

**Senate Commerce Committee Nominee Questionnaire
119th Congress**

**Responses for Paul Roberti of Rhode Island
Nominee for Administrator of the
Pipeline and Hazardous Materials Safety Administration**

A. BIOGRAPHICAL INFORMATION AND QUALIFICATIONS

1. Name: ***Paul Roberti***
2. Position to which nominated: ***Administrator, Pipeline and Hazardous Materials Safety Administration***
3. Date of Nomination: ***February 3, 2025***
4. Residence Address: [REDACTED]
Office Address: [REDACTED]
5. Date and Place of Birth: [REDACTED] ***/Warwick, RI***
6. Provide the name, position, and place of employment for your spouse (if married) or domestic partner, and the names and ages of your children (including stepchildren and children by a previous marriage):
-Ethan Roberti (age 24)
-Christian Roberti (age 24)
-William Roberti (age 18)
7. List all college and graduate schools attended, whether or not you were granted a degree by the institution. Provide the name of the institution, the dates attended, the degree received, and the date of the degree:
-College of the Holy Cross (9/83-5/87). B.A. Chemistry (5/87)
-Suffolk University School of Law (9/87-6/90). Juris Doctorate (6/90)
8. List all post-undergraduate employment, including the job title, name of employer, and inclusive dates of employment, and highlight all

management- level jobs held and any non-managerial jobs that relate to the position for which you are nominated. (Management positions are underlined)

- ***Law Clerk, Supreme Court of Rhode Island (9/90-8/91)***
- ***Associate, Tillinghast Collins & Graham (9/91-9/92)***
- ***Special Assistant Attorney General, R.I. Dept. of AG (9/92-1/97)***
- ***Assistant Attorney General, R.I. Dept. of AG (1/97-7/09)***
- ***Chief, Regulatory Unit, R.I. Department of AG (6/97-7/09)***
- ***Commissioner, Rhode Island Public Utilities Commission (7/09-6/16)***
- ***Executive Director, Ernst & Young (6/16-3/18)***
- ***Chief Counsel, U.S. Pipeline and Hazardous Materials Safety Administration (3/18-1/21)***
- ***President, Greene River Advisors LLC (7/21-12/24)***
- ***Chief Economic and Policy Analyst, Rhode Island Division of Public Utilities and Carriers (3/22-9/24)***
- ***Managing Director, Ernst & Young LLP (9/24-Present)***

9. Attach a copy of your resume. ***See attached pdf document.***
10. List any advisory, consultative, honorary, or other part-time service or positions with Federal, State, or local governments, other than those listed above after 18 years of age.
- ***Member, USDOE Electricity Advisory Committee (2013-17)***
 - ***Member, USDOE/NARUC Natural Gas Infrastructure Modernization Partnership (2016)***
 - ***Member, Special Legislative Committee to Study and Evaluate Natural Gas Transmission and Distribution System Infrastructure (2021- 2022)***
 - ***Member, Governor's Telecommunications Task Force***
 - ***Moderator, Pojac Point Fire District (2016-2020)***
 - ***Clerk, Pojac Point Fire District (2004-06)***
 - ***Road Commissioner, Pojac Point Fire District (2024-2025)***
11. List all positions held as an officer, director, trustee, partner, proprietor, agent, representative, or consultant of any corporation, company, firm,

partnership, or other business, enterprise, educational, or other institution.

- **Director, National Association of Regulatory Commissioners (NARUC) (2013-16)**
- **Chairman, NARUC Subcommittee on Pipeline Safety (2013-16)**
- **Chairman, NARUC Pipeline Safety Task Force (2011-13)**
- **Vice Chairman, NARUC Committee on Gas (2013-14)**
- **Director, National Regulatory Research Institute (2012-16)**
- **Director, University of Rhode Island Research Foundation (2022-2025)**
- **Chairman, New Mexico State University/Center for Public Utilities' Advisory Council (2013-15)**
- **Vice-Chairman, New England Power Pool (2021-24)**

12. List all memberships you have had after 18 years of age or currently hold with any civic, social, charitable, educational, political, professional, fraternal, benevolent or religiously affiliated organization, private club, or other membership organization (You do not have to list your religious affiliation or membership in a religious house of worship or institution). Include dates of membership and any positions you have held with any organization. Please note whether any such club or organization restricts membership on the basis of sex, race, color, religion, national origin, age, or disability.

- **Member of the Bar, United States Supreme Court (2018 – Present)**
- **Member of the Bar, United States Court of Appeals (1st and DC circuits) (1997 – Present)**
- **Member of the Bar, United States District Court 1991**
- **Member of the Bar, Rhode Island (1990 – Present)**
- **Member of the Bar, Massachusetts (1991-2008)**
- **Member of the Bar, Florida (1992-2008)**
- **Member, Rhode Island Bar Association (1990 – Present)**
- **Member, Rhode Island Inns of Court (1994-96)**
- **Member, North American Energy Standards Board Advisory Council (2013 – 2025)**
- **Member, National Association of Regulatory Utility Commissioners (2009-16)**

- **Member, Public Interest Advisory Council, Gas Technology Institute (2014-16; 2022-24)**
- **Member, International Confederation of Energy Regulators (2015-16)**
- **Member, New England Conference of Public Utility Commissioners (2009-16)**
- **Member, Rhode Island Mineral Hunters Assoc. (1977-82; 2022 – Present)**
- **Member, Rhode Island Dahlia Society (2022 – Present)**
- **Member, American Dahlia Society (2022 – Present)**

13. Have you ever been a candidate for and/or held a public office (elected, non-elected, or appointed)? If so, indicate whether any campaign has any outstanding debt, the amount, and whether you are personally liable for that debt. **Not Applicable**
14. List all memberships and offices held with and services rendered to, whether compensated or not, any political party or election committee within the past ten years. If you have held a paid position or served in a formal or official advisory position (whether compensated or not) in a political campaign within the past ten years, identify the particulars of the campaign, including the candidate, year of the campaign, and your title and responsibilities. **Not Applicable**
15. Itemize all political contributions to any individual, campaign organization, political party, political action committee, or similar entity of \$200 or more for the past ten years.
- **12/31/2024, Ernst & Young Political Action Committee: \$300**
16. List all scholarships, fellowships, honorary degrees, honorary society memberships, military medals, and any other special recognition for outstanding service or achievements.
- **Award of Appreciation, Energy & Natural Resources Division, U.S. Department of Justice (2020)**
 - **Terry Barnich Award, National Association of Regulatory Utility Commissioners (2016)**
 - **Scholarship, Holy Cross Club of Rhode Island**

- ***Executive Leadership Program, Harvard Business School (2017)***
- ***National Institute of Trial Advocacy (1996)***
- ***Leadership Rhode Island (2014)***
- ***Outstanding Physics Student of the Year, North Kingstown High School (1983)***
- ***Boys Nation, American Legion (1982)***
- ***History Award, Daughters of the American Revolution (1981)***
- ***Berger Anderson Award, Rhode Island Mineral Hunters Association (1978 & 1981)***

17. List all books, articles, columns, letters to the editor, Internet blog postings, or other publications you have authored, individually or with others. Include a link to each publication when possible. If a link is not available, provide a digital copy of the publication when available.

- ***"Challenges of Aging Infrastructure," Public Utilities Fortnightly (2015)***
- ***"The Essential Role of State Engagement in Demand Response," Harvard Environmental Law Review (2016)***

(See attached pdf documents)

18. List all speeches, panel discussions, and presentations (e.g., PowerPoint) that you have given on topics relevant to the position for which you have been nominated. Include a link to each publication when possible. If a link is not available, provide a digital copy of the speech or presentation when available. ***(See attached pdf documents related to the following list of speeches and presentations)***

- ***American Bar Association November 19, 2019***
- ***American Forest & Paper Association April 24, 2019***
- ***American Gas Association October 7, 2014***
- ***American Petroleum Institute (November 7, 2019)***
- ***Dangerous Goods Advisory Council, (October 30, 2019)***
- ***Iowa Utilities Commission (February 26, 2019)***
- ***NARUC Committee on Gas (July 16, 2018)***
- ***NARUC Committee on Gas (November 2019)***
- ***Nat'l Assoc. of Pipeline Safety Representatives (October 15, 2018)***
- ***Nat'l Assoc. of Pipeline Safety Representatives (September 15, 2020)***

- **Nat'l Assoc. of State Utility Consumer Advocates (November 18, 2019)**
- **New England Conference of PUCs (June 2013)**
- **New Mexico State University (April 8, 2019)**
- **Northeast Gas Association (May 2013)**
- **Pipeline Research & Dev. Forum (September 11, 2018)**
- **Texas Railroad Commission (August 2019)**
- **Nat'l Assoc. of Regulatory Utility Commissioners (February 14, 2016)**

19. List all public statements you have made during the past ten years, including statements in news articles and radio and podcasts and television appearances, which are on topics relevant to the position for which you have been nominated, including dates. Include a link to each statement when possible. If a link is not available, provide a digital copy of the statement when available.

<https://www.providencejournal.com/story/news/environment/2016/06/12/power-in-play-new-england-losing-generators-so-how-could-burrillville-plant-not-be-needed/27741442007/>

20. List all digital platforms (including social media and other digital content sites) on which you currently or have formerly operated an account, regardless of whether or not the account was held in your name or an alias. Include the full name of an "alias" or "handle", including the complete URL and username with hyperlinks, you have used on each of the named platforms. Indicate whether the account is active, deleted, or dormant. Include a link to each account if possible.

- **LinkedIn:** <https://www.linkedin.com/in/paul-roberti-80631683> **(active)**
- **Facebook:** <https://facebook.com/paul.roberti.52> **(active)**
- **Instagram** **proberti33 (deactivated)**

21. Please identify each instance in which you have testified orally or in writing before Congress in a governmental or non-governmental capacity and specify the date, committee, and subject matter of each testimony.

- **United States Senate: Committee on Small Business and Entrepreneurship: "How Small Businesses Benefit from**

***Smart Rail Shipping Regulation; 115th Congress Second Session
(November 16, 2018).***

- ***United States Senate: Committee on Commerce, Science, and Transportation; "Pipeline Safety in the Merrimack Valley: Incident Prevention and Response" (November 26, 2018).***
- ***United State House of Representatives: Committee on Energy and Commerce: "State Perspectives: Questions Concerning EPA's Proposed Clean Power Plan" (September 5, 2014).***

22. Given the current mission, major programs, and major operational objectives of the department/agency/commission/corporation to which you have been nominated, what in your background or employment experience do you believe affirmatively qualifies you for appointment to the position for which you have been nominated, and why do you wish to serve in that position?

I have devoted thirty years of my career to public service across multiple positions at the federal, state, and local level. In my position as Assistant Attorney General, I represented and advocated for citizens, ratepayers, and consumers of regulated utility service providers. I carried out my duties with an unwavering commitment to achieve just outcomes for the citizens I represented, and at the same time to be fair and objective in holding industry accountable to regulators and the public at large. These efforts were recognized and led the Governor to appoint me to the Public Utilities Commission in Rhode Island, where I served as an economic and safety regulator with distinction for seven years.

During my public service career, I developed a passion for advancing safety of pipeline systems, which remains so important for the energy security and prosperity of the American people. At the beginning of my career, Rhode Island's energy infrastructure was in severe need of modernization. By working collaboratively with the state's natural gas distribution utilities, we developed a proactive plan to replace aging cast iron and leak-prone pipelines that represented a growing risk to public safety. That program later served as a model for other states across the nation. In my leadership roles at the National Association of Regulatory Utility Commissioners, I worked steadfastly to educate and assist public

utility commissioners across the country about the inherent risks of the pipeline systems entrusted to their jurisdictional stewardship, particularly with the lessons learned in the aftermath of multiple pipeline incidents such as San Bruno CA, Marshall MI, Allentown PA, and East Harlem NY. The loss of life, damage to property and the environment could have, and should have, been prevented. The impacts from these incidents are wired into my sense of duty in fulfilling the functions as Administrator, should I be confirmed by the Senate.

Ultimately, my work and passion for safety led me to Washington DC, when I was appointed to serve as Chief Counsel of PHMSA. During these years, I developed a deep understanding of PHMSA's mission, which extends beyond pipelines to the risks associated with the movement of hazardous materials across our highways, waterways, railroads, and throughout aviation. As Chief Counsel, I brought my government experience to ensure the government serves the public and the regulated industries better through vigilant protection of public safety and the environment. Our efforts also focused on improving the effectiveness and efficiency of the enforcement process across the Pipeline and Hazardous Materials Divisions, which was streamlined to resolve cases more quickly so that the government delivered the necessary level of regulatory certainty to operators and industry stakeholders. During my time at PHMSA, the agency processed over 780 enforcement cases and thereby eliminated a significant backlog of pending cases, some dating back for more than six years.

Based on my collective experience, and in particular, my leadership experience during my years as Chief Counsel of PHMSA, I believe that I possess the knowledge, competence, and trust of agency personnel, the industry, and the public at large to advance the critical mission of protecting people and the environment from the risk of hazardous materials across all modes of transportation, including pipelines.

23. What do you believe are your responsibilities, if confirmed, to ensure that the department/agency/commission/corporation has proper management

and accounting controls, and what experience do you have in managing a large organization?

Advancing the public interest and ensuring that PHMSA's operations as a government agency are effective, efficient, and transparent in carrying out its assigned legislative mandates will always be the guiding principle for executing the duties and responsibilities of the Administrator. My career has spanned the public and private sectors, as well as internationally. The leadership capabilities I have developed during the course of my career, coupled with my substantial experience as former economic regulator and executive at Ernst & Young, position me very well to lead the agency and ensure proper fiscal management and internal controls.

24. What do you believe to be the top three challenges facing the department/agency/commission/corporation, and why?

- 1. Striving for Zero Incidents – The top imperative for PHMSA leadership is to pursue an unwavering commitment to prevent the release of hazardous materials across all modes of transportation. This means more than just enforcement – it requires well written regulations; investment in research and development of new technologies; open and direct collaboration with the public and industry stakeholders; an effective inspection program that ensures proper accountability and an advancement of regulatory certainty to pipeline operators and the regulated community; and dedication to a systemic culture of safety which is best advanced through regulatory compliance and the adoption of safety management systems by all regulated entities.***
- 2. Updating and Streamlining Regulations—The need to make regulations better remains as a continuing responsibility of PHMSA. Regulations should be as succinct and clear as possible. They must also be updated to leverage new technologies and new methods that achieve equal or greater safety outcomes, and some of the time at reduced cost. The pace of technology is accelerating. The development and leveraging of new detection and mitigation tools are vital to the mission of eliminating the risk of an accident, or in the case where an accident occurs, helping to mitigate the consequences stemming from***

- a release of hazardous materials into the environment. PHMSA must rise to the challenge of streamlining regulations and advancing the development of new technologies that provide better containment of hazardous materials.***
- 3. Safety and Security: The threats to our nation's pipeline systems are significant and likely increasing. While it has taken more than a century to construct the elaborate network of pipeline systems that power our nation's economy and advance the American way of life, malicious actors, whether domestic or foreign, could reap destruction and chaos if they were to successfully mount an attack on pipeline infrastructure. I will work steadfastly to ensure that PHMSA meets the growing challenge of improving the safety and security of the nation's critical infrastructure by working with industry and federal, state, and local partners to expose threats and eliminate vulnerabilities that could be exploited by bad actors.***

B. POTENTIAL CONFLICTS OF INTEREST

1. Describe all financial arrangements, deferred compensation agreements, and other continuing dealings with business associates, clients, or customers. Please include information related to retirement accounts, such as a 401(k) or pension plan.
- I participate in a defined benefit plan with the state of Rhode Island and in a defined contribution plan with the state of Rhode Island. Based on my current employer's (Ernst & Young) bonus policy, I may also be eligible for a performance-based bonus at the end of the fiscal year in June 2025. I will be notified of my eligibility in August 2025 and will forfeit the right to my bonus if I am no longer at Ernst & Young at the date of the bonus payout.***

These arrangements are fully described in Part 3 of my Public Financial Disclosure Report.

2. Do you have any commitments or agreements, formal or informal, to maintain employment, affiliation, or practice with any business,

association, or other organization during your appointment? If so, please explain. **No**

3. Indicate any investments, obligations, liabilities, or other relationships which could involve potential conflicts of interest in the position to which you have been nominated. Explain how you will resolve each potential conflict of interest.

In connection with the nomination process, I have consulted with the Office of Government Ethics and the Department of Transportation's Designated Agency Ethics Official to identify any potential conflicts of interest. Any potential conflicts of interest will continue to be resolved in accordance with the terms of an ethics agreement that I have entered into with the Department's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

4. Describe any business relationship, dealing, or financial transaction which you have had during the last ten years, whether for yourself, on behalf of a client, or acting as an agent, that could in any way constitute or result in a possible conflict of interest in the position to which you have been nominated. Explain how you will resolve each potential conflict of interest.

In connection with the nomination process, I have consulted with the Office of Government Ethics and the Department of Transportation's Designated Agency Ethics Official to identify any potential conflicts of interest. Any potential conflicts of interest will continue to be resolved in accordance with the terms of an ethics agreement that I have entered into with the Department's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

5. Identify any other potential conflicts of interest and explain how you will resolve each potential conflict of interest.

In connection with the nomination process, I have consulted with the Office of Government Ethics and the Department of Transportation's Designated Agency Ethics Official to identify any potential conflicts of interest. Any potential conflicts of interest will continue to be resolved in

accordance with the terms of an ethics agreement that I have entered into with the Department's Designated Agency Ethics Official and that has been provided to this Committee. I am not aware of any other potential conflicts of interest.

6. Describe any activity during the past ten years, including the names of clients represented, in which you have been engaged for the purpose of directly or indirectly influencing the passage, defeat, or modification of any legislation or affecting the administration and execution of law or public policy. ***Not Applicable***

C. LEGAL MATTERS

1. Have you ever been disciplined or cited for a breach of ethics, professional misconduct, or retaliation by, or been the subject of a complaint to, any court, administrative agency, the Office of Special Counsel, an Inspector General, professional association, disciplinary committee, or other professional group? If yes:
 - a. Provide the name of the court, agency, association, committee, or group;
 - b. Provide the date the citation, disciplinary action, complaint, or personnel action was issued or initiated;
 - c. Describe the citation, disciplinary action, complaint, or personnel action;
 - d. Provide the results of the citation, disciplinary action, complaint, or personnel action.

Not Applicable

2. Have you ever been investigated, arrested, charged, or held by any Federal, State, or other law enforcement authority of any Federal, State, county, municipal, or foreign government entity, other than for a minor traffic offense? If so, please explain. ***In 1989, I was falsely charged with three misdemeanors that were subsequently dismissed by a state court judge.***

3. Have you or any business or nonprofit of which you are or were an officer ever been involved as a party in an administrative agency proceeding, criminal proceeding, or civil litigation? *If so, please explain. **Not Applicable***
4. Have you ever been convicted (including pleas of guilty or *nolo contendere*) of any criminal violation other than a minor traffic offense? If so, please explain. **Not Applicable**
5. Have you ever been accused, formally or informally, of sexual assault, sexual harassment, or discrimination on the basis of sex, race, religion, or any other basis? If so, please explain. **Not Applicable**
6. Please advise the Committee of any additional information, favorable or unfavorable, which you feel should be disclosed in connection with your nomination. ***Please see prior responses to Biographical Information and Qualifications: Question Nos. 7-10; 11-12; 16-18; and 21-24.***

RELATIONSHIP WITH COMMITTEE

1. Will you ensure that your department/agency/commission/corporation complies with deadlines for information set by congressional committees, and that your department/agency/commission/corporation endeavors to timely comply with requests for information from individual Members of Congress, including requests from members in the minority? ***Yes, I will ensure that my office responds to such requests for information as appropriate.***
2. Will you ensure that your department/agency/commission/corporation does whatever it can to protect congressional witnesses and whistleblowers from reprisal for their testimony and disclosures? **Yes**
3. Will you cooperate in providing the Committee with requested witnesses, including technical experts and career employees, with firsthand knowledge of matters of interest to the Committee? **Yes**

4. Are you willing to appear and testify before any duly constituted committee of the Congress on such occasions as you may be reasonably requested to do so? **Yes**

[REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED]

[illegible]

[illegible]

I, **PAUL ROBERTI**, being duly sworn, hereby states that he/she has read and signed the foregoing Statement on Biographical and Financial Information and that the information provided therein is, to the best of his/her knowledge, current, accurate, and complete.

