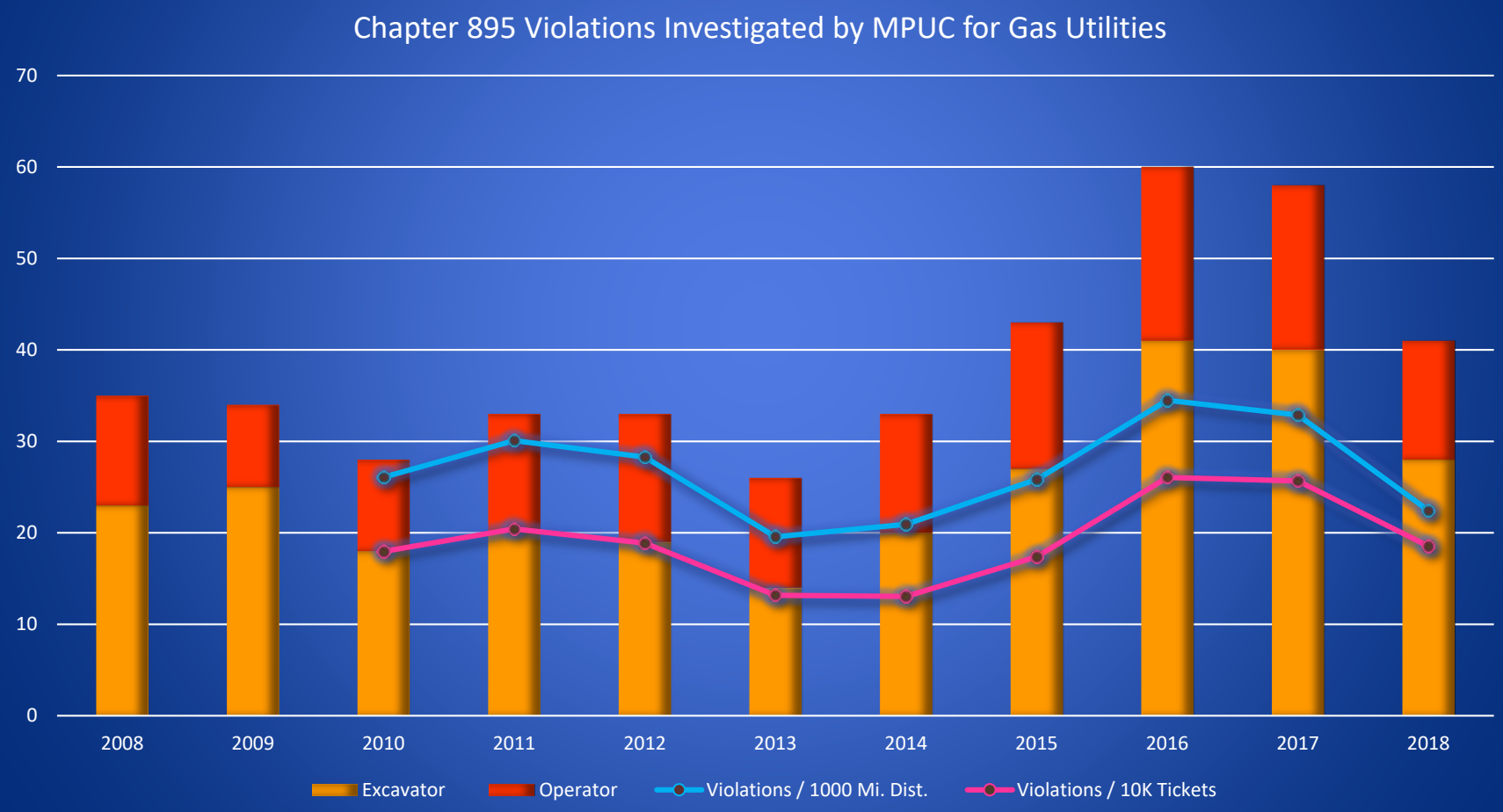
1990s
2000s

Performance Based Regulations Developed in Response Congress and NTSB

Today

Safety Mgmt. Systems / Voluntary Information Sharing

Excavation Incidents – Maine



Procedural Adherence

- Plastic Pipe Joining
- Knowledge of System / Adequate Risk Assessments
- Cross-Bores