Subscribed and sworn before me this 11th day of June, 2025.

PAUL J. ROBERTI

LINKEDIN.COM/IN/PAUL-ROBERTI

PROFESSIONAL EXPERIENCE

ERNST & YOUNG LLP

MANAGING DIRECTOR, RISK CONSULTING

PROVIDENCE, RI

2024 – Present

- Management consulting services across all facets of the power and utilities industry with a focus on assisting public utilities with compliance with legislative and regulatory mandates across the power and utilities sector, with an emphasis on helping utilities advance safety, reliability and high-quality services to customers in the most cost-effective manner, including strategies to increase resilience, efficiency gains through technological transformation, and strategic electrification.

RHODE ISLAND DIVISION OF PUBLIC UTILITIES AND CARRIERS

CHIEF ECONOMIC AND POLICY ADVISOR

WARWICK, RI

2022 – 2014

- Oversaw the development of positions and recommendations in all docketed proceedings before the Rhode Island Public Utilities Commission and the Federal Energy Regulatory Commission.
- Evaluated offshore wind solicitations; renewable energy tariffs and interconnection policies; general rate cases and Cap-X programs for electric, gas and water utilities; energy facility siting cases; advanced metering infrastructure implementation; and grid modernization investment strategies.
- Advised Administrator on regional transmission and market development proposals before NEPOOL and ISO New England, legislation, and physical and cybersecurity risks, including briefings to Governor's office and the Director of Emergency Management.

UNITED STATES DEPARTMENT OF TRANSPORTATION

CHIEF COUNSEL, PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMIN.

WASHINGTON, D.C.

2018 – 2021

- Responsible for legal affairs of 580-member federal agency charged with safety oversight of 2.7 million miles of natural gas and hazardous liquid pipelines and over 100 LNG facilities, as well as hazardous materials moving across all modes of the transportation network throughout the United States. Direct report to the Secretary of Transportation with direct supervision of 40 lawyers and staff.
- Oversight and responsibility for 788 enforcement matters; coordination with Department of Justice on significant litigation; coordination with White House and State Department on Presidential Permits; and compliance with NEPA and CEQ regulations.
- Development of Pipeline and Surface Transportation legislative proposals to Congress, including technical assistance requests and briefings to key House and Senate Committees. High-profile public appearances, including testimony before Congress concerning rail transportation of toxic hazardous materials and the Columbia Gas pipeline incident in Merrimack Valley.

ERNST & YOUNG LLP

EXECUTIVE DIRECTOR, POWER & UTILITIES ADVISORY SERVICES

MEXICO CITY, MEXICO

2016 – 2018

- Advised clients in the natural gas, oil, power and utilities sectors focusing on IT transformation, cybersecurity, transmission siting, emerging technology adoption, and regulatory strategy. Advised clients across North America.

RHODE ISLAND PUBLIC UTILITIES COMMISSION
COMMISSIONER

WARWICK, RI
2009 – 2016

- Senate-confirmed appointment to commission charged with regulating rates, service quality and reliability of utilities, including electric, gas, water, sewer, and telecom service providers. Assumed multiple leadership roles at NARUC to advance pipeline safety.
- Oversight of renewable energy integration policies, including approval of the nation's first offshore wind farm. Advisor to NARUC and USAID support missions to Moldova, Hungary, Georgia, Nigeria, India, Jamaica and Mexico.

RHODE ISLAND OFFICE OF ATTORNEY GENERAL
ASSISTANT ATTORNEY GENERAL & CHIEF, REGULATORY DIVISION

PROVIDENCE, RI
1992 – 2009

- Appointed Assistant Attorney General by four consecutive Attorneys General, both Democratic and Republican. Supervised team representing ratepayer and citizen interests during hundreds of proceedings involving rates, safety and environmental matters across multiple agencies at federal and state level.

SUPREME COURT OF RHODE ISLAND
LAW CLERK

PROVIDENCE, RI
1990 – 1991

- Law Clerk for Rhode Island Supreme Court Justice Donald F. Shea. Conducted research, drafted opinions, and attended oral arguments, motion sessions and conferences.

NOTABLE APPOINTMENTS

- **Vice Chairman**, New England Power Pool (End User Sector) (2021 – 2024)
- **Member**, Board of Directors, Univ. of Rhode Island Research Foundation (2022 – Present)
- **Member**, Special Legislative Commission to Study and Evaluate Rhode Island's Electric and Natural Gas Transmission and Distribution System Infrastructure (2021— Present)
- **Member**, North American Energy Standards Board Adv. Council (2013-Present)
- **Member**, U.S. Department of Energy, Electricity Advisory Committee (2013-17)
- **Member**, Board of Directors, Nat'l Assn. of Regulatory Utility Commissioners (2013-16)
- **Chairman**, NARUC Subcommittee on Pipeline Safety (2013-16)
- **Member**, Board of Directors, National Regulatory Research Institute, (2012-16)
- **Member**, Gas Technology Institute Public Interest Advisory Council (2013-16)
- **Member**, International Confederation of Energy Regulators (2015-2016)
- **Chairman**, New Mexico State Univ. — Ctr. for Public Utilities Adv. Council (2013-15)
- **Vice Chairman**, NARUC Committee on Gas (2013-14)
- **Chairman**, NARUC Pipeline Safety Task Force (2011-13)

EDUCATION

College of the Holy Cross, Worcester, MA
B.A. *Chemistry* (1987)

Suffolk University School of Law, Boston, MA
J.D. (1990) *cum laude*
Editor, Transnational Law Review

AWARDS & ACHIEVEMENTS

- **U.S. Department of Justice** — Energy & Natural Resources Award of Appreciation (2020)

- **Harvard Business School** – Executive Leadership Program (2017)
- **Terry Barnich Award** – NARUC’s highest honor recognizing contributions for promoting international cooperation among utility regulators and advancement of regulation (2016)
- **Leadership Rhode Island** (Class of 2014)
- **National Institute of Trial Advocacy**, Trial Academy, Boulder, CO (1996)
- **Michigan State Univ. – Graduate School of Management** (Regulatory Studies Program) (1993)
- **Outstanding Physics Student of the Year** (Am. Ass’n of Physics Teachers (1983))
- **The American Legion — “Boys Nation”** — Washington D.C. (Class of 1982)

BAR ADMISSIONS

- | | |
|--|---|
| <ul style="list-style-type: none"> • Rhode Island • Florida (retd) • Massachusetts (retd) | <ul style="list-style-type: none"> • United States Court of Appeals (<i>Cir. D.C. & 1st</i>) • United States District Court (<i>RI</i>) • United States Supreme Court |
|--|---|

PUBLICATIONS

The Essential Role of State Engagement in Demand Response, **HARVARD ENVIRONMENTAL LAW REVIEW FORUM**, Vol. 40, at 14 (2016)

Challenges of Aging Infrastructure, **PUBLIC UTILITIES FORTNIGHTLY** (Nov. 2015)

REFERENCES AVAILABLE UPON REQUEST

Addendum to the questionnaire submitted to the Senate Committee on Commerce, Science, and Transportation, 119th Congress by Paul Roberti.

Upon further review, I have identified additional information that is responsive to the Committee's questionnaire. They are:

In the initial submission of the questionnaire, I edited some of the questions where supplemental requests for information were not applicable to me. Please see attachment to address these revisions.

A.8 – Mr. Roberti's consulting firm, Greene River Advisors LLC, is spelled "Greene" on the OGE 278e and Questionnaire, and "Green" on the Ethics Agreement. In addition, the Ethics Agreement states that the company ceased doing business in 2021, yet Mr. Roberti states he was the president from 2021 to 2024.

The dates employed by the Rhode Island Division of Public Utilities and Carriers differs between Mr. Roberti's resume and questionnaire.

Please clarify these items, and supplement as appropriate.

The Ethics Agreement has a typo, it should read Greene not Green. Pertaining to the dates employed, there is a typo on the resume, it should read 2024 and not 2014. Updated resume is attached.

A.18 – We have identified a set of remarks given by Mr. Roberti which were not disclosed. Please clarify this, determine if there are other responsive materials, and provide a supplement as appropriate. See Remarks on February 14, 2016 – recipient of 2015 Terry Barnich Award: <https://pubs.naruc.org/pub/9CC790D6-AB8D-3DDA-1451-CF9A7AA3F468>

Upon my initial submission, I did not believe that the written remarks related to PHMSA or pipeline safety. I have updated the questionnaire to reflect the inclusion of these remarks.

A.19 – Mr. Roberti said he had made no public statements over the last 10 years relevant to the position for which he has been nominated. We have identified the following public statements from Mr. Roberti in 2016 regarding a gas-fired power plant (<https://www.providencejournal.com/story/news/environment/2016/06/12/power-in-play-new-england-losing-generators-so-how-could-burrillville-plant-not-be-needed/27741442007/>). Please clarify this, determine if there are other responsive materials, and provide a supplement as appropriate.

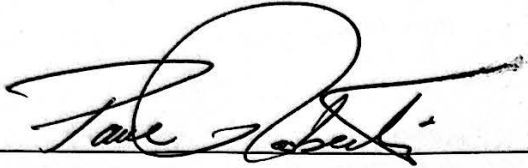
Upon my initial submission, I did not believe that the cited article related to PHMSA or pipeline safety. I have updated the questionnaire to reflect the inclusion of this article.

[REDACTED]

[REDACTED]

The undersigned certifies that the information contained in the public addendum is true and correct.

Signed



Date:

June 25, 2025

ABA PANEL ON PERFORMANCE-BASED REGULATION

KEY POINTS:

DOT Philosophy regarding PBR:

- One critical part of this philosophy is the adoption of performance-based objectives in our rules, instead of overly-prescriptive restrictions that inhibit innovation. Overly prescriptive rules—such as rules that mandate the use of established products and methods—tend to freeze in place existing technology and prevent the deployment of new and better solutions. By setting performance-based standards for safe operations without dictating precisely how operators must meet those standards, we leave private industry free to develop new ways to innovate. And that preserves the incentives for healthy competition and for the capital markets to invest in new technology.
- 49 CFR 5.5(e): *“Regulations should be technologically neutral, and to the extent feasible, they should specify performance objectives rather than prescribing specific conduct that regulated entities must adopt.”*

PHMSA Application of PBR:

- While the pipeline safety regulations can be fairly characterized as a healthy mix of performance-based regulations and prescriptive regulations, it is the very nature of pipeline systems themselves that lends itself to performance-based regulation, because every pipeline system has different characteristics including age, material type, length and diameter, internal pressure, type of product being transported, terrain and population density along pipeline routes, among other factors.
- What we don’t want are prescriptive regulations that can sometimes lead to a checklist mentality. We want operators to take a holistic approach to evaluating and addressing the risk of their systems, and to consider time-dependent safety threats and interacting threats including human factors.
- **Operators are primarily responsible for safety, regulators can only provide oversight.** Operators know their systems best and the regulations need to provide some flexibility in order for them to direct compliance resources to where they will provide the most safety benefit. A regulator like PHMSA does not have the resources to be everywhere.
- **IM PBR:** The pipeline integrity management regulations are probably the best example of performance-based regulations. They require operators to periodically perform risk assessments, prioritize risks, and mitigate risks. They were layered over the more prescriptive regulations that preceded them as opposed to replacing them.

DRAFT – PREDECISIONAL/DELIBERATIVE MATERIAL

- The IM regulations require operators to: 1) Identify and consider all relevant risks; 2) Integration of those risks into the overall portfolio of risks that the operator faces to understand the magnitude and importance of each new risk and the interplay between those risks; and 3) Execution – Mitigating those risks by adjusting operational & maintenance activities and reprioritization of investment decisions.
- **PHMSA’s performance-based regulatory scheme provides operators with substantial discretion and flexibility.** However, with great flexibility comes great responsibility on the part of operators. Operators must have good internal management procedures and strong corporate governance and the burden remains on operators to execute. Risks that are not properly accounted for can result in major accidents and lead to massive costs for operators.
- **Lest History Not Repeat Thyself:** Those that do so by optimizing their risk assessment and management protocols will prosper, and those that don’t may bear the downside consequences for failing to mitigate or eliminating the risk of a serious accident. One only has to look at history’s wake of accidents, such as Bellingham, WA; Carlsbad, NM; San Bruno, CA; Marshall, MI, Refugio State Beach, CA; or most recently Columbia Gas of MA.
- **Ultimately, Stakeholders – the public and in particular Congress must have confidence in the safety programs administered by an agency.** So while we seek to achieve our regulatory objectives through flexible, performance-based regulations, we are always cognizant bad outcomes will undermine confidence in PBR in the eyes of the public and Congress, which may ultimately usher in more prescriptive requirements.

Safety Management Systems:

- **Safety Management Systems will play a key role in the future.** The need for good corporate governance points to the need for Safety Management Systems (SMS). Operators need to consider systemic reinvestment in evaluating their long-term performance.

ENFORCEMENT:

- **Performance-based regulations can present enforcement challenges.** Enforcement has to provide appropriate outcomes that hold operators accountable for their responsibility to effectively manage pipeline assets. The process should not incentivize bad outcomes in terms of safety or impacts to the environment, like we saw in a relatively recent case where the Fifth Circuit had the opportunity to review PHMSA’s discharge of enforcement obligations in the context of performance-based regulations. Clearly, however, enforcement can be challenging because there is always an element of

judgment on the part of the regulator, which may not always provide the desired outcome in terms of regulatory certainty to operators.

Exxon Mobile Pegasus Pipeline Incident in Mayflower, Arkansas:

- Process-based vs. performance-based = Regulatory scheme will lose confidence if negative outcomes are justified by adherence to process rather than performance outcomes.
- Take a particular case re: Exxon Mobile's 2015 Pegasus Pipeline spill in Arkansas — Substantial evidence showing the Pegasus Pipeline was susceptible to seam failure took a back seat to the operator's process, and the outcome of a major spill was excused under the agency's regulatory scheme.
- Admittedly there are some odd nuances in that case given that the agency had inaccurate guidance on the website that in the court's view clothed the operator's decision making process in in legitimacy.
- For instance, the Baker report's decision tree for evaluating longitudinal seam failures presupposed that the pipeline had no manufacturing defects and that operational fatigue impacts were the sole and exclusive risks to the pipeline.
- Let me offer a automobile example for comparison. If the wheel on a car falls off ten times, and the agency's guidance provides for examining lug nuts or the condition of the tire itself, would the absence of any risk on those two categories lead a reasonable human being to continue driving that car?
- But the outcome of that case from a public policy perspective might be characterized as an instance where PHMSA's performance-based regulatory scheme creates a very false sense of securing safety to the environment, perhaps an outcome best characterized by Professor Coglianese as "legitimate self delusion" on the part of regulated entities.
- And ultimately such an outcome presents the same "fig leaf" of uncertainty that underlies a prescriptive approach to standard setting — the so-called "check the box" mentality that formed the basis for moving towards performance-based regulations in the first place.
- At the end of the day, public perception matters. And the perception that regulations — regardless of whether they are performance-based or prescriptive— may not actually safeguard the safety of the public or the environment, will undoubtedly have a haunting effect on the agency's mission.

**AMERICAN FOREST & PAPER ASSOCIATION
ENERGY POLICY COMMITTEE MEETING
WASHINGTON D.C.**

APRIL 24, 2019

It's great to be with you here today.

I'm probably old enough to remember when people actually thought that the paper business might be seriously jeopardized by the computer age. Remember that? It was all going to be electrons and digital memory instead of paper and ink. But clearly that's not how it played out.

In fact, as I'm sure most of you know, paper production has increased by almost 25 percent in the last 20 years. And according to the Energy Information Administration, your industry now accounts for more than 5 percent of industrial energy consumption in the US. Paper is a much bigger business than just the stuff we put in printers and copy machines.

Incidentally, I'm a lawyer; and for good or bad, I know I bear a heavy responsibility for supporting your industry, so I appreciate your sustainability efforts that encourage recycling.

The growth in paper production has proceeded in tandem with energy efficiency – Over the same 20 year period, consumption has only increased by one percent. That's quite remarkable: Producing 25 percent more with only 1 percent more energy input is a feat that we all wish more industries could achieve.

The energy business is never far from the headlines, because energy is an unavoidable input cost for every form of economic activity. The impact to *per capita* GDP growth would be very substantial if we were all sitting around in the dark, shivering in winter and sweating in the summer.

I now have more than a year under my belt at PHMSA, but I've been shoulder-deep in the world of power, energy, and public utilities for a lot longer. Those worlds are rapidly changing these days in so many different ways, which I'd like to talk about this morning.

PHMSA's safety mission, is "to protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives."

PHMSA has only about 530 employees to face the challenges posed by the vast network of 2.7 million miles of regulated pipelines and the ubiquitous transit of 1.2 million hazardous materials shipments across this country every passing day.

And those challenges just seem to keep on increasing – because the strong economic picture and energy abundance we are witnessing, create a powerful combination to bring investment in energy infrastructure and economic growth.

Perhaps with the exception of my home town region in New England, more pipelines are being built to bring oil and gas resources from production to demand centers, placing greater demands on PHMSA and the industry to ensure that the design,

construction and operation of those facilities are done safely and comply with federal standards.

Technology and innovation are at heart of these developments. For the Department of Transportation and its nine modal administrations (including PHMSA), innovation is one of the pillars underpinning our mission. Of course, safety is the highest priority, but innovation, along with infrastructure and accountability, represent the other three pillars.

Let me start with **safety**. 99.9997 percent of hazardous materials make it to their intended destinations safely. But even at that rate, we experienced 285 significant incidents in 2018, which led to 8 fatalities in the pipeline sector. 90 percent of these were related to distribution systems, which is not surprising since 80 percent of the nation's pipelines are distribution, and thus regulated by the States.

For those who have met our Administrator, Skip Elliott, you know his vision is zero incidents. Getting to zero incidents is not easy – and it relies not just on good operators deeply committed to a culture of safety, but it also requires leaning on the other three pillars – **technology and innovation; infrastructure; and accountability**.

Technology brought us the shale gas revolution which will make the United States the largest producer of oil and gas in the world, with new and expanding production techniques. The growth in production is fueling the development of liquefied natural gas export facilities, and is partly driven by the reforms we achieved with the signing of a new Memorandum of

Understanding with the Federal Energy Regulatory Commission that provides for a more logical assignment of roles and responsibilities between the two agencies during the licensing process for new LNG terminals. The new approach is helping to streamline the review process, and not only brings efficiencies, but also introduces much needed regulatory certainty to applicants navigating the process. These efforts are bolstering America's status as a net exporter of LNG to more than 34 countries around the globe. And this number will continue to grow.

Our work factors directly into the Administration's most important foreign policy strategic objectives by allowing America's natural gas to be liquefied and exported to nations around the world who desperately need a more diversified and secure set of energy resources.

Our efforts are tipping the geo-political balance in favor of Eastern European nations who are trying to decrease their current dependence on imported natural gas from Russian pipelines. For Caribbean island nations, it will mean access to clean burning natural gas to power electric generation, as opposed to relying on distillate fuels from Venezuela.

The numbers involved are truly astounding. A single LNG export facility can deliver an economic impact of \$10 billion or more per year, and strong demand from the Asia-Pacific region looks to likely drive those numbers even higher over time.

New technologies promise to accelerate change even more, such as autonomous vehicles, drones, and magnetic levitation

hyperloop trains. It paints a dramatic picture of change and opportunity, and it is coming at us fast.

At PHMSA and across DOT, we are making strong efforts to refine our vision by incorporating new technologies into regulation, like the recent plastics rule that will bring superior pipeline products all the while reducing construction costs.

We are combing through all the regulations to update and remove outdated ones that have not kept pace with technological advancements. But we will make no move unless we are convinced by clear and convincing data that our efforts will not compromise safety – the first and foremost pillar underpinning our mission.

But none of it can happen without the second pillar – **infrastructure and investment**. Investment in basic infrastructure that is less susceptible to the pace of technology, must occur – like roads and bridges – and of course pipelines, which may have been manufactured from materials that are now deemed high risk.

You all know what I'm talking about – cast iron and bare steel distribution systems. Great progress has been made – cast iron infrastructure has declined by almost half in the past decade, and 20 or more States have eliminated it all together.

That cause, crystallized by the tragic incidents in San Bruno, CA (2010), Allentown, PA (2011) and East Harlem, NY (2012), ultimately brought me to Washington DC, with a slight (2 year) detour south of the border from here – Mexico. These accidents

make it clear that investment must be systematic – with operators gathering essential data and making compelling presentations to economic regulators on the one hand; and regulators making the courageous decisions to increase utility rates to recover those costs, on the other hand.

That's the heart of the regulatory compact that still remains the envy of the world – it brings regulatory certainty, confidence to the financial community, and ultimately guarantees affordable, reliable utility services to the American public. Maintaining the highest level of safety – and getting as close as possible to a “zero-incident” vision – is a small additional price to pay.

That brings me to last pillar – **Accountability**.

Much of the current regulatory construct depends upon the industry to continuously assess the integrity of their pipeline systems; to identify risk; and ultimately to prioritize investments that guarantee operation of safe and secure systems. The same is true for the power sector.

The safety regulatory construct under federal law provides great flexibility to the industry. But let me say this: With great flexibility comes great responsibility. Today's technologies of inline inspection capabilities are providing operators with better tools to evaluate integrity – but the enforcement cases crossing my desk demonstrate that those technologies still have a long way to go. They are not perfect, which is why PHMSA spends millions of dollars each year in research and development initiatives with universities.

Integrity management protocols are not a generic binder to be housed on a shelf. They are a living document that chronicles the life of the asset until it is either retired or replaced.

Operators have to be held accountable for what they do – or don't do – with integrity management.

There's simply no alternative, since for the nation's energy infrastructure to grow and meet our domestic and global strategic needs, the public will demand the highest level of safety and protection of the environment, as we know from reading about the growing opposition to pipeline projects across the country.

The Nexus between Safety and Security

I want to close on a subject that was recently the topic of a technical conference at FERC – the security of our nation's energy delivery infrastructure. PHMSA's mission may be safety, but you can never really separate safety from security. I think the TSA Administrator, David Pekoske, said it best at FERC two weeks ago – “safety and security are two sides of the same coin.”

Security has two components: Physical and cyber threats characterized by the actions of bad actors; with the second component being reliability as measured by supply and delivery capabilities, and of course planning for system contingencies.

Earlier this year, the Director of National Intelligence released the Worldwide Threat Assessment, and what was notable was

the growing emphasis on identified threats from China. China now has the capability to launch cyber-attacks that could cause disruptive effects on critical infrastructure—“*such as disruption of a natural gas pipeline for days to weeks*—in the United States.”

Aside from this risk, on the reliability side, there were a number of recent incidents on pipeline systems in Minnesota, Michigan and my home state of Rhode Island where more than 6,000 customers lost gas service on a cold January day just a few months ago.

Those incidents are drawing attention to the fact that system resiliency is being stretched thin in some parts of the country. Demand for natural gas is growing both for heating and power generation; utilization on some systems is maxed out; and in some cases, there were few or no contingencies for maintaining gas supply to customers.

There’s simply no reason for not having adequate pipeline capacity to meet the forecasted demands on the system. That goes equally for the need to plan for operational contingencies in the same manner we do for the electric transmission system. And there’s no excuse for not connecting new customers who desire natural gas service in States like New York and Massachusetts, where local utilities have been forced to enact moratoriums on new connections.

But when you marry the conventional reliability risk to the physical and cyber security components, we undoubtedly find ourselves in a very precarious position, particularly in light of

the clear and growing interdependency between the gas and electric sectors. Given the current threat assessment, we clearly need to plan for what we are going to do in the event systems go down due to the malevolent acts of third parties, something that goes far beyond our current efforts of establishing information sharing platforms.

So, safety and security go hand in hand, and the consequences can often be the same. You've probably heard me ask this before – what do the San Bruno, CA pipeline tragedy and Midwest Black-Out (2003) have in common? Besides both being avoidable, they both resulted in eight fatalities.

Those tragic incidents could pale in comparison to what could happen if we experienced a well-coordinated cyber-attack on pipeline systems. So, let's be ready; let's continue to work together; and let's make the necessary investments now.

Thank you again for the opportunity to speak today. I'm happy to answer any questions.

Recently, a lot of headlines have been about the so-called Green New Deal, which was a proposal put together by Representative Alexandria Ocasio-Cortez and Senator Ed Markey. It wasn't quite ready for prime-time, and when Senate Majority Leader Mitch McConnell put it to a vote in the upper chamber, it failed to receive a single Yes vote.

That proposal was, even according to its authors, meant to be "aspirational." But at PHMSA, we are thinking always about the future of energy in America, and we know that the future is happening right now, coming at us one second, minute, hour, and day at a time. Dealing with that, planning for it, making sure it happens safely, equitably, and profitably is not really about ASPIRATION; it is about INSPIRATION and PERSPIRATION, about strategic thought and good old-fashioned hard work.

I'd like to update you all today on what issues we are thinking about at PHMSA that might impact your business, and how we're working to keep America's energy sector safe and efficient. As a regulatory agency, PHMSA is striving to adapt to a rapidly changing landscape in the industries we regulate.

First, there is the re-emergence of the United States as a global leader in energy production. Someday soon, this nation will be a net energy exporter for the first time in almost 70 years. Much of that is driven by new technologies in gas and oil production – and the since the P in our name stands for Pipelines, PHMSA is

very much part of that picture. The 2.8 million miles of pipelines that we regulate underpin the entire domestic energy picture – and soon they will also need to support a growing export market, all while maintaining the highest possible standards of safety. We are working hard to adapt to that development.

The PHMSA adaptation story is not only about greater production and transporting products to markets through more pipelines and export facilities. The pipeline system is also being asked to do more today than in the past, because of the rise power plants fired by Liquid Natural Gas.

Keeping these plants supplied is causing an unprecedented integration of the pipeline system with the power grid – which in turn gives rise to a whole new set of regulatory issues related to reliability, redundancy, and points of potential vulnerability to threats ranging from severe weather events to deliberate physical or cyber-based attacks.

Before coming to PHMSA a little over a year ago, my background was largely focused on the power grid. **[INSERT HERE BRIEF SYNOPSIS OF THAT BACKGROUND]**

I mentioned that the pipeline grid is becoming more integrated with that power grid – and that is something that I spend some time thinking about, because I believe that LNG still has a room to grow considerably as a source of electric power, which will affect every power-intensive industry in many ways, some a lot more predictable than others.

At PHMSA, we are preparing for those changes in the landscape of what we regulate. We recently signed an MOU with the Federal Energy Regulatory Commission designed to streamline and expedite processes for licensing and approval of LNG facilities. Under that agreement, PHMSA will certify that planned facilities will meet operational safety requirements. The idea is that we can, by providing that technical expertise, assist the FERC in these endeavors – because we have reached the point where approval of such facilities is often the limiting factor in using LNG to make meeting our energy needs safer, more reliable, more efficient, and less expensive.

The impact to your business of such developments is likely to be complicated. LNG has advantages over other forms of energy production. It is cleaner than coal or oil, and also safer to transport. It is more reliable than wind or solar, which only produce when sun shines and wind blows – and battery technology is still too cumbersome for these production methods to be without backup systems.

The prospects for increased production of LNG, with modern techniques, is good; but as infrastructure to support that gets built out, there is likely to be more competition for supply. How those dynamics shake out in terms of price is difficult to predict; but it is likely that a new equilibrium on that question could take some time to reach.

As LNG integrates more into the power grid, PHMSA has to think differently to assess and mitigate risks that attend that. We are addressing new questions that the integration points up:

- Where are the risk inflection points? (Bottlenecks) If a certain section of pipe supplies a power station on which a large population depends, failure in that section has more risk that might require different safety protocols. In addition to risk of accident, these risks include deliberate sabotage by terrorists or other bad actors. Strategies for mitigating this risk might include hardening of the assets, or installation of redundant pipeline routes through which supply could be quickly diverted.
- Who might pose an active, deliberate threat? Assessing the threat of deliberate attack begins with an idea of what individuals or organizations might undertake such a plan, and how they might conceive of sabotage if they did.
- How much information is available to potential bad actors? Protecting against deliberate attack is very different from guarding against accidental system failure. For example, PHMSA has long encouraged Voluntary Information Sharing strategies, on the theory that more information known by more people committed to safety will ALWAYS be better. But when considering deliberate attack, every piece of information shared must be assessed for the danger of it falling into the wrong hands. Wider sharing of information inherently undermines operational security regarding potential vulnerabilities.

PHMSA's mission is to protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives. LNG is becoming

more essential to daily life, and so our thinking about the infrastructure that gets it safely to market must evolve.

So I'm looking forward to enjoying some questions and answers, and to learning more from all of you here about the paper business and its exposure to energy markets, and also to other things that PHMSA regulates, such as paper-based products that are used for packaging various types of hazardous materials for transport. Thanks again for the opportunity to be here today.



In a time of rapid growth and change, Safety is about Imagination

EIA (source)—yellow highlight

The pulp, paper and printing sector accounted for 5.6% of industrial energy consumption in 2014. Though its share of industrial energy use has been in decline since 2000, the sector continues to be among the top industrial energy consumers, and can play an important role in the transition to a low-carbon energy system. Despite production growth, the sector's energy use must decline by 0.8% and direct non-biomass CO₂ emissions by 17% by 2025 from 2014 levels to meet the 2DS.

Recent trends

Annual production of paper and paperboard has increased by 23% since 2000 (FAO, 2016), with growth in demand for household and sanitary papers due to rising populations and incomes, and rising packaging material needs for shipping of consumer goods. These trends have offset reduced demand for printing and writing papers in an increasingly digital age. The share of wood pulp in paper production has decreased over time, from 52% in 2000 to 43% in 2014 (FAO, 2016), as rates of waste paper recovery and recycling continue to improve.

Fossil fuels, which are primarily used for onsite utilities, accounted for 42% of total energy consumption in 2014. Decarbonising these utilities by switching to lower-carbon fuels could have an important impact.

Pulp and paper production has a high share of biomass in its energy consumption, due to the use of by-products. For each tonne of kraft process pulp,³ an estimated 19 gigajoules (GJ) of black liquor is produced, which can be used for steam and electricity generation. Sawdust, wood chips and other

wood residues (called “hog fuel”) are also generally burned on site. An estimated 0.7 GJ to 3.0 GJ of hog fuel is produced per tonne of wood pulp.

Tracking progress

The sector’s energy use has grown only 1% since 2000, despite a 23% increase in paper and paperboard production, which points to a decoupling of growth in energy use and production. However, structural effects, such as shifts in product mix or regions of production, can also influence energy use, and data quality issues make it difficult to draw concrete conclusions about the energy intensity trends.

Recovery and recycling of waste paper have steadily been increasing. The utilisation of recovered paper in the total fibre furnish grew to 55.3% in 2014, up from 44.3% in 2000 and 33.9% in 1990. This trend is envisioned to continue, growing to 57.6% in the 2DS by 2025.

Research on innovative processes for pulp and paper manufacturing has continued to identify opportunities for decarbonisation. The Confederation of European Paper Industries (CEPI), for example, led an initiative called the Two Team Project, which brought together researchers to identify the most promising breakthrough technologies for decarbonisation, in an example of collaborative and open R&D. New concepts identified through this project will require additional research and funding to bring to scale.

Tracking of energy efficiency improvements in pulp and paper manufacturing is difficult, because publicly available data on production, capacity and energy use are limited. Additionally, some countries do not report biomass use for the pulp and paper sector, which makes it difficult to get an accurate picture of the sector’s energy needs.

Recommended actions

Through 2025, the sector should continue to focus on improving energy efficiency, moving towards BAT-level performance and increased recycling,

while also supporting R&D efforts to develop future processes and technologies.

In the longer term, the sector can also contribute to sustainable energy supply, for example, by feeding excess heat and electricity into the grid. The concept of pulp mills as integrated bio-refineries that produce low-carbon energy commodities, including biofuels for transport, from black liquor alongside their pulping activities is gaining traction, and several pilot projects are under way. The sector also has the opportunity to contribute some negative emissions by capturing biogenic CO₂ emissions. Similarly, new applications for pulp and paper products may contribute to product life-cycle CO₂ emissions reductions, for example, through improved packaging or fibre-based textiles. Private- and public-sector stakeholders should collaborate to ensure the necessary framework of incentives is put in place to encourage such strategic and systemic thinking.

Source: "Green America's Better Paper Project" –green highlight

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State Affairs Fall Committee Meeting



October 5-8, 2014
Omni Austin Hotel Downtown, Austin, TX

“Pipeline Safety Developments and Regulatory Challenges at the State, Regional and National Level”

October 7, 2014

*Paul Roberti, Commissioner
Rhode Island Public Utilities Commission
Chairman, NARUC Subcommittee on Pipeline Safety*

Overview of Presentation

- **Rhode Island Pipeline Replacement Program**
- **New England Pipeline Safety Statistics**
- **National Developments**
 - **NARUC Initiatives**
 - **Fugitive Methane Emissions**
- **Economic Implications**
 - **Infrastructure Adequacy**
 - **Electricity Price Volatility**

Rhode Island's Pipeline Safety Program



Prominent Features of Rhode Island's Capital Expense Tariff Rider

- **Accelerated Replacement Program (ARP)**
 - ARP began as part of a 2008 Rate Case Settlement over the 2 year period, funded replacement of 70 miles of Leak Prone Pipe and 4,391 Bare Steel, high pressure services.
- **Infrastructure Safety and Reliability Plan (ISR)**
 - Replaced existing ARP and legislatively mandated 5 year strategic plan.
 - The plan funds both replacement of leak prone mains and bare steel, high pressure services. The plan also includes funds for system reliability, mandated programs and special projects
 - The plan is expected to annually fund replacement of approximately 50 miles of Leak Prone Pipe and 2,125 Bare Steel, high-pressure inside services.
 - Implementation of a fully reconciling rate mechanism designed to recover actual and anticipated capital investments as reflected in the approved ISR spending plan.

National Grid Rhode Island: Forecast and 5-Year Plan

Note: This table was taken from our FY15 ISR Plan approved by the PUC at its Open Meeting on 3/27.

Gas ISR Spending Forecast (000's)								
Investment Categories	FY13 Actual	FY14 Budget	FY15	FY16	FY17	FY18	FY19	FY15 to FY19 TOTAL
Main Replacement Program (1)	\$32,120	\$33,362	\$36,500	\$39,991	\$43,705	\$44,579	\$45,471	\$210,246
Service Replacement Program (2)	\$3,740	\$3,100	\$1,500	\$0	\$0	\$0	\$0	\$1,500
Sub-total	\$35,860	\$36,462	\$38,000	\$39,991	\$43,705	\$44,579	\$45,471	\$211,746
Public Works	\$3,730	\$1,821	\$3,857	\$3,857	\$3,857	\$3,857	\$3,857	\$19,285
Reactive Main Replacement	\$250	\$500	\$200	\$200	\$200	\$200	\$200	\$1,000
Mandated Program	\$11,800	\$13,522	\$14,140	\$14,413	\$14,623	\$14,838	\$15,056	\$73,070
Reliability	\$7,960	\$8,987	\$10,424	\$9,680	\$9,424	\$10,816	\$10,824	\$51,168
Special Projects	\$0	\$4,000	\$4,675	\$0	\$0	\$0	\$0	\$4,675
Sub-total	\$23,740	\$28,830	\$33,296	\$33,296	\$28,150	\$29,711	\$29,937	\$149,198
Capital Total (excluding Growth)			\$71,296	\$68,141	\$71,809	\$74,290	\$75,408	\$360,944
O&M Total	N/A	N/A	\$400	\$400	\$400	\$400	\$400	\$2,000
GAS ISR TOTAL	\$59,600	\$65,292	\$71,696	\$68,541	\$72,209	\$74,690	\$75,808	\$362,944
(1) Main Replacement mileage increases annually (from 53 miles in FY15 to 60 miles in FY17 and beyond) (2) Service Replacement Program is projected to conclude in FY15								

Rhode Island FY 2014 Capital investment In Safety -- \$65 million

- **Major Initiatives**

- ◆ Proactive replacement of leak prone pipe (56.6 miles)
- ◆ Cathodic protection of steel mains (10 miles)
- ◆ Replacement of 1,100 Bare Steel, HP Services with Inside Meter Sets
- ◆ Replacement of meters
- ◆ Repair of leaking gas services and cast iron joint encapsulation
- ◆ Service relocations, meter protection, service abandonments and curb valve installation

MILES OF MAIN REPLACED –ANNUALLY

Main Replacement Program
Public Works Program*
Total Miles Installed

Accelerated Replacement Plan (ARP)		
FY 2009	FY 2010	FY 2011
11	26	39
-	-	-
11	26	39

Infrastructure, Safety and Reliability Plan (ISR)			
FY 2012	FY 2013	FY 2014	FY 2015 (forecast)
41.7	50.9	52.5	53
-	3.6	4.1	7
41.7	54.5	56.6	60

* Public Works not tracked separately for the ARP

RHODE ISLAND GAS MAIN LEAK “RATES”

Calendar Year 2013

COMPARISON BY MATERIAL (Excluding Damages)