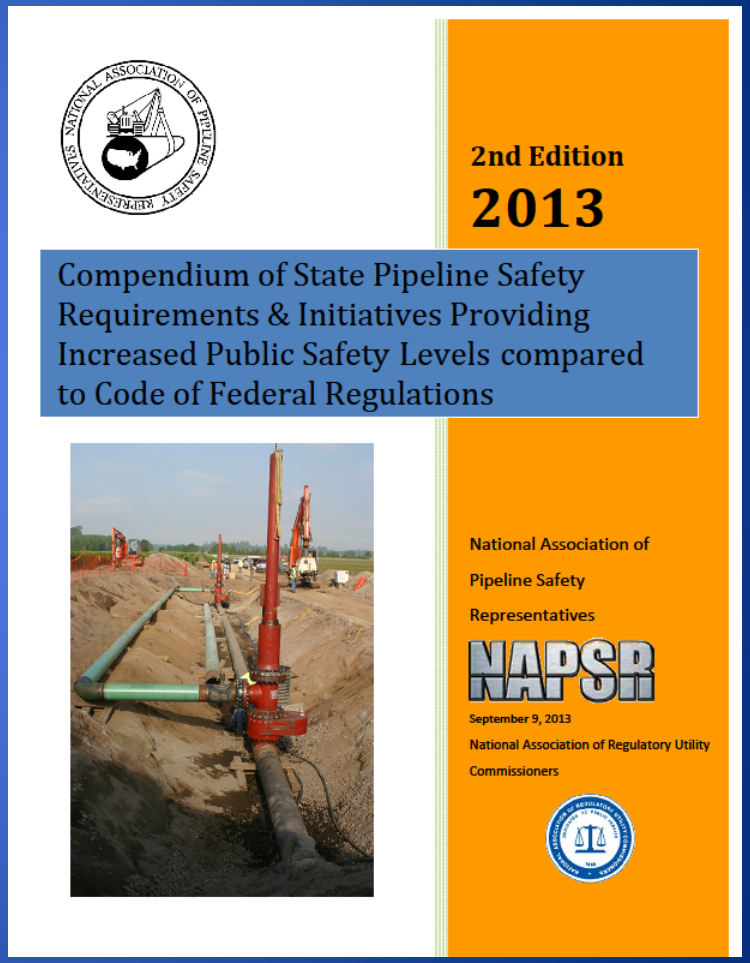
- Emergency Response Preparedness

At a Minimum

- 49 CFR Part 192: *Minimum Federal Safety Standards*
  - Additional requirements
  - Existing standard modifications
  - Adjustments to enforcement / oversight
  - Expanded timeline for results
- What Alternatives to Federal Regulatory Activities

State Initiatives

- Over 1,300 state requirements exceed Federal Minimum Safety Standards
- Address local concerns where necessary
  - Reporting
  - Design/Installation
  - Recordkeeping
  - Direct Oversight
- Continuously Evolving