2013 SYSTEM INTEGRITY REPORT

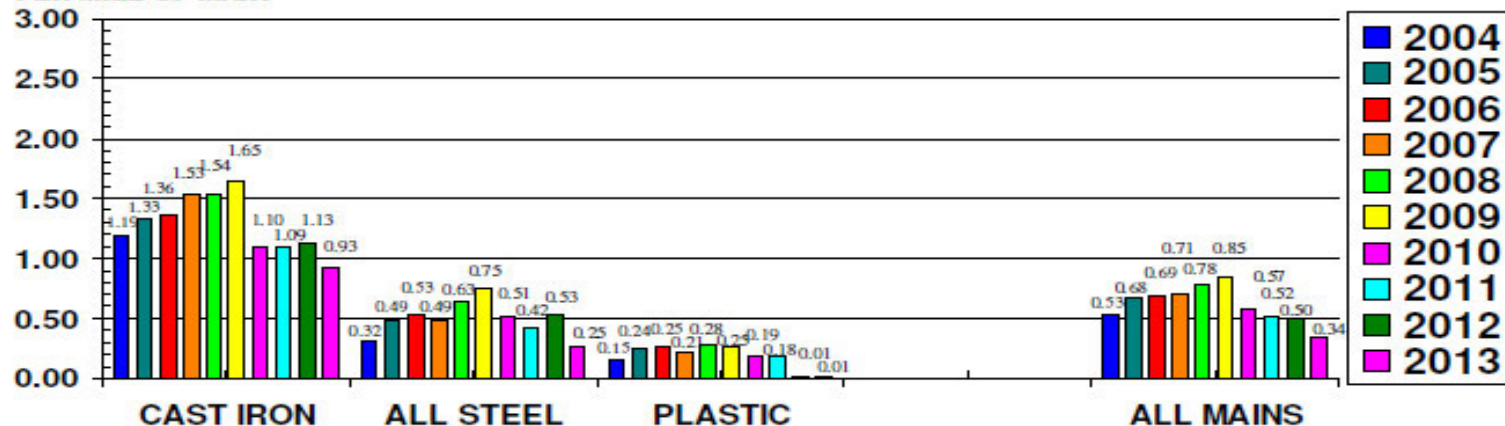


MAIN LEAK “RATES”

COMPARISON BY MATERIAL

EXCLUDING Damages

LEAK REPAIRS
PER MILE OF MAIN



MATERIAL

COUNTING EACH INDIVIDUAL REPAIR AS A LEAK

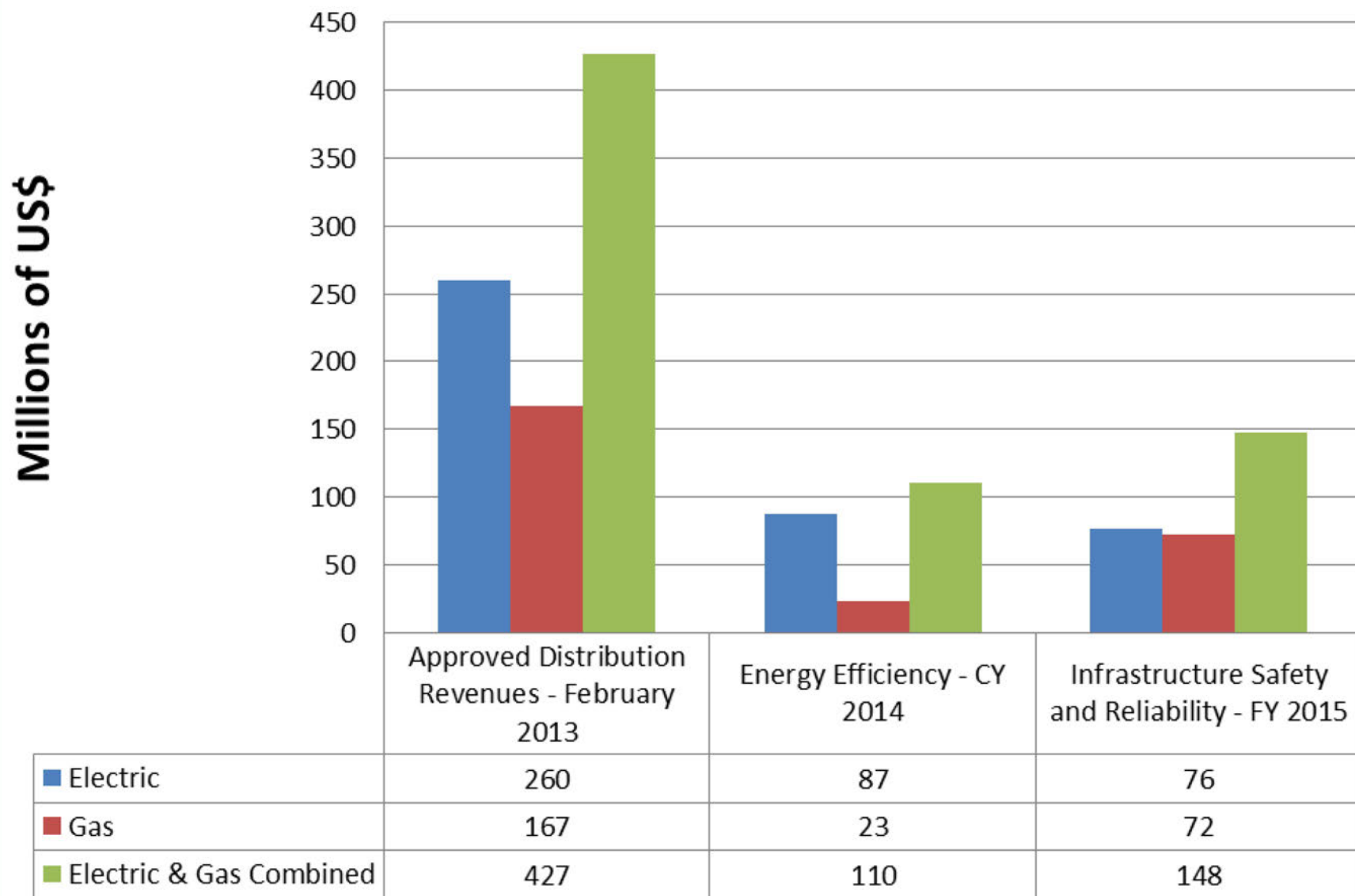
Annual Bill Impacts Are Relatively Modest

Rate Class	Annual Average Use (Therms)	ISR Rate Change Impact* (\$)	ISR Rate Change Impact (%)
Res-NH	214	\$0.99	0.2%
Res-NH-LI	214	\$0.99	0.3%
Res-H	846	\$2.09	0.2%
Res-H-LI	846	\$2.09	0.2%
Small	1,352	\$3.33	0.2%
Medium	12,217	\$22.67	0.2%
Large LL	63,179	\$91.20	0.2%
Large HL	77,558	\$143.93	0.2%
XL-LL	268,243	\$138.28	0.1%
XL-HL	688,340	\$354.80	0.1%

*Impact includes RI Gross Earnings Tax

National Grid

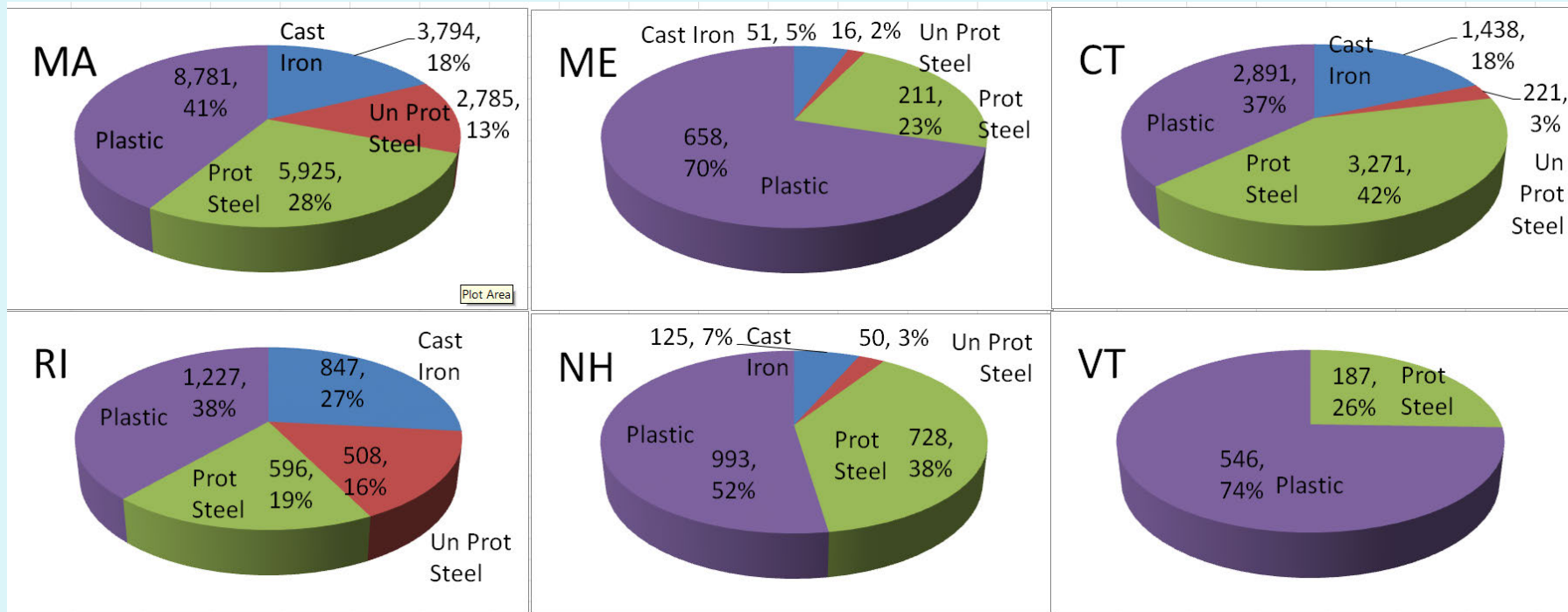
Distribution Revenues vs. EE and ISR Spending



New England Pipeline Safety Statistics



Amount of Leak Prone Pipe (Mains) in New England



MA has more than 6,300 miles of leak prone main (30%)

CT has more than 1,600 miles of leak prone main (21%)

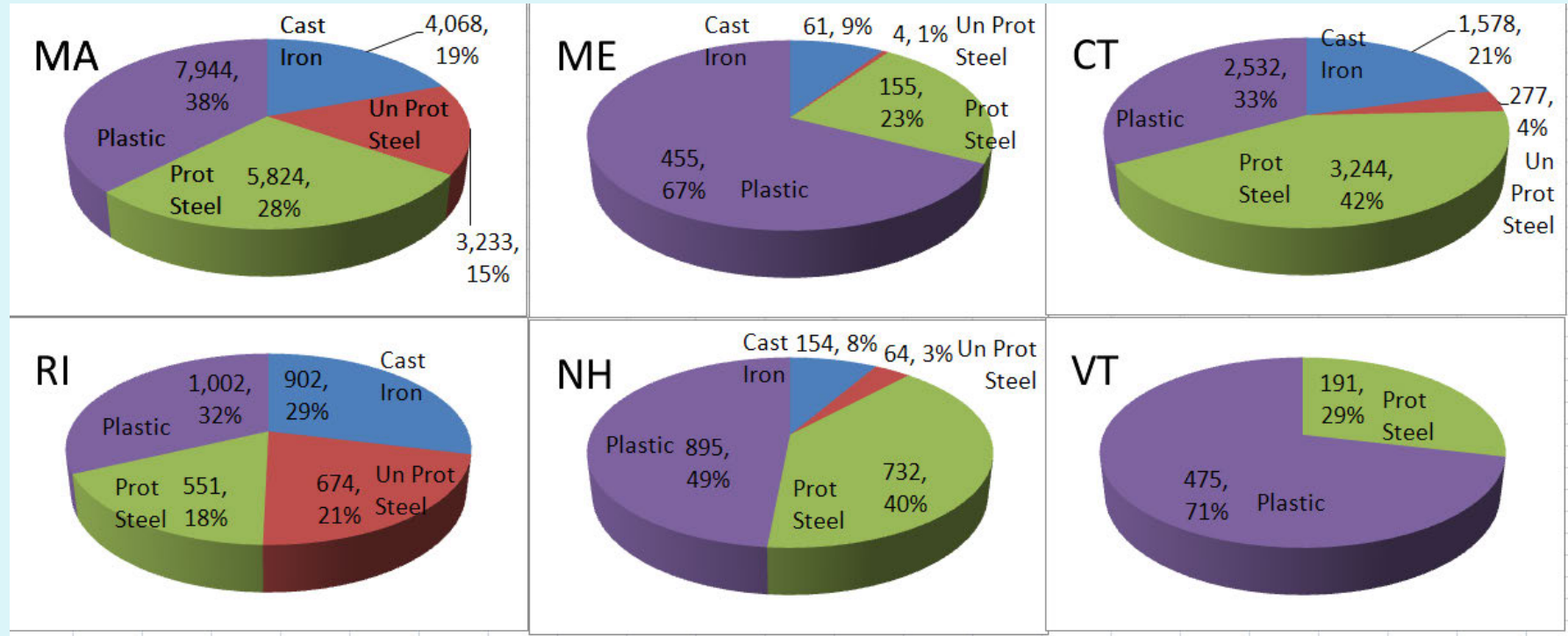
RI has more than 1,300 miles of leak prone main (42%)

NH has more than 170 miles of leak prone main (9%)

ME has more than 60 miles of leak prone main (7%)

**2014
DATA**

Amount of Leak Prone Pipe (Mains) in New England



MA has more than 7,300 miles of leak prone main (34%)

CT has more than 1,750 miles of leak prone main (25%)

RI has more than 1,500 miles of leak prone main (50%)

NH has more than 200 miles of leak prone main (11%)

ME has more than 60 miles of leak prone main (10%)

**2009
DATA**

Positive Trends in New England

	2009 (Base)	2012	2013	2012 Increase/ Decrease	2013 Increase/ Decrease
Overall Infrastructure is Increasing					
% Increase in Dist Pipelines New England (Miles)	58,972	60,281	61,514	2.2%	4.3%
% Increase in Gas Mains New England (Miles)	35,015	35,593	35,948	1.6%	2.7%
% Increase in Gas Services New England (Miles)	23,957	24,689	25,565	3.1%	6.7%
Aged Infrastructure is Decreasing					
% Decrease in Cast Iron Gas Mains New England (Miles)	6,763	6,338	6,153	-6.3%	-9.0%
% Decrease in Bare Steel & Unprotected Steel Mains (Miles)	4,252	3,626	3,484	-14.7%	-18.1%
% Decrease in Bare Steel & Unprotected Steel Services (Miles)	5,107	4,516	4,454	-11.6%	-12.8%

4 year period 2009 to 2013

Leak Prone Pipe Statistics in New England – as of Jan 2014

	2009 (Base)	2012	2013	2012 Increase/ Decrease	2013 Increase/ Decrease
Biggest Decreases in Aged Infrastructure Mains					
CT	1,855	1,716	1,659	-7.5%	-10.5%
MA	7,301	6,579	6,381	-9.9%	-12.6%
RI	1,576	1,409	1,355	-10.6%	-14.0%
NH	218	189	174	-13.3%	-20.0%
ME	65	72	67	10.9%	3.7%
VT	0	0	0	0%	0%
Biggest Decreases in Aged Infrastructure Services					
CT	1,008	872	891	-13.5%	-11.7%
MA	3,178	2,865	2,814	-9.8%	-11.5%
RI	808	673	648	-16.7%	-19.8%
NH	125	118	114	-5.9%	-9.0%
ME	9	7	6	-17.8%	-35.6%
VT	0	0	0	0.0%	0.0%

2013 New England Gas Pipeline Infrastructure (Miles)

	TRANS	INTER	INTRA	STATE INSPECTION	DIST	MAIN
CT	584	582	2	584	13,002	7,631
MA	1,105	1,082	23	23	35,394	21,069
RI	95	95	0	0	5,547	3,129
NH	260	231	24	24	2,927	1,845
VT	71	1	70	70	1,185	666
ME	430	419	11	11	917	675
	2,545	2,410	130	712	58,972	35,015

2013 New England Gas Pipeline Infrastructure (Miles)

	DIST	MAIN	CAST IRON MAIN	UNPROTECTED STEEL MAIN	PROTECTED STEEL MAIN	PLASTIC MAIN
CT	13,957	7,822	1,438	221	3,271	2,891
MA	36,225	21,382	3,692	2,689	5,904	9,097
RI	5,593	3,178	847	508	596	1,227

Gas Distribution Cast/Wrought Iron Pipelines

Date run: 10/6/2014

Portal - Data as of 10/5/2014

Notes:

- Sort any column by hovering over the column header, then selecting sort order.

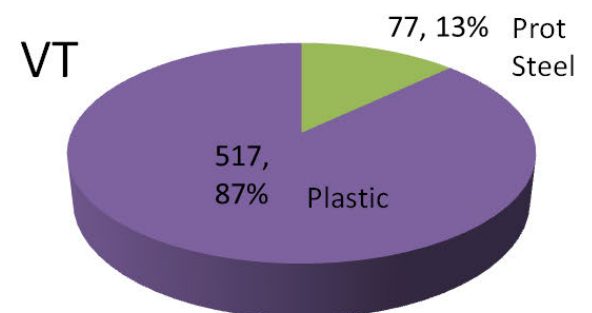
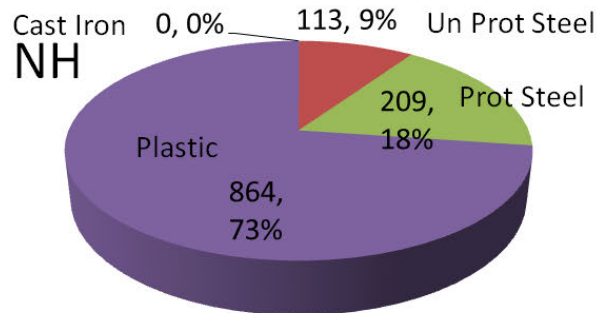
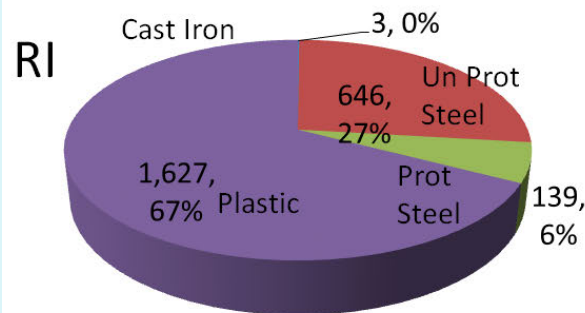
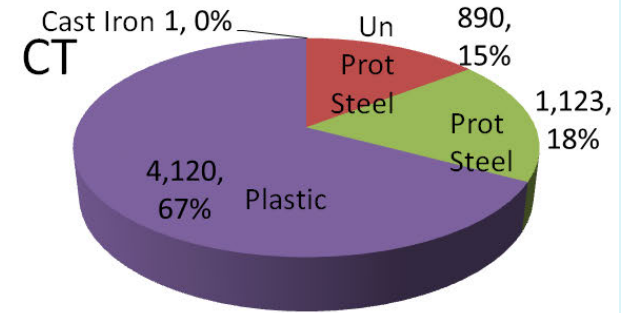
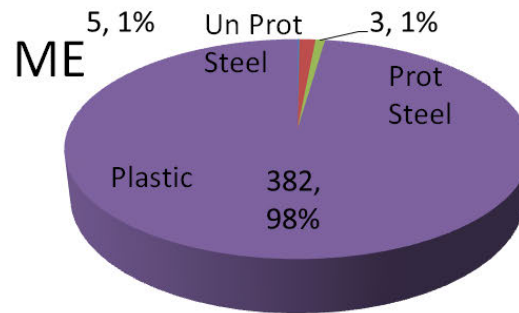
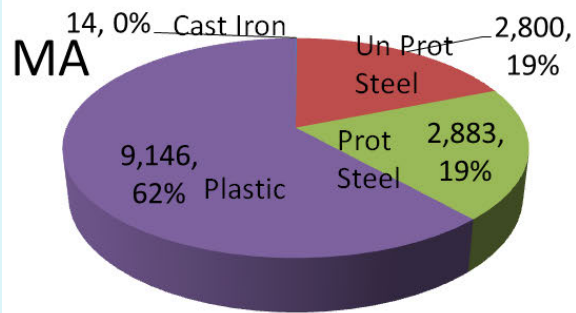
Year: 2013

State	Miles Main	% of Total Main Miles	Service Count	% of Total Service Count
NEW JERSEY	4 881	14.3%	0	0.0%
NEW YORK	4 754	8.9%	7 208	0.7%
MASSACHUSETTS	3 691	17.3%	1 583	0.1%
PENNSYLVANIA	3 115	6.5%	60	0.0%
MICHIGAN	3 011	5.3%	17	0.0%
ILLINOIS	1 645	7.7%	74	0.0%
CONNECTICUT	1 476	18.2%	37	0.0%
MARYLAND	1 378	9.4%	0	0.0%
ALABAMA	1 288	4.7%	344	0.0%
MISSOURI	1 071	3.9%	0	0.0%
RHODE ISLAND	831	26.1%	185	0.1%
TEXAS	827	0.8%	0	0.0%
OHIO	570	1.0%	53	0.0%
NEBRASKA	457	3.6%	0	0.0%
DISTRICT OF COLUMBIA	418	34.9%	0	0.0%
LOUISIANA	408	1.5%	995	0.1%
VIRGINIA	333	1.6%	78	0.0%
INDIANA	275	0.7%	0	0.0%
FLORIDA	211	0.8%	0	0.0%
NEW HAMPSHIRE	125	6.6%	39	0.0%
TENNESSEE	118	0.3%	0	0.0%
ARKANSAS	103	0.5%	0	0.0%
DELAWARE	86	7.9%	0	0.0%
KENTUCKY	86	0.5%	1 233	0.1%
KANSAS	86	0.4%	0	0.0%
MAINE	51	5.5%	47	0.2%
MISSISSIPPI	49	0.3%	1	0.0%
MINNESOTA	29	0.1%	0	0.0%
CALIFORNIA	29	0.0%	0	0.0%
COLORADO	14	0.0%	0	0.0%
WEST VIRGINIA	14	0.1%	30	0.0%
SOUTH DAKOTA	9	0.2%	0	0.0%
IOWA	7	0.0%	7	0.0%
GEORGIA	5	0.0%	0	0.0%
WASHINGTON	3	0.0%	0	0.0%

It's Not Just Aging Mains...

- NE Regulators realize Leak Prone Piping Programs must also address the smaller **Service** piping
- **Leak Prone Services** constitute an additional **32%** of Leak Prone Piping in NE
- **Leak Prone Services** are equally important as a result of closer proximity to people and property
- **Leak Prone Services** have thinner walls
- **Leak Prone Services** have less cover and more susceptible to 3rd party excavation Damage

Amount of Leak Prone Pipe (Services) in New England



MA has more than 2,800 miles of leak prone **service** (19%)

CT has more than 890 miles of leak prone **service** (14%)

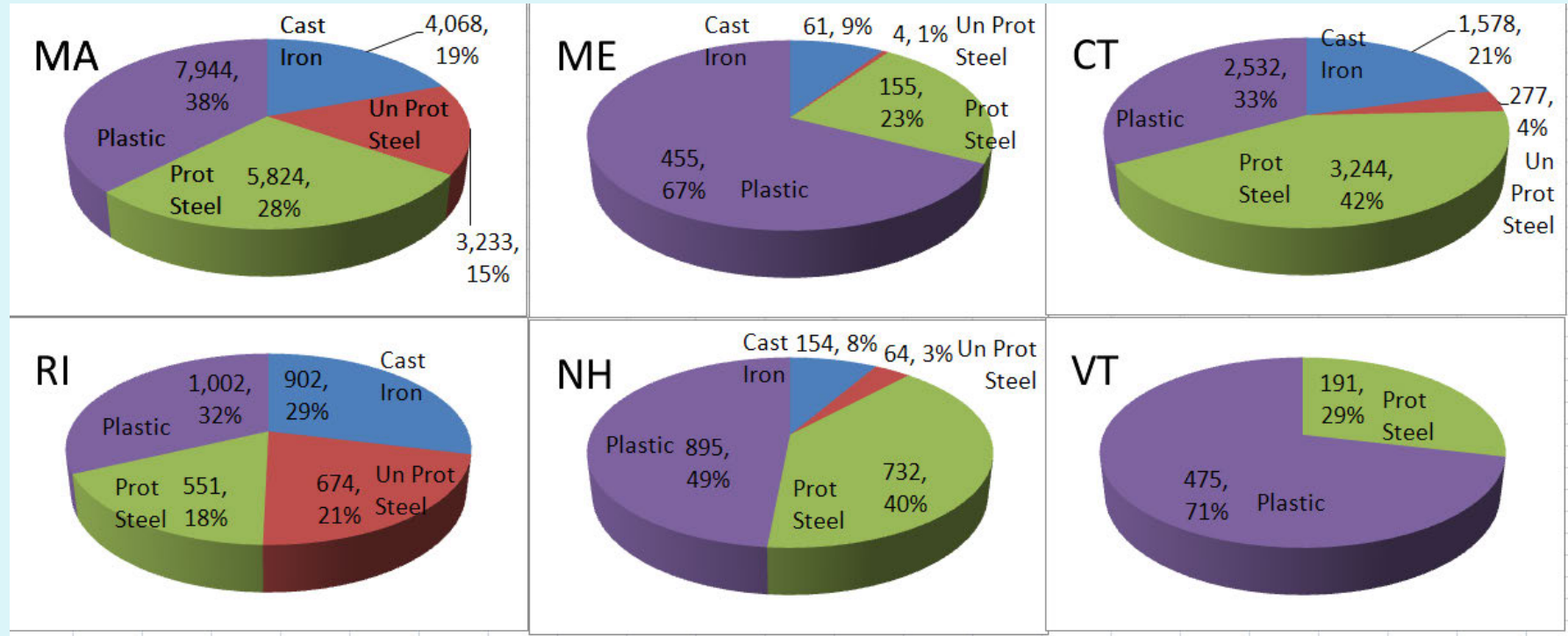
RI has more than 640 miles of leak prone **service** (27%)

NH has more than 110 miles of leak prone **service** (9%)

ME has more than 5 miles of leak prone **service** (1%)

**2014
DATA**

Amount of Leak Prone Pipe (**Service**) in New England



MA has more than 3,100 miles of leak prone **service** (22%)

CT has more than 1,000 miles of leak prone **service** (19%)

RI has more than 800 miles of leak prone **service** (33%)

NH has more than 120 miles of leak prone **service** (12%)

ME has more than 9 miles of leak prone **service** (3%)

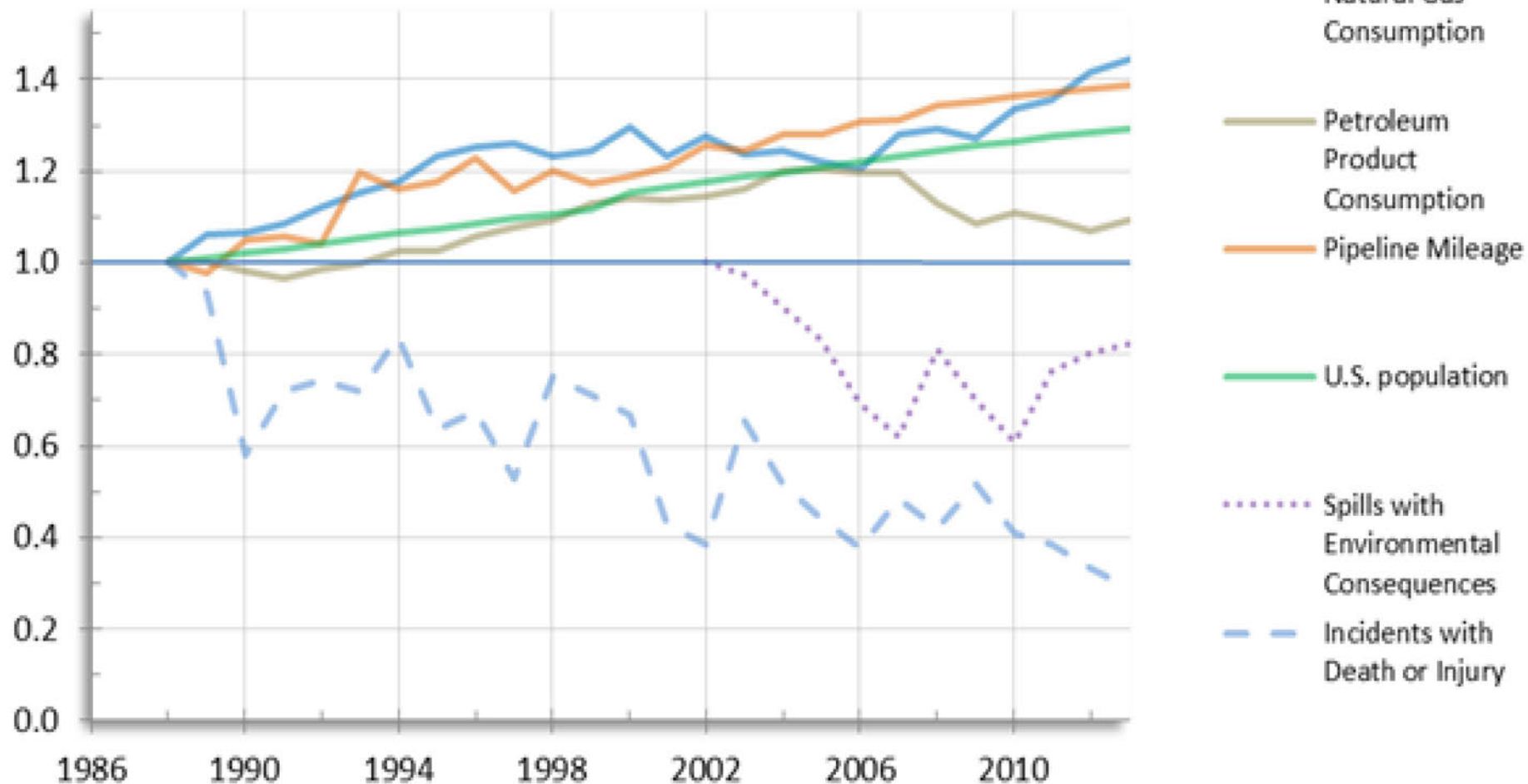
**2009
DATA**

NATIONAL DEVELOPMENTS



Pipeline Safety with Context Measures (1988-2013)

Index
(1988 = 1)



Calendar Year

Data Sources: Energy Information Administration, Census Bureau, PHMSA Annual Report Data, PHMSA Incident Data - as of April 9, 2014



San Bruno, CA 2010



Allentown, PA 2011

“In 2010, there were 34 serious pipeline incidents in which 19 people were killed, 104 were injured. In 2011, another 12 people were killed and 55 injured in 34 serious pipeline incidents. Overall, the number of serious incidents has declined since 1992, but the consequences when something does go wrong are far too large to fail to improve pipeline safety.”



- 2011: NARUC establishes Pipeline Safety Task Force after San Bruno, CA and Allentown, PA incidents (13 fatalities)
- April 2013: Task Force converted into permanent Subcommittee on Pipeline Safety
- Congress Enacts Pipeline Safety, Regulatory Certainty and Job Creation Act of 2011
- PHMSA issues “Report to America” and NOPRs
- Close coordination between NAPSRC and NARUC
- Efforts include education, technology, surveys and close coordination with PHMSA

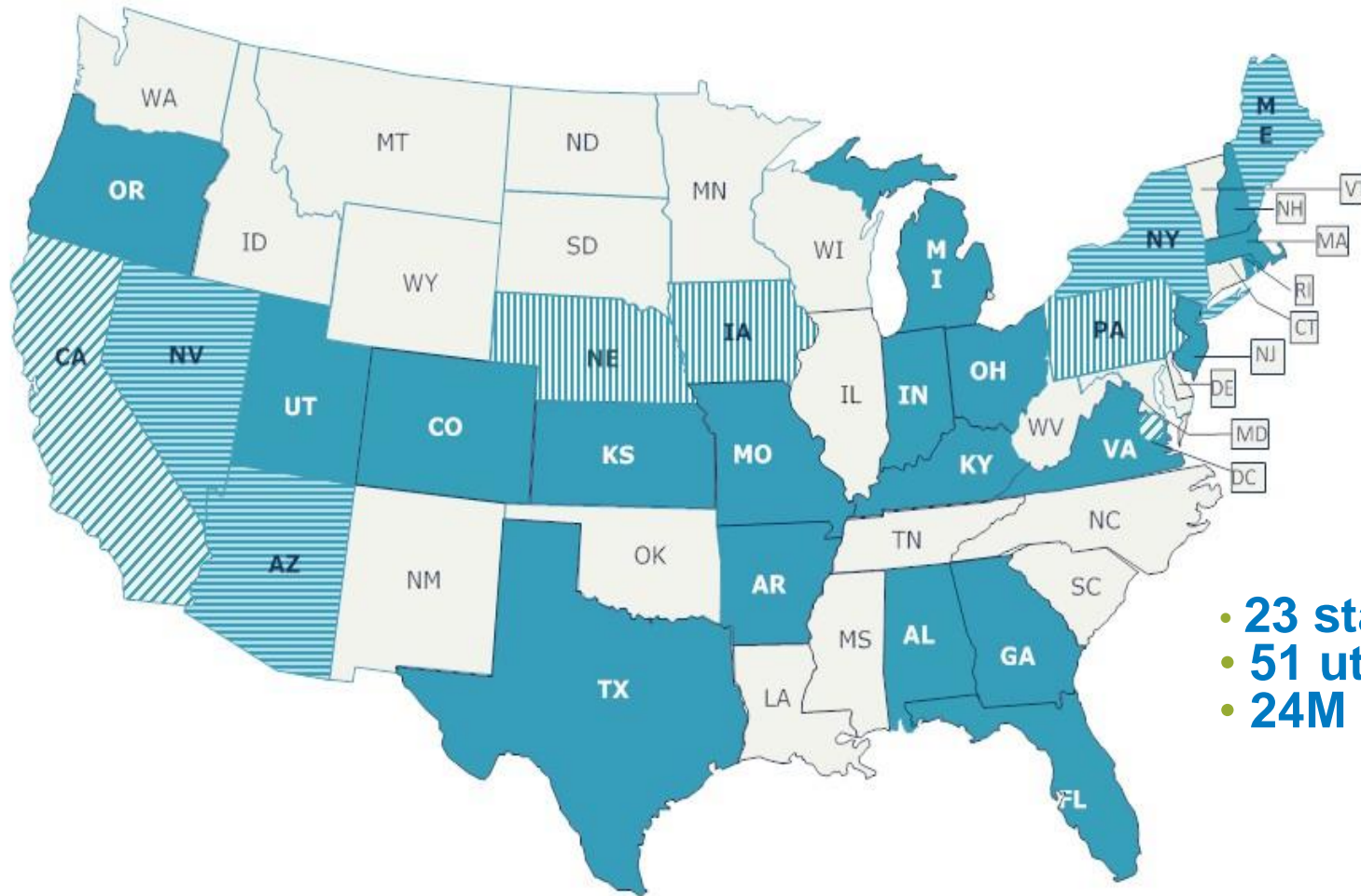
CAST IRON REMAINS ON PHMSA'S “WATCH LIST”

- **10.5 percent** of the incidents occurring on gas distribution mains involved cast iron mains. However, **only 2.5 percent** of distribution mains are cast iron.
- In proportion to overall cast iron main mileage, the frequency of incidents on mains made of cast iron is more than **four times that of** mains made of other materials.
- **38 percent** of the cast/wrought iron main incidents caused a fatality or injury, compared to only 20 percent of the incidents on other types of mains.
- **12 percent of all fatalities** and **8 percent of all injuries** on gas distribution facilities involved cast or wrought iron pipelines

Source: USDOT PHMSA

STATES WITH INFRASTRUCTURE COST RECOVERY

(As of September 2012)



- 23 states
- 51 utilities
- 24M customers



States with Full Infrastructure Cost Recovery Mechanisms (19)



States with Pending Infrastructure Cost Recovery Mechanisms (1 + DC)



States with Limited Infrastructure Cost Recovery Mechanisms (4)



States with Legislation or Generic Rulings (3)

Public Policy Value of Cap-X Tracker

- Eliminates Utility-borne Risk of Delayed Cost Recovery of Incremental Capital Investments during Post-Rate Case Periods
- Promotes Opportunities for coordination with State highway and local road projects, sewer upgrades and emergency repairs, etc. that are both economic and logistically convenient
- Mitigates the need for large rate increases by spreading cost of infrastructure upgrades along broader timeframe
- Consistent with good ratemaking principles of promoting rate stability and inter-generational equity by eliminating boom/bust investment cycles
- Provides regulators with consistent, periodic review of system conditions and capital requirements of distribution system
- Most importantly, advances **PUBLIC SAFETY** by encouraging systematic replacement of high-risk facilities

Pipeline Safety of Aging Pipelines is not just about Trackers *(there are other tools)*

- **All six** NE states have aggressive and well established underground damage prevention programs and have damages less than 2 hits per 1000 locates (**CT, NH and ME** are at 1 hit per 1000)
- **RI, NH, CT and ME** have specific emergency response standards that need to be met and reported (1 hour and less)
- **NH** limits Cast Iron pressures to 0.25 psig, (PHMSA allows up to 20 psig).
- **CT, ME, NH and MA** have additional leak surveys required for Public Buildings of Assembly
- **CT, MA and NH** have additional winter leak survey patrols required for cast iron during periods where frost is present

Source: Compendium of State Pipeline Safety Requirements & Initiatives
Providing Increased Public Safety Levels compared to Code of Federal
Regulations Sept 2013



U.S. DEPARTMENT OF
ENERGY



National
Association of
Regulatory
Utility
Commissioners

Methane Emissions Reductions Strategies Capstone Roundtable July, 29, 2014

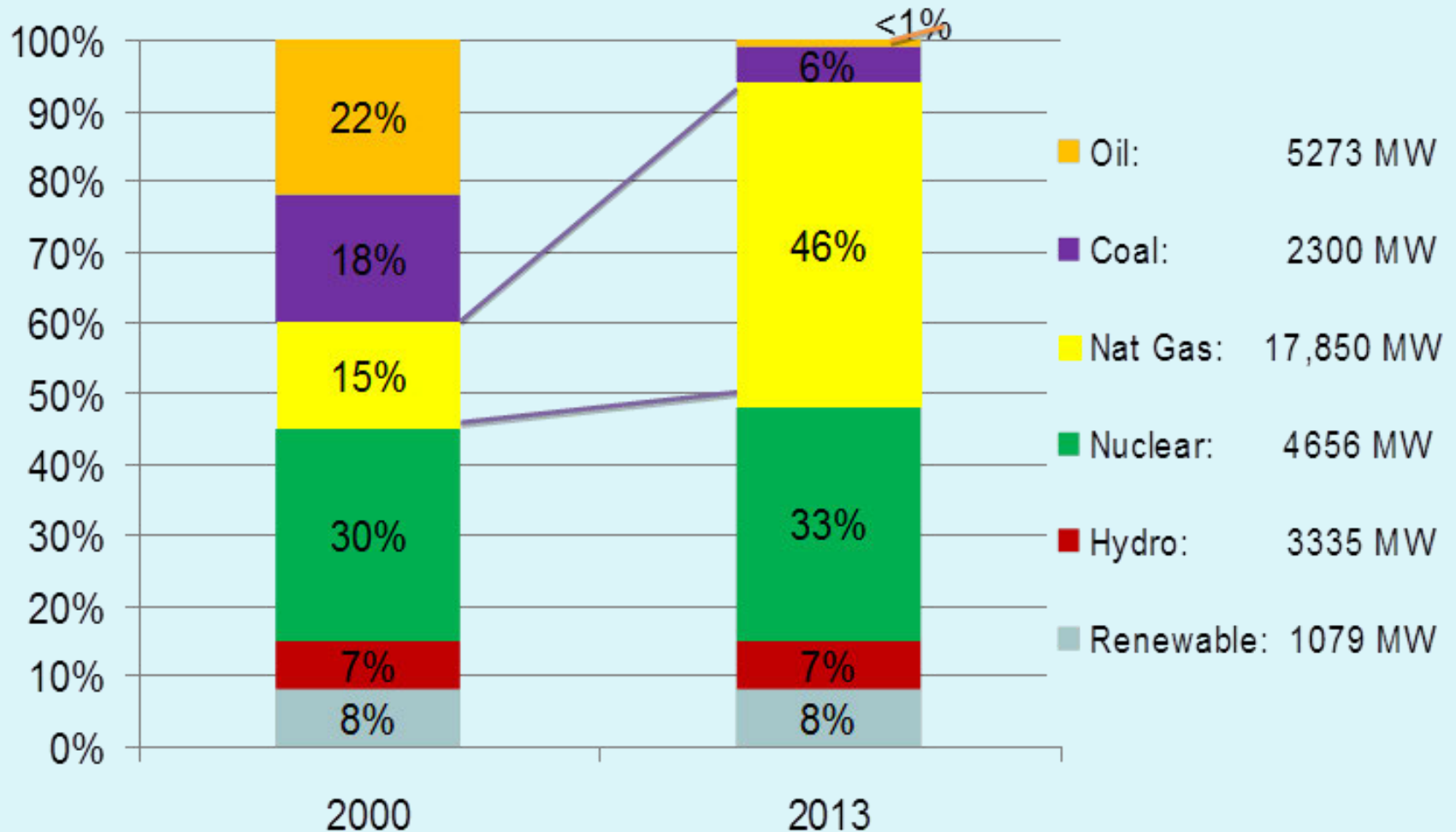
Announced the formation of a technical partnership between DOE and NARUC to enable investments in infrastructure modernization and repairs to natural gas distribution networks. Partnership will provide funding for research and technical workshops to bring together PHMSA and other federal agencies to help establish leak measurement protocols, to identify new technologies and cost-effective practices for enhancing pipeline safety, efficiency and deliverability.