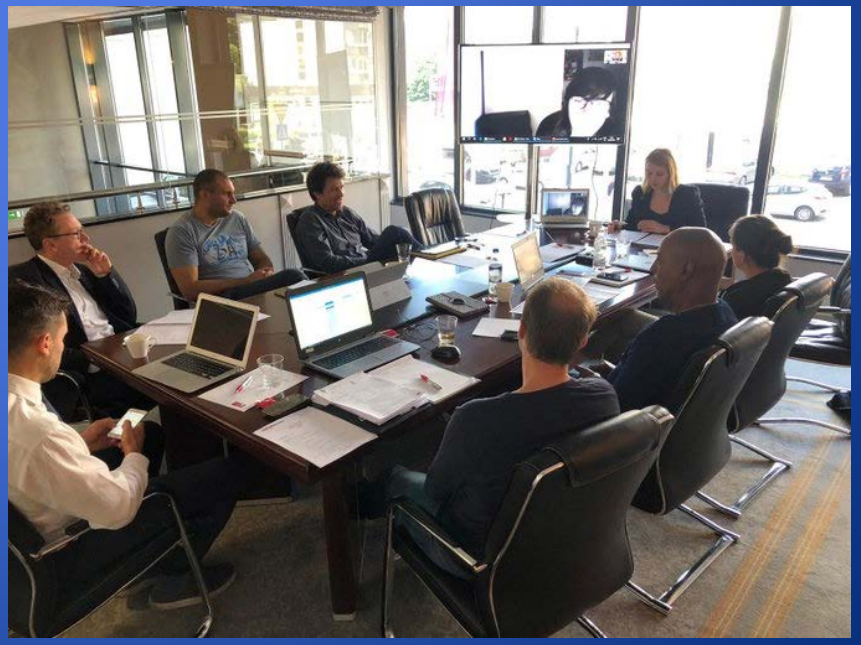


www.napsr.org

What does “QA” mean?

“…part of Quality Management system focused on providing confidence that quality requirements will be fulfilled.” ISO 9000:2015

- Organization
- Resources
- Accountability
- Authority
- Aptitude

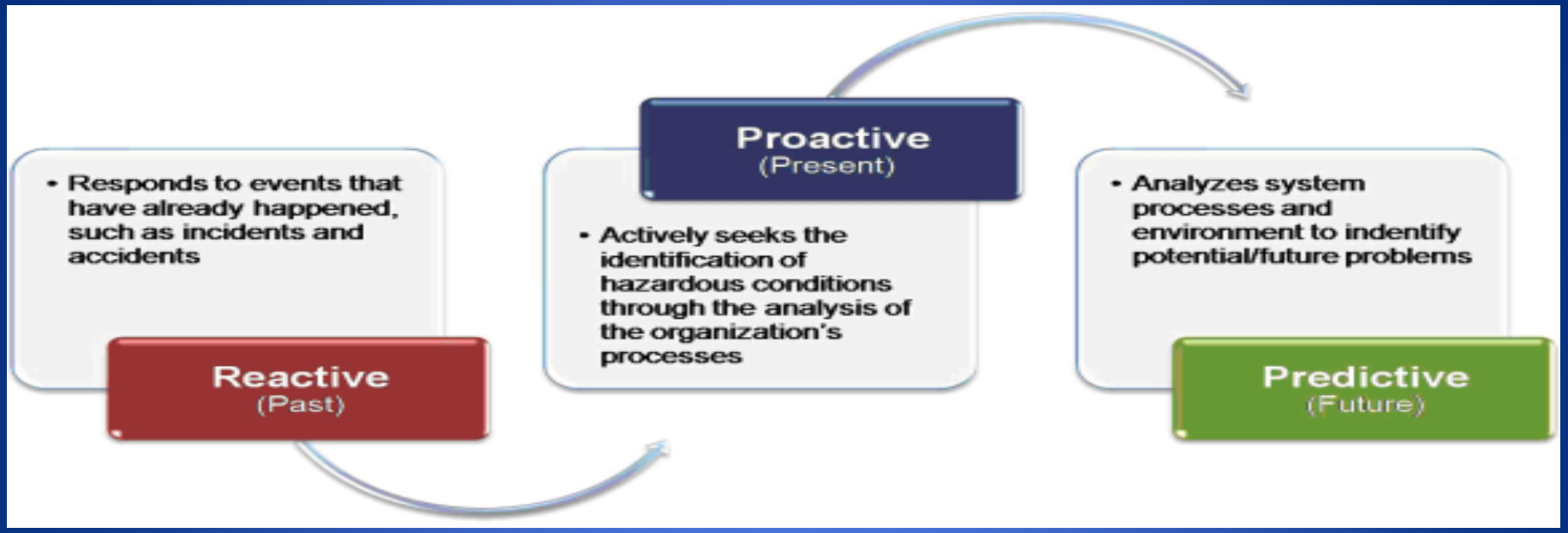


Types of Programs

- Construction Inspection
- Records Review
- GIS Mapping / System Records Updates
- Integrity Assessments
- Procedural Review / Modification
- Onboarding / Training and Qualifications
- O&M Activities Review
- SME / Employee Participation
- Safety Management Systems

What happens with the data?