Natural Gas Will Continue to Be a Growing Force in our Nation's Energy Future

- Unconventional Natural Gas Exploration Via Hydraulic Fracturing (Shale Gas) Continues to Expand Low-Cost, Domestic Gas Production
- Emissions Profile, Coupled with Implementation of new EPA Regulations, Will Increase Market Penetration of Gas-fired Electric Generation
- EPA's Clean Power Plan – Building Block 2 (70 % utilization rate of gas-fired generators)
- Natural Gas-fired Units Provide:
 - Quick-Start Resource Capabilities to meet Peak Electric Demand Periods
 - Synergistic support for intermittent renewable sources of energy
- Numerous Pipeline Additions Completed or Underway to Move Shale Gas to Markets
- Growing Economic and Environmental Basis for Greater Penetration of Gas
 - Convert heating customers from Oil to Gas
 - Conversion to CNG for large commercial fleets
 - Deployment of CHP technologies

**→ Greater Pressure on Pipeline Operators and Regulators to
Evaluate the Integrity of all System Components**

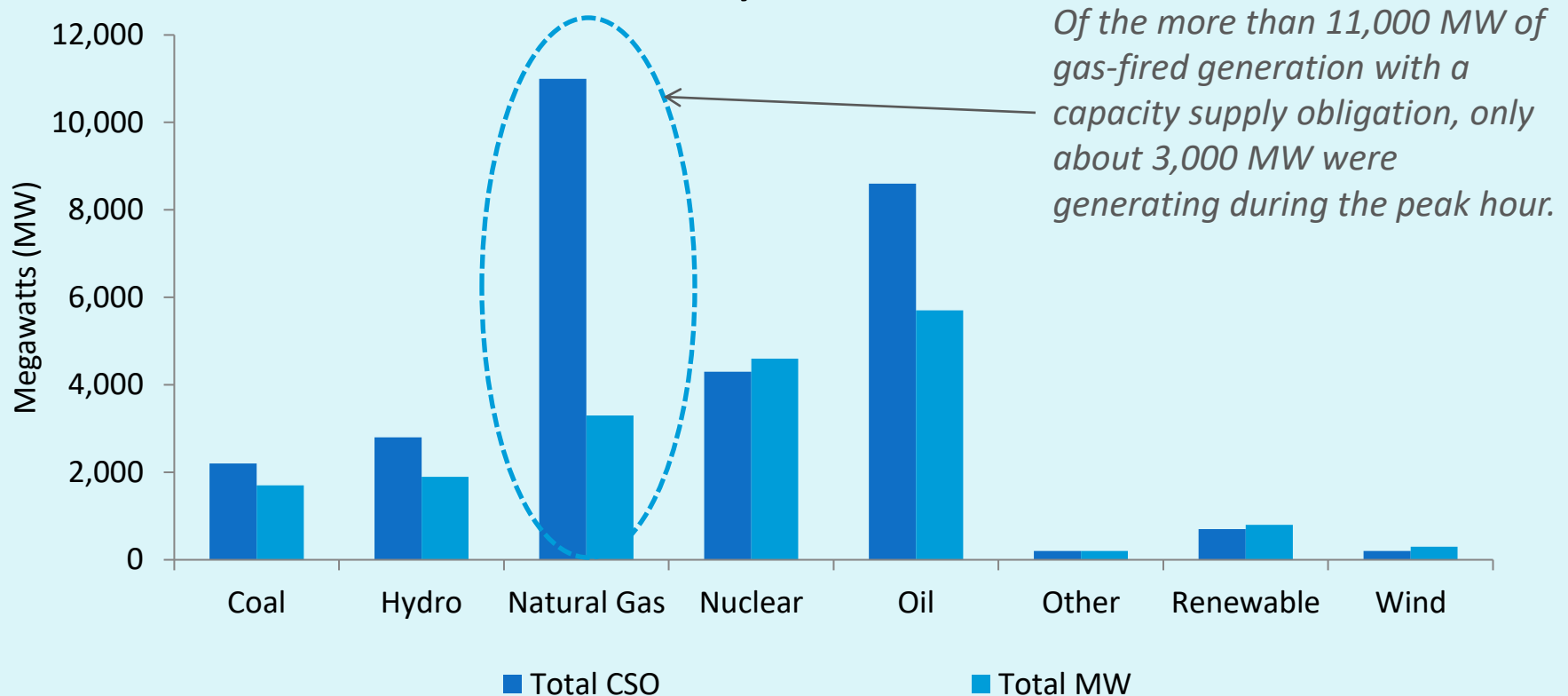
New England Electricity Production: 2000-2013



Source: ISO New England

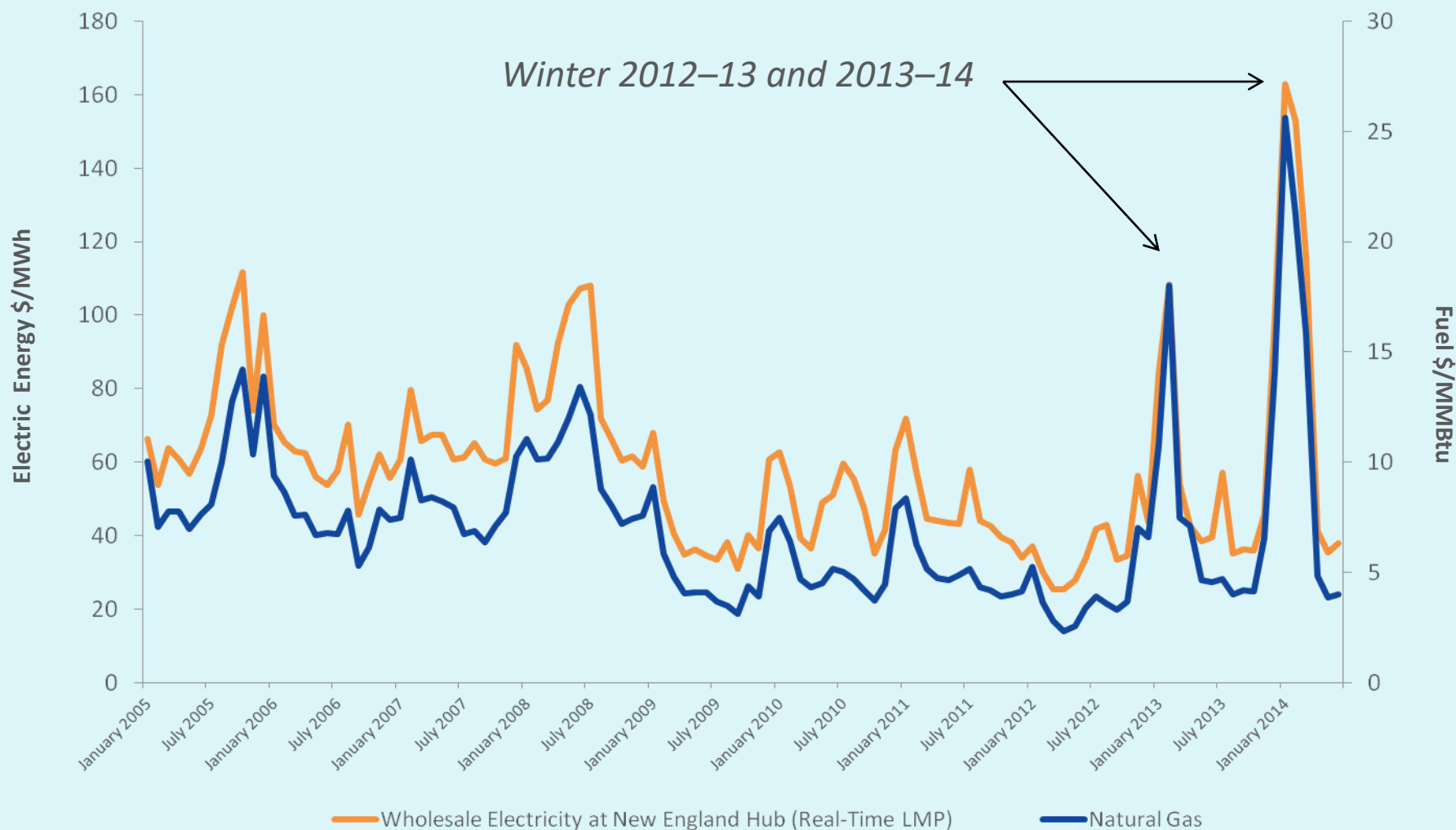
Current Pipeline Infrastructure Is Inadequate to Serve Region's Natural Gas-fired Generation

Generator Capacity Supply Obligations (CSO) vs. Output
January 28, 2014



Source: ISO New England

High Gas Prices Drove Wholesale Electricity Prices to Record Levels over the Past Two Winters



Source: ISO New England

2009

2010

2011

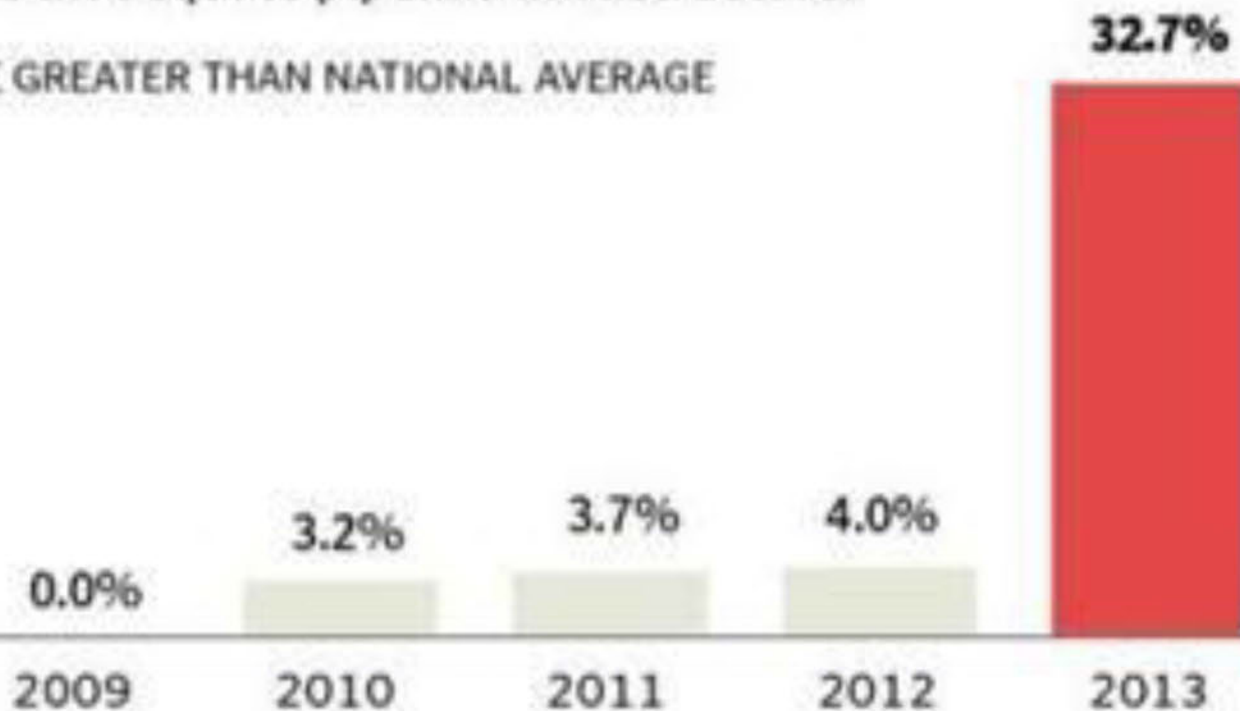
2012

2013

The New England premium

At the same time, the Commonwealth is paying more for natural gas than many other states. As recently as 2009, prices paid by Massachusetts electricity generators for natural gas matched the national average. Since then, however, a gap has opened, reflecting the region's inadequate pipeline infrastructure.

PERCENTAGE GREATER THAN NATIONAL AVERAGE



Strong future demand

Infrastructure Planning: Gas vs Electricity in New England's Competitive Retail Markets

Natural Gas Model

- Local Distribution Companies responsible for long term needs
- Marketers typically 1-3 year term
- Approved LDC Resource Plan for 10+ years
- Forecasted growth
- Long, medium and short term resource portfolio
 - Pipelines
 - Storage
 - LNG
- Reliability Standard to meet demand
 - Coldest winter in 30 years
 - Coldest day in 50 years

Electricity Model

- Electric Distribution Companies have supply obligations for one year
- Marketers typically 1-3 year term
- No resource plans by EDC's
- ISO-NE tools for Resource Adequacy
 - Forward Capacity Market
 - Capacity adequacy three years forward for one year
 - New resources 5-7 year option
 - Performance Incentives for Capacity (per shortage event)
 - Location Marginal Pricing (hourly)
 - Fuel and resource neutral
- Reliability Standard to meet demand
 - One day outage in 10 years

Aligned

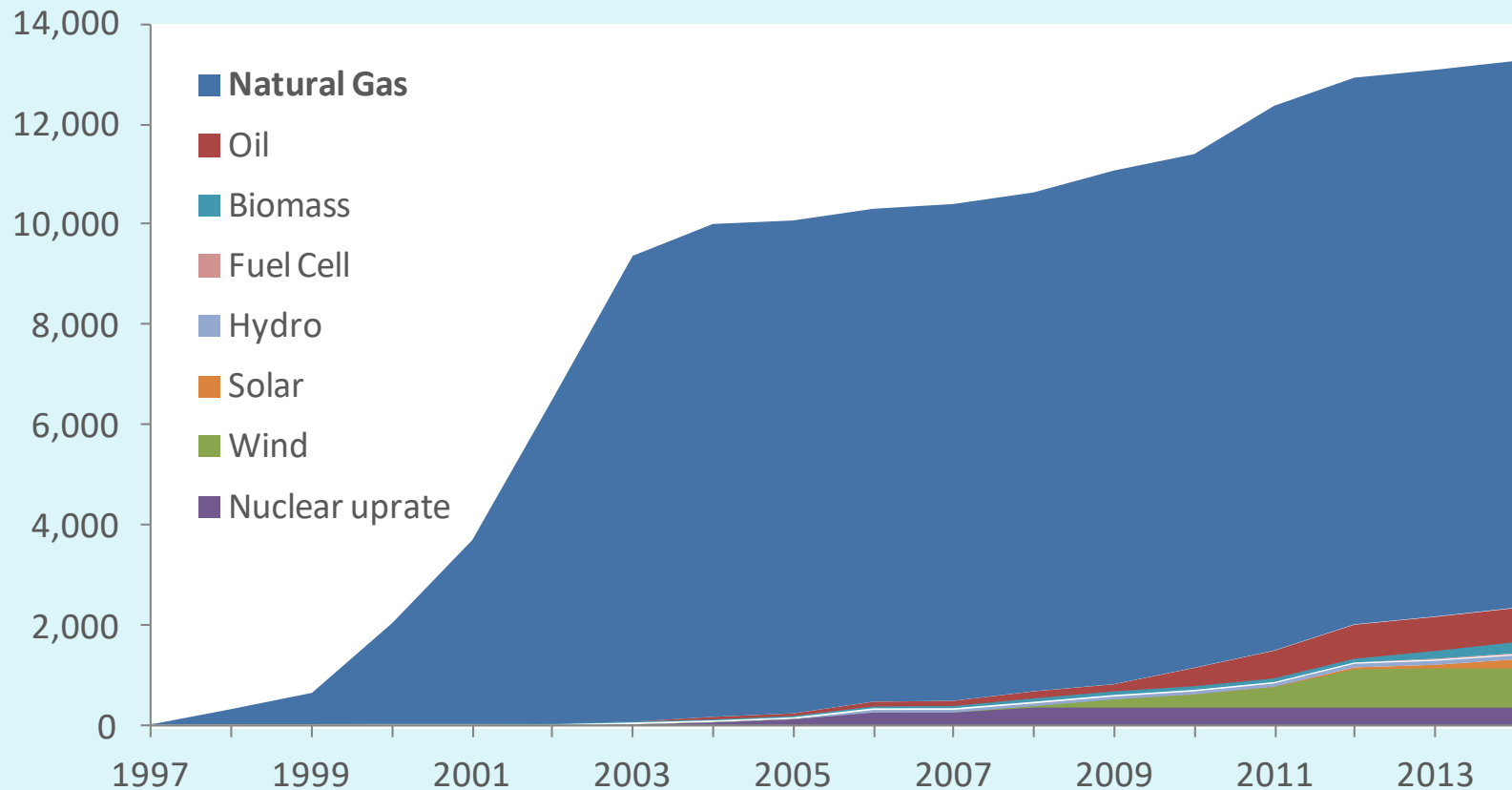
Resources and Standards

Not Well Aligned

Courtesy of James Daly, Northeast Utilities

Region Has Not Developed Gas Infrastructure to Keep Pace With Growth of Gas-fired Generation