Evolution of Safety Management



Federal Aviation Administration, "Safety Management System"

- Operator Programs
  - Organizational Sophistication
  - Leadership
  - Past experience
  - Regulatory Atmosphere
  - Resource Availability
- Regulatory Approach
  - Authority
  - Enforcement
  - Risk Analysis
  - Communication
  - Public Expectations

Establishing Culture – Developing the Next Phase of Safety

Driven by:

- Consideration of public good
- Corporate and Regulatory values
- Industry / Brand reputation
- Regulation or voluntary initiative
- Economic incentive
- Legal liability concerns

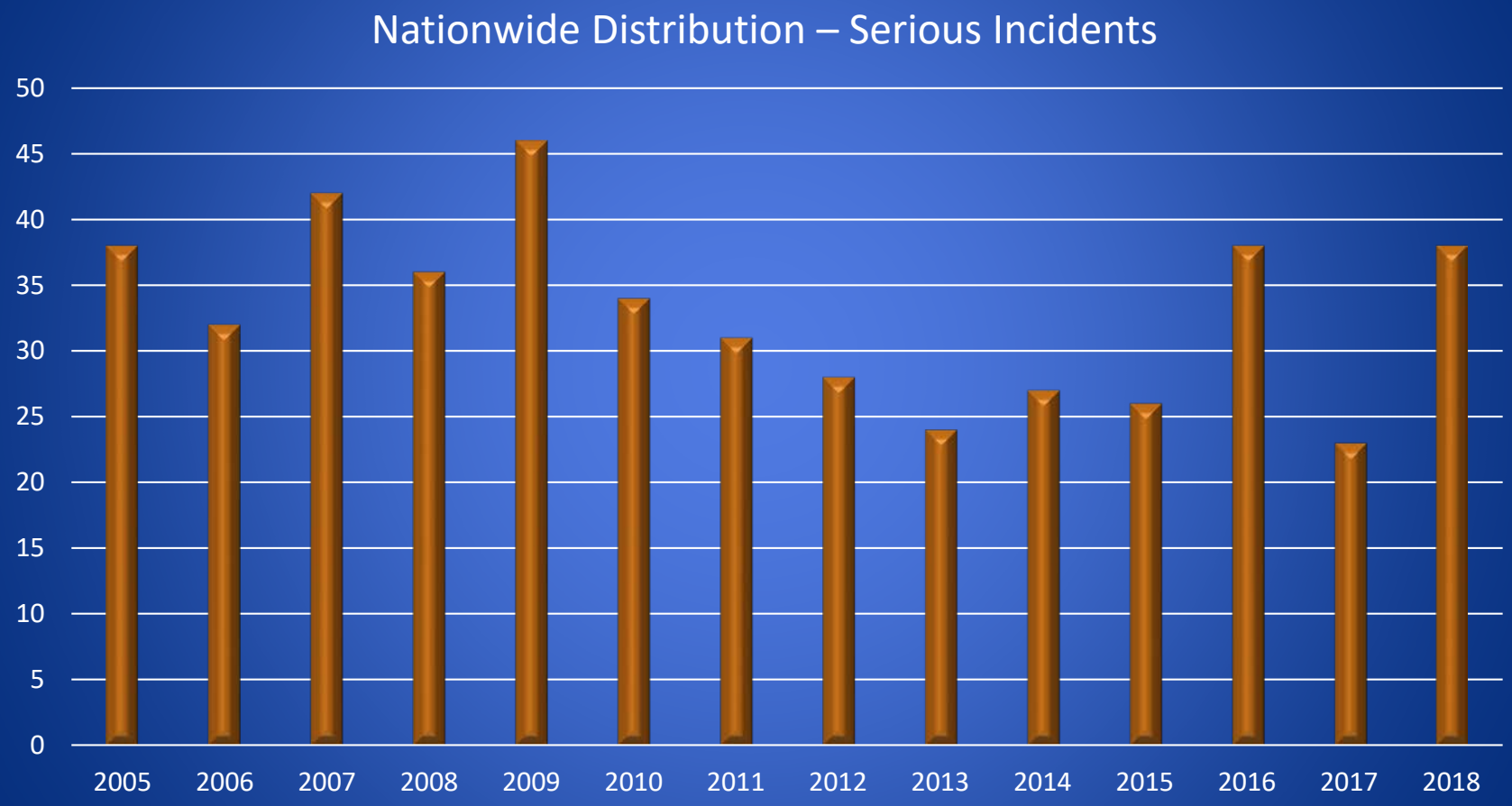
Establishing Culture

- Top-down approach includes:
  - Universal commitment at all levels
  - Promote sharing and engagement
  - Broadcast values consistently
  - Accountability
  - Incentivize buy-in
- Program must be:
  - Integrative
  - Accessible / Approachable at all levels
  - Useful
  - Self-Informed by Meaningful Metrics
  - Focused on achieving results

SMS Deployment Considerations

- Not Just “Corporatese”
  - Differentiation from existing performance – based programs
- Deployment for smaller operators
- Securing commitment
- Accountability

Incident Trends Since 2005



Source – PHMSA Pipeline Data Mart
"Serious" incidents include a fatality or overnight hospitalization.

Nationwide Distribution Serious Incidents Averages

	Incidents	Injuries	Fatalities
3 Year Average	33	69	10
5 Year Average	30	70	12
10 Year Average	32	66	12
20 Year Average	39	63	15

source – www.phmsa.dot.gov

Thank you

https://www.maine.gov/mpuc

Bangor Natural Gas

7th Annual Maine Natural Gas Conference

Safety Panel

JERRY E. LIVENGOOD

OCTOBER 3, 2019

Management Commitment

- Management models the way forward
- Management communicates the plan and inspires a shared vision for all
- Supervisors are accountable for safety and health as part of their job
- Commit adequate resources; staff, training, and equipment

"Safe, Reliable, Cost Effective service; Moniker used by many Natural Gas Utilities (LDCs)"

Build the Program and Process

- Operating plans, procedures, and practices
- Adherence and understanding by all team members
- Consequence and enforcement is recognized and applied to everyone
- Give team members access to plans and contact information

"By failing to prepare, you are preparing to fail."

Prevention and Assessment

- Periodic audits of programs. Reviews by people qualified to recognize existing hazards and potentially significant risks
- Procedures for team members to report possible hazardous conditions
- Maintenance of equipment to prevent a hazardous condition; “Red Tag”
- Prompt investigation of accidents, near-misses, and incidents of injury

“Incident reviews, AAR…Learn from the small mistakes…All big problems start as small ones”

Safety Training

- Team members understand the hazards associated with a job
- Reinforce adherence to procedures and practices
- PPE requirements; Buy-in from team members on the reasons for it and how to maintain and use it properly
- Responding to AOCs; Provide refresher training and drills

"You rise to the your level of training in an stressful situation"

Performance Tracking and Improvement

The best safety programs include record keeping and tracking of keyindicators to measure and continuously improve safety performance:

- ✓ Training
- ✓ Assessments and audits
- ✓ Near-miss reporting
- ✓ Safety meetings
- ✓ Appropriate funding
- ✓ Perception surveys

"Proper documentation…If it wasn't written down it never happened"

https://www.safetyproresources.com/blog/the-five-elements-of-an-effective-safety-program

Resilient Systems “When Mistakes Happen”

1930 Safety Glass Became Standard On All Ford Cars

2019 Volvo

- Anti-lock brakes
- Stability control
- Front-impact airbags
- Side impact airbags
- Overhead airbags
- Knee airbags
- Pretensioners
- Anti-whiplash
- Security system