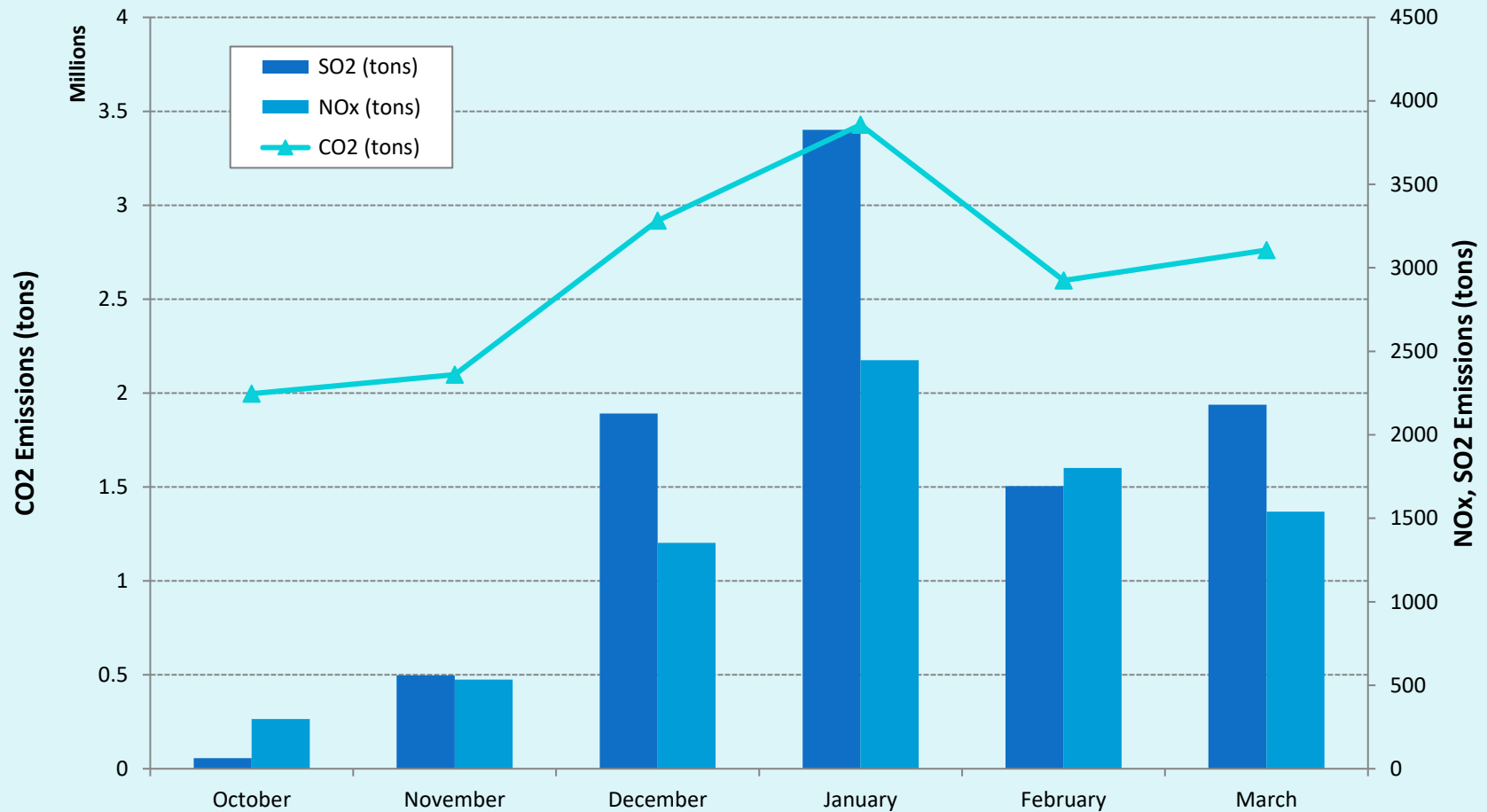
Cumulative New Generating Capacity in New England



Source: ISO New England

Last Winter's Pipeline Constraints Resulted in a Shift to Coal and Oil Resources and Higher Emissions

SO₂, NO_x, CO₂ from Power Generation, Winter 2013–2014

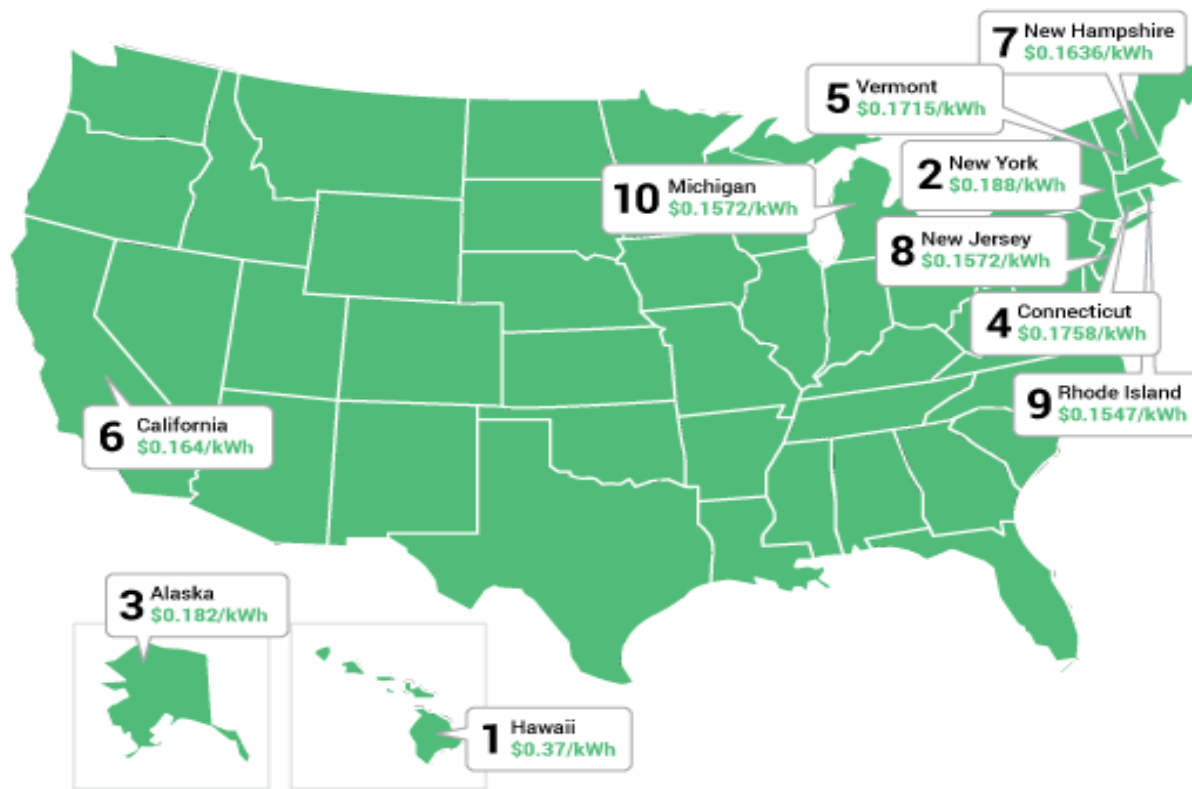


Source: US EPA Continuous Emissions Monitoring System

Source: ISO New England

2014 State Rankings

Top 10 Most Expensive States For Electricity

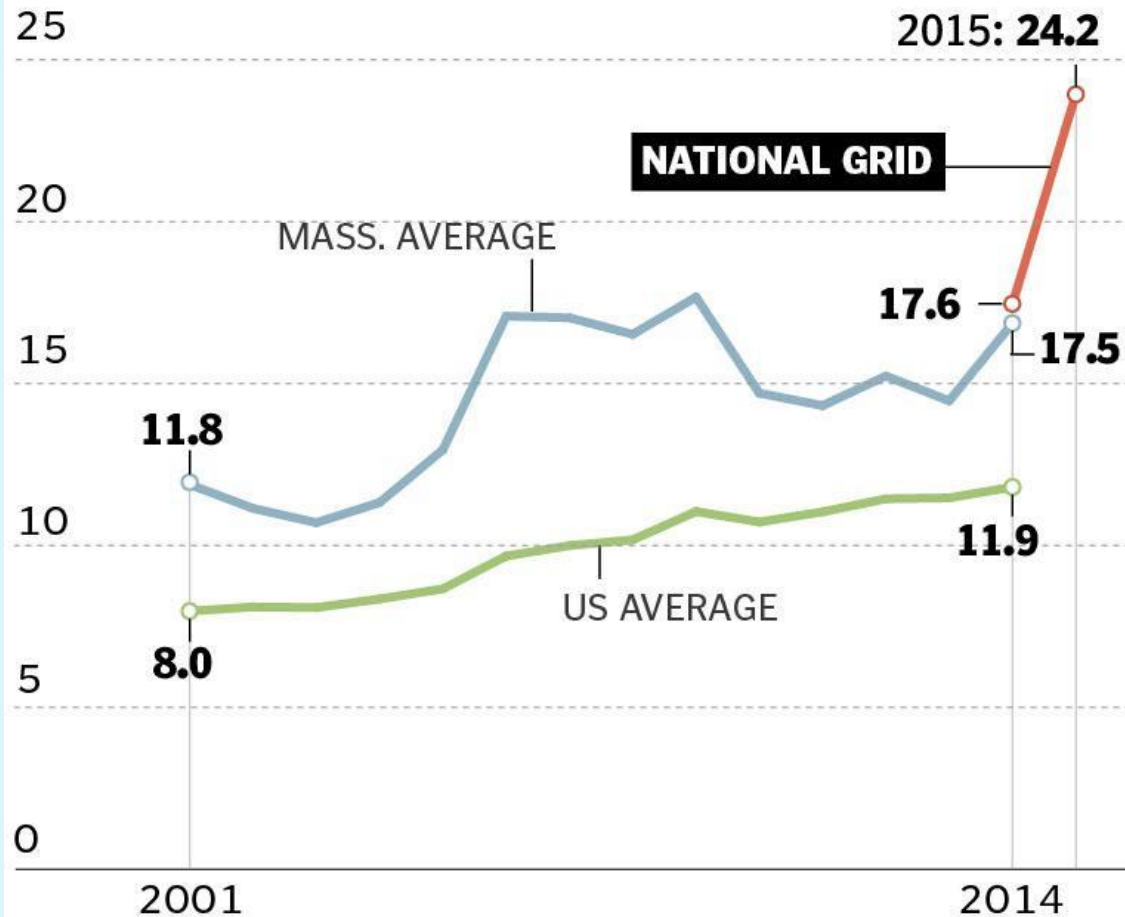


Data source:

Energy Information Administration. "Electricity Data Browser."
<http://www.eia.gov/electricity/data/browser>.

MA Electric Rates 2015

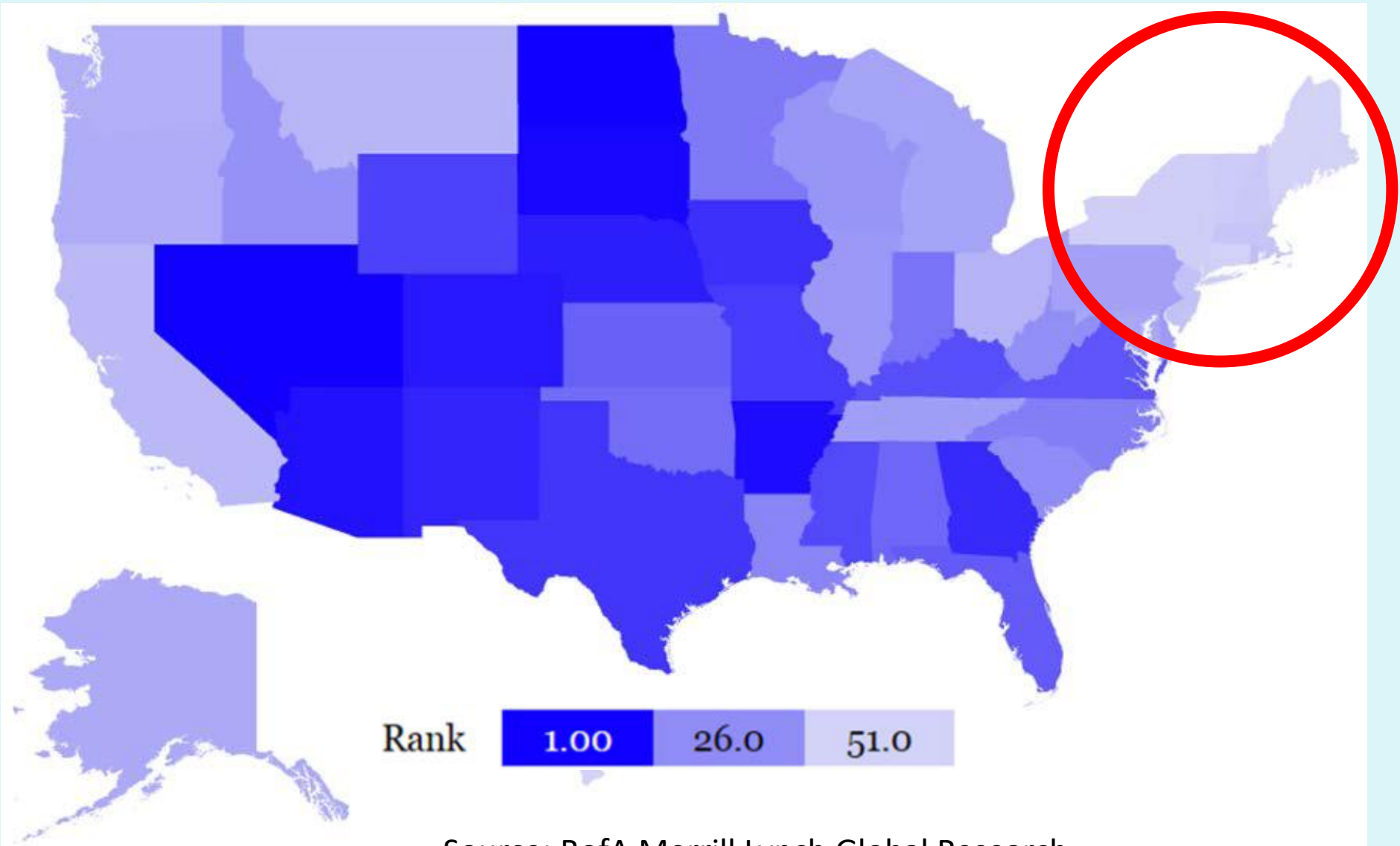
Cost, cents per kilowatt hour



SOURCES: National Grid, US Energy Information Administration

LUKE KNOX/GLOBE STAFF

Ranking of Relative Attractiveness of State's Electricity Growth and Prices



Source: BofA Merrill Lynch Global Research.

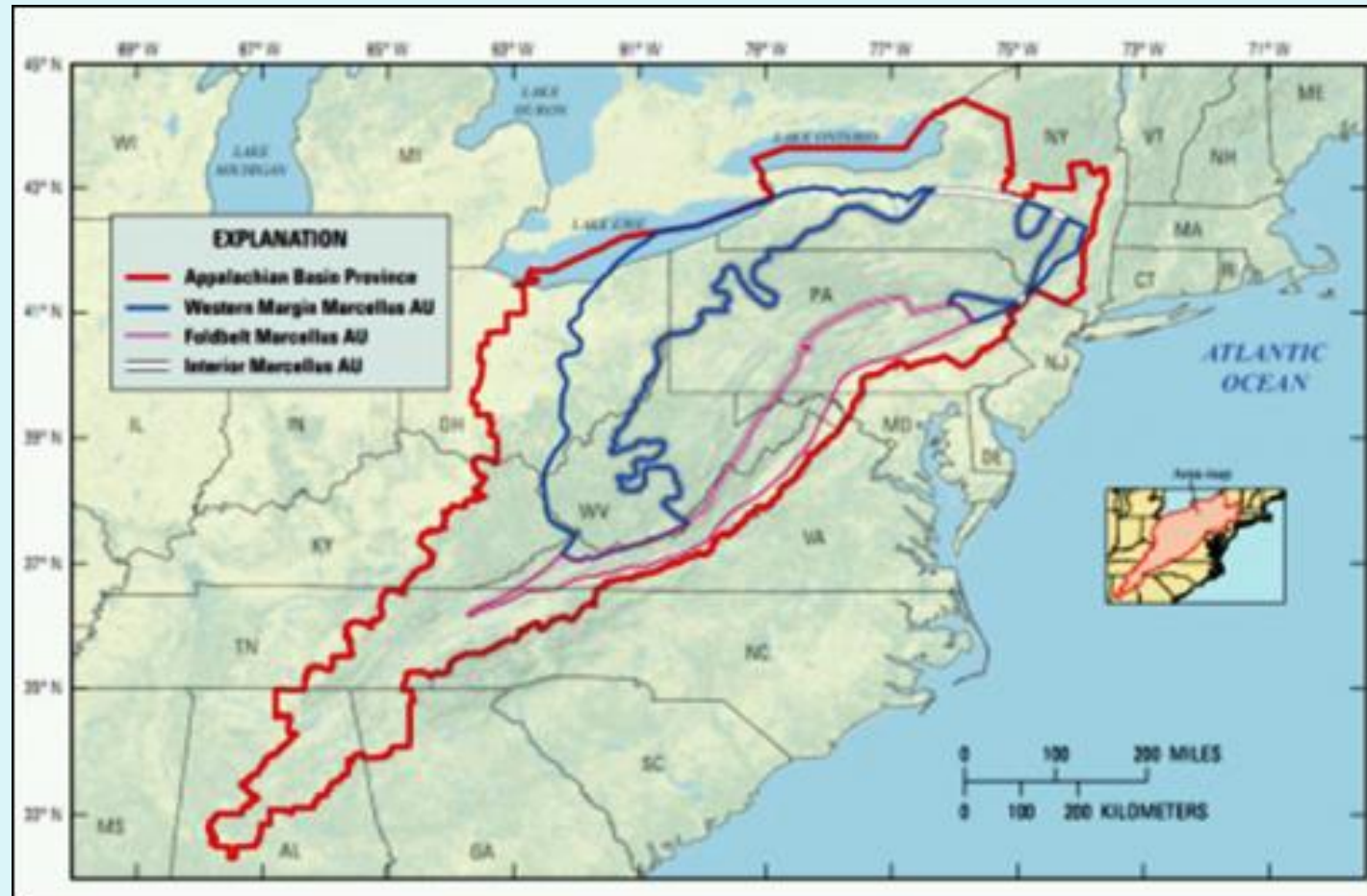


They're our next door neighbors and you can actually see Russia from land here in Alaska, from an island in Alaska.

(Sarah Palin)

izquotes.com

“I Can See Marcellus from New England’s Backdoor!”



Thank you



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Warwick, RI 02888
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**Remarks of Paul Roberti, Chief Counsel
Pipeline and Hazardous Materials Safety Administration
To the 41st Annual Conference and Exposition of the
Dangerous Goods Advisory Council
Baltimore, Maryland**

October 30, 2019

Office of the General Counsel
Pipeline and Hazardous Materials Safety Administration

Paul Roberti
1200 New Jersey Avenue, SE
Washington, DC 20590
202-366-4400



Good morning, and thank you for inviting me here today. It is a pleasure to be among this group of dedicated professionals, who all contribute to the excellent safety record of hazardous materials transportation in America.

I've been at PHMSA for just over a year and a half, but my experience with regulated industries goes back more years than I like to admit. Since coming to PHMSA, I have been impressed with the tireless commitment to safety that I have seen across an enormous number of companies and organizations, including the Dangerous Goods Advisory Council.

As PHMSA's Chief Counsel, I oversee four divisions of attorneys – two focused on the laws surrounding pipeline safety and hazardous materials, one dealing with regulatory affairs, and another division that provides the agency with general legal advice and representation.

PHMSA is a small agency with a lot of responsibility. America is home to 2.8 million miles of pipelines, enough to wrap around the Earth 110 times. On the HazMat side, PHMSA regulates

shipments of hazardous materials – 1.2 million of them every day. That works out to about 14 shipments per **second**.