Guiding Rules

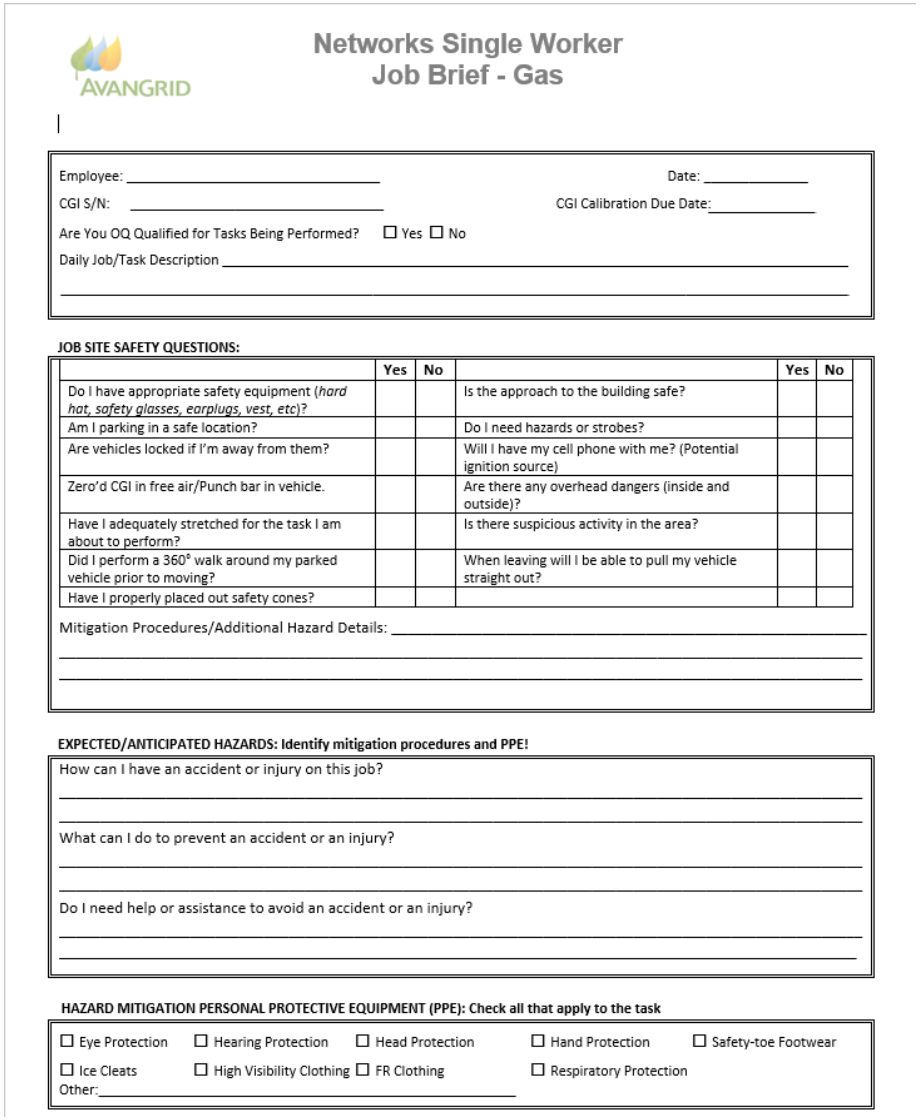
- 49 CFR Part 192
- MPUC Chapter 420
- Operations Manual
- Construction Manual
- DIMP Manual
- Emergency Response Plan
- Public Awareness Plan
- OQ Plan

Perfect

“Make (something) completely free from faults or defects, or as close to such a condition as possible”

Natural Gas Technician Rebuilding Pilot at 3am

Natural Gas Safety Systems



AVANGRID

Networks Single Worker Job Brief - Gas

Employee: _____ Date: _____

CGI S/N: _____ CGI Calibration Due Date: _____

Are You OQ Qualified for Tasks Being Performed? ☐ Yes ☐ No

Daily Job/Task Description _____

_____

JOB SITE SAFETY QUESTIONS:

	Yes	No		Yes	No
Do I have appropriate safety equipment (*hard hat, safety glasses, earplugs, vest, etc*)?			Is the approach to the building safe?		
Am I parking in a safe location?			Do I need hazards or strobes?		
Are vehicles locked if I'm away from them?			Will I have my cell phone with me? (Potential ignition source)		
Zero'd CGI in free air/Punch bar in vehicle.			Are there any overhead dangers (inside and outside)?		
Have I adequately stretched for the task I am about to perform?			Is there suspicious activity in the area?		
Did I perform a 360° walk around my parked vehicle prior to moving?			When leaving will I be able to pull my vehicle straight out?		
Have I properly placed out safety cones?					

Mitigation Procedures/Additional Hazard Details: _____

_____

_____

EXPECTED/ANTICIPATED HAZARDS: Identify mitigation procedures and PPE!

How can I have an accident or injury on this job?

_____

_____

What can I do to prevent an accident or an injury?

_____

_____

Do I need help or assistance to avoid an accident or an injury?

_____

_____

HAZARD MITIGATION PERSONAL PROTECTIVE EQUIPMENT (PPE): Check all that apply to the task

☐ Eye Protection ☐ Hearing Protection ☐ Head Protection ☐ Hand Protection ☐ Safety-toe Footwear

☐ Ice Cleats ☐ High Visibility Clothing ☐ FR Clothing ☐ Respiratory Protection

Other: _____

Worker Monitor Regulators with Relief Stack

Class 2 Gloves for leak crews surveying for leaks

Locating meters and regulators outside of buildings

Augmented reality for training new employees

“Safety is not the absence of accidents - it’s the presence of capacity”

Thank You

Emergency Management's Role During a Disaster

Susan Faloon
Director of Special Projects/Public Information Officer
Maine Emergency Management Agency (MEMA)

Maine Emergency Management Agency

- Vision: A Ready and Resilient Maine
- Mission: Through leadership, coordinate the protection of life, property, environment, and economy across all-hazards by managing preparedness, mitigation, response, and recovery within the State
- **An All-Hazards Approach**
- **Scalable and Flexible**
- **5 Mission Areas**
  - Prevention
  - Protection
  - Mitigation
  - Response
  - Recovery

Emergency Management in Maine Structure



- Federal: FEMA HQ → FEMA Region I (Boston)
- State: Governor → DVEM (Commissioner/TAG) → MEMA

  State Emergency Response Team (ERT)
  Disaster Recovery Team (DRT)
  Donations Coordination Team (DCT)
- Legislature: Criminal Justice and Public Safety Committee
- County: County EMAs (16)
- Local:
  Metro Areas: Portland, South Portland, Lewiston, Auburn, Augusta, Bangor & Local EMAs (495)
- Tribal: Recognized Native American partners (4)

MEMA's Technological Hazards Program
Hazmat, SERC (State Emergency Response Commission



- This program exists to protect human health and the environment, to protect emergency responders during hazardous materials incidents and to ensure the state is prepared to handle serious hazardous materials incidents.
- SERC provides training to approximately 2,000 first responders annually. This includes normal hazmat response courses along with specialized areas such as ammonia response, tank truck rollover response and other trainings that allow first responders to be better educated and operate safely.

Incident Command System

EMERGENCY MANAGEMENT AGENCY
STATE OF MAINE

What Is ICS?

ICS:

- **Is a standardized, on-scene, all-hazards incident management concept.**
- **Enables a coordinated response among various jurisdictions and agencies.**
- **Establishes common processes for planning and management of resources.**
- **Allows for integration within a common organizational structure.**

When Is ICS Used?

ICS can be used to manage:

- **Natural hazards.**
- **Technological hazards.**
- **Human-caused hazards.**
- **Planned events.**

Natural Gas/Propane Incidents in Maine



- June, 2013-A Yarmouth man died when his condo exploded following a propane explosion. Three others were injured.
- February, 2013-A 68-year old woman died in Bath when a propane explosion leveled a home in that city. Several others were injured.
- March, 2015-A Cape Elizabeth man escaped injury after a propane explosion at his home. A leak in a propane line is blamed for the incident.
- September, 2019-A Farmington blast kills a long-time fire captain and injures seven others. The cause is believed to have been a propane leak, but is still under investigation.

"I've done a number of LP explosions in buildings over the years, and this is the worst one that I have seen as far as structural damage and neighborhood damage," Sgt. Ken Grimes of the State Fire Marshal's Office said.

MEMA Response to Farmington Explosion



- Partially activated the State Emergency Operations Center (SEOC) with representation from several key state agencies in attendance to gather situational awareness.
- Deployed a mass care liaison to Farmington to assess any immediate mass care needs on behalf of the Agency.
- The SEOC stood ready to meet any requests for assistance expressed by our partners at Franklin County Emergency Management Agency (EMA).
- The mass care liaison, the American Red Cross and several other partners secured and coordinate financial assistance and disaster behavioral health services for impacted residents.
- Contacted United Way and Franklin County EMA to offer additional technical support for donations management and the coordination of Voluntary Organizations Active in Disaster (VOAD).
- Assisted with coordinating media inquiries related to response and recovery.

Questions?





Susan Faloon
Public Information Officer
Maine Emergency Management Agency

www.MainePrepares.com

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