So, we keep busy. The context of PHMSA's work touches a lot of important industries, vital to the economic health of the country. A large and rapidly growing number of things are powered by lithium batteries, as you all know; the healthcare industry depends on timely and safe shipments of radio-pharmaceuticals; and of course, the booming business of energy production is an engine that is powering economic growth throughout every sector of the economy.

PHMSA Mission Statement

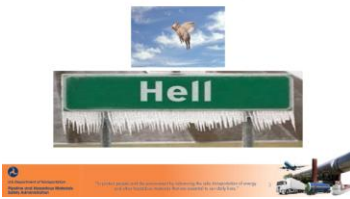
To protect people and the environment
by advancing the safe transportation of
energy and other hazardous materials
that are essential to our daily lives.



All of this activity is the object of PHMSA's mission – which, formally stated, is to protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives.

We begin to meet that mission by setting the rules for pipeline operation and hazardous materials transportation. I have been involved in regulated, energy-related industries for longer than I admit in public, and I am committed to getting the hard work of regulation done right – in a way that ensures better safety outcomes, and also enables the regulated industries to thrive.

At the end of September, PHMSA transmitted to the federal register three final rules, all of which closed long-standing Congressional mandates, in a single day. It was a remarkable achievement. In my experience, such an achievement by a government agency is usually associated with pigs flying, or hell freezing over.



So we are holding up our end on the regulatory side. But our Administrator, Skip Elliott, is a self-admitted safety zealot, and he often points out that PHMSA's regulatory activities are unlikely to deliver everything we seek, which is to get to zero safety incidents. Regulation is the core of our mission. Regulations that define minimum standards are important, but even if they are perfectly conceived and flawlessly enforced regulations, they alone will not bring us to our goal of zero incidents.

I know this audience is full of people with both a desire to maximize safety and a great deal of expertise to contribute to that effort. Constant vigilance and diligence by millions of individuals, including everyone in this room, is necessary to ensure the each component of the supply chain operates safely. One message I want to leave you with is that now is not time to let off the gas pedal in that pursuit.

Regulatory Reform

PHMSA, like every other federal regulatory agency today, is pursuing an agenda of regulatory reform designed to make a growing body of regulations more efficient and responsive to changes in the industries that they regulate.

Enforcement

A great deal of my time as Chief Counsel is spent focused on enforcement of the rules. When violations are identified, my office

has the task of ensuring, through due diligence and due process, that appropriate penalties are assessed.

That function has a lot in common with many other things that government does. In my years observing and participating in regulated industries, I know that one of the things that businesses and their stakeholders want most from government is predictability, transparency and efficiency. These words coalesce to form something that is very important to the industry – regulatory certainty. Good government means that as public servants, we need to provide regulatory certainty so that the many, many decisions that business leaders must make are not compromised by regulatory surprises.


In the last year, the Department of Transportation issued 3 significant orders to guide its 8 operating administrations including PHMSA, with regard to rulemaking, use of guidance, and enforcement procedures. Most of the changes are common sense measures to ensure fairness, transparency and to guarantee notice and public input before adopting regulatory measures that increase burdens or costs on industry. In the context of enforcement, the changes are intended to promote fairness and due process. Most are common sense and resemble the notion of good government.

Charter: Post-Inspection to Compliance

Process Changes	Regulatory Timeline
Problem Statement PHMSA is currently experiencing inconsistency in the timely issuance of final orders which impacts the agency's ability to effectively and efficiently implement the pipeline enforcement program.	
Impact Statement Maintaining the status quo negatively impacts the operator's and the public's confidence in the agency's ability to fulfill its safety mission through effective and efficient implementation of the pipeline safety enforcement program.	
Project Scope Notice of Pipeline Violation to Final Order issued by Office of Pipeline Safety AS	
Brief Description of Current Process	Timeline of Pipeline Violation to Final Order
Current Performance Currently, all final orders issued to customer average: (Uncontested 200 days, Contested in Writing 402 days and Contested with Hearing 260 days from Notice to final order issuance).	
Core Team Members Subject Matter Experts: Brad Seelye, Mike Springer, Todd Dillworth, Joe Hadden, Alison Batters, Adam Louie, Nancy White, David York	
Potentially Affected Users PHMSA, Operators, and the public	

Department of Transportation
Pipeline Safety and Hazardous Materials Administration

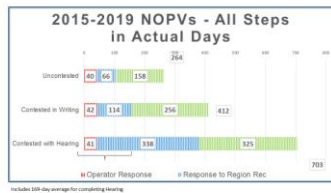
To Pipeline Safety and the Enforcement from the Rule of
Substantive Matters, Transportation



Within PHMSA, we took it one step further by embarking on a program of Process Improvement Initiatives, or PIIs, designed to

identify ways that the agency can perform its own work more efficiently, or in ways that will contribute to more positive safety outcomes. One of those recently completed focused specifically on what happens after an inspection identifies a problem. PHMSA informs the operator with an NOPV – A Notice Of Probable Violation.

Right now, the process of follow-through on these NOPVs is far slower than it should be if we are to have hope of enforcement having a meaningful effect on behavior. When an operator contests the finding and requests a hearing, the time to a final order is almost two full years. Even uncontested violations take almost nine months to process.

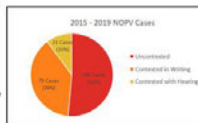


Such a lengthy separation between identification of a problem and the penalty or remediation simply makes no sense. No jurisdiction in America gives you nine months to pay a speeding ticket – partly because if they did, the compliance rate would go down, and the prospect of tickets actually deterring people from speeding would go down even further.

Improving Timeliness

- Assign timeframes for each step of the process and hold reviewers accountable to schedule

- Uncontested**
 - Eliminate Region Recommendation
 - Standardized Final Order template
 - ~ 70% improvement
- Contested in Writing**
 - Increased capacity
 - ~ 50% improvement
- Contested with Hearing**
 - Pre hearing scheduling conference
 - Post hearing scheduling order
 - ~ 45% improvement



Now, pipeline violations can be a lot more technical and complicated than speeding tickets – but the point remains that too

much delay undermines the purpose of inspections and NOPVs, which is to encourage operators to work diligently to avoid compliance issues in the first place.



The PII task force in this case drafted a plan that will cut these lag times by 50 to 70 percent. It consists of assigning timeframes for each step of the process, and holding reviewers accountable to that schedule. I am looking forward to the implementation of this plan, and to the greater accountability and efficiency that it promises. That implementation is already mapped out with specific dates for various stages of the process.

Implementation Plan

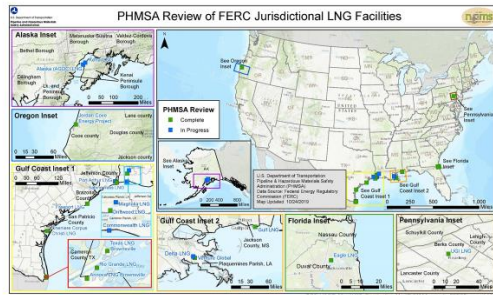
- Obtain Management Buy-in (Sept. 2019)
- Announce change in an all hands meeting (Oct. 2019)
- Revise OPS Enforcement Procedures (January 2020)
- Train all involved personnel (January 2020)
- Pilot Kickoff (February 2020)
- Pilot review at 6, 12 and 18 months



In other areas of PHMSA, I advise on legislation. Our pipeline re-authorization bill is under consideration on Capitol Hill. I wish I had more to report to you there. I know that the bill that we offered was a good one; but I also know that in the current political atmosphere, anything related to energy is destined to cause some partisan wrangling. We will just have to see where that process leads.

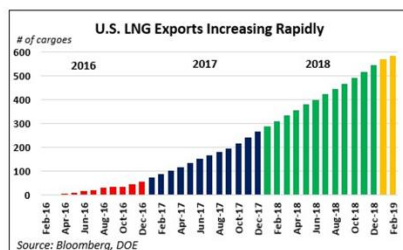
I also had the opportunity to work on a Memorandum of Understanding with the Federal Energy Regulatory Commission, which has greatly improved the permitting process for new Liquefied Natural Gas (LNG) facilities. The MOU taps the expertise

of PHMSA personnel for certifying the safety aspects of these facilities, and in about a year it has already resulted in 13 Letters of Determination necessary for the development to proceed.



We are not done yet. As this slide shows, there are already five more sites, three in Louisiana and two in Alaska, on which PHMSA has begun its work toward ensuring that permits are appropriate. Natural gas is a large component of the resurgence of American energy production, and transportation infrastructure has begun to be a limiting factor on that encouraging economic development. The resource also sometimes displaces energy usage of coal, and it burns much more cleanly, so from that perspective it is also an environmental improvement.

U.S. Natural Gas Exports Soaring



I'd like to say a few things about the importance of natural gas to the future of American economic and national security. America has returned to the status of a net energy exporter, which is a very positive development for both our economic well-being and for our national security. PHMSA is proud to be part of that,

and happy to lend its expertise to the FERC to ensure that it continues.

Speaking of LNG, PHMSA has worked hard to implement the elements of President Donald Trump's Executive Order, issued on April 10, 2019, calling for a rulemaking that would treat LNG the same as other cryogenic liquids, and permit it to be transported in approved rail tank cars. Such transportation is necessary for LNG to reach both domestic markets and export facilities – which benefits both the economy and the environment, as clean-burning natural gas replaces more carbon-intensive energy sources.

Thank you.

American Petroleum Institute Legal Committee Meeting

Washington, DC
November 7, 2019



Paul Roberti
Chief Counsel
Office of Chief Counsel

Pipeline and Hazardous Materials Safety Administration



U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

To Protect People and the Environment From the Risks of
Hazardous Materials Transportation



PHMSA's Mission

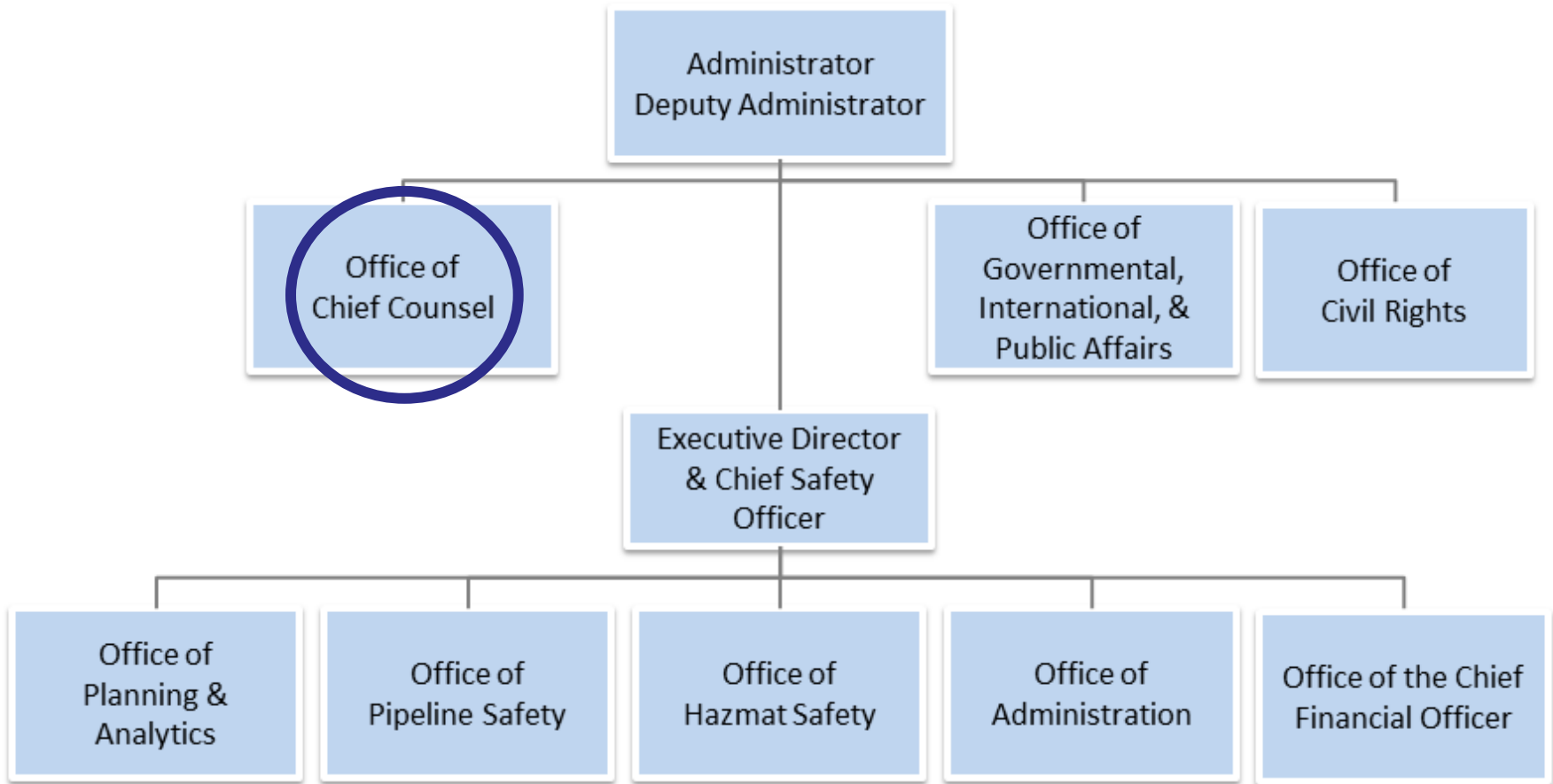
“To protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives”

Four Pillars Undergirding PHMSA's Mission:

- Safety – Prevent incidents by establishing national policy, setting and enforcing standards, educating, and conducting research.
- Infrastructure – Support policies that promote continuous investment in legacy systems
- Innovation – Promote research and development to enable new technologies and innovation
- Accountability – Hold regulated industries accountable for meeting safety standards, and be held accountable as an effective regulator

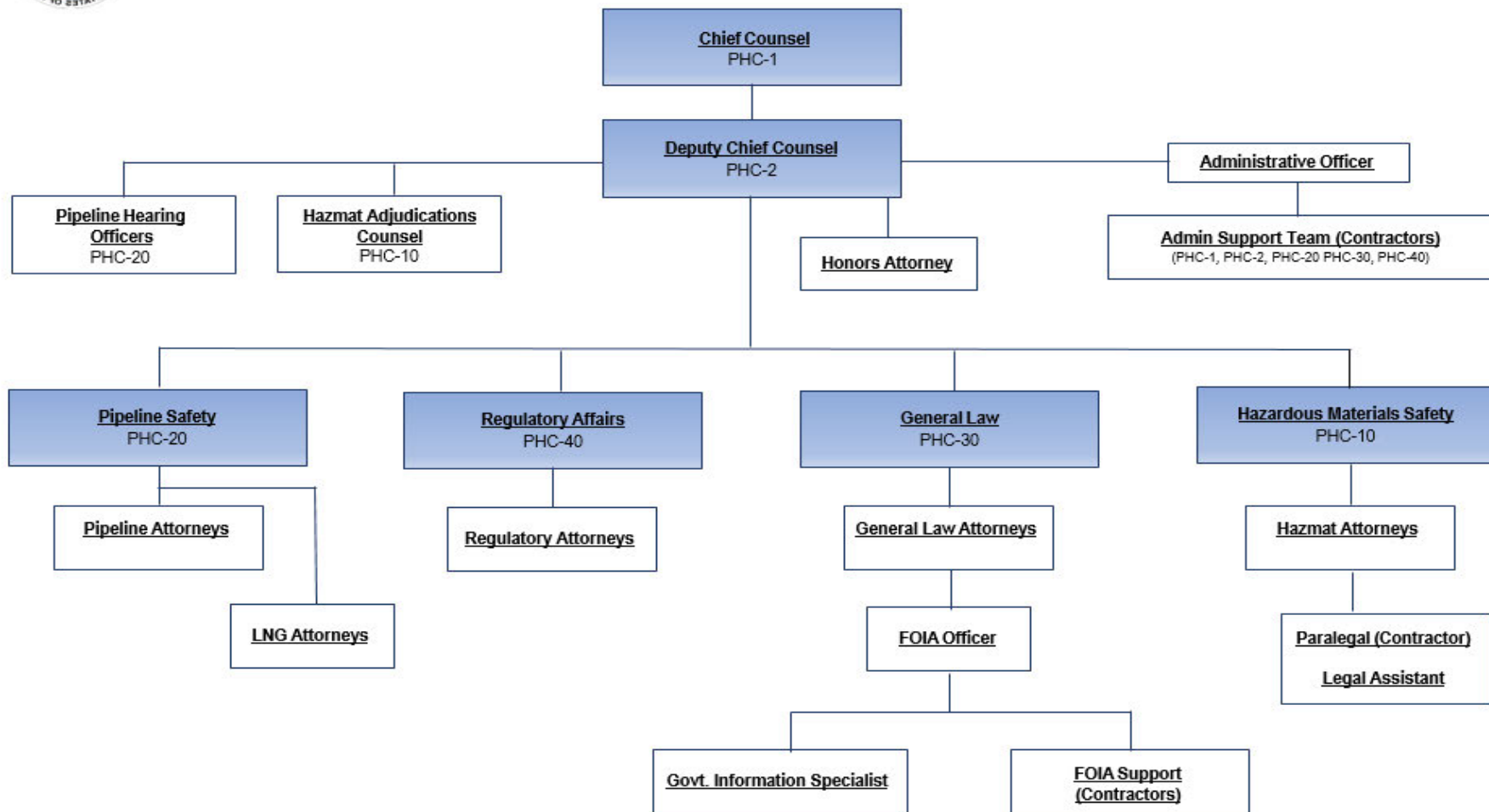


PHMSA Organization





U.S. Department of Transportation
Pipeline & Hazardous Materials Safety Administration (PHMSA)
Office of Chief Counsel



PHMSA Transmits Three New Rules to Federal Register in a Single Day!



Published Rulemakings

- **Safety of Hazardous Liquid Pipelines**
 - Includes an increased focus on integrity management.
 - Directs operators to periodically evaluate the condition of all HL pipelines, regardless of their location, and set timelines to make necessary repairs.
 - Extends requirement that all HL pipelines have a system for detecting leaks.
 - Fulfills multiple safety recommendations and Congressional mandates.
- **Safety of Gas Transmission Pipelines**
 - Fulfills statutory mandates by expanding IM assessments, requiring MAOP reconfirmation, and requiring use of PRDs prior to insertion/removal of ILI tools.
- **Enhanced Emergency Order (EO) Procedures**
 - Revises EO procedures by adding protections for petitioners that seek to modify or terminate an EO



Pipeline Regulatory Update

Rule (RIN)	Description	Rulemaking Status	Current Target
2137-AE66	Safety of Hazardous Liquid Pipelines (Final rule)	Published	N/A
2137-AE72	Safety of Gas Transmission (Final rule)	Published	N/A
2137-AF26	Enhanced Emergency Order Procedures (Final Rule)	Published	N/A
2137-AF06	Rupture Detection and Valves (NPRM)	In Progress	Fall 2019
2137-AF22	Underground Natural Gas Storage Facilities (Final Rule)	In Progress	Fall 2019
2137-AF29	Class Location Requirements (NPRM)	In Progress	Fall 2019
2137-AF38	Safety of Gas Gathering Pipelines (Final rule)	In Progress	Spring 2020
2137-AF39	Safety of Gas Pipelines: IM Improvements (Final rule)	In Progress	Winter 2019
2137-AF36	Gas Pipeline Regulatory Reform (NPRM)	In Progress	Fall 2019
2137-AF37	Liquid Pipeline Regulatory Reform (NPRM)	In Progress	Fall 2019
2137-AF45	Amendments to LNG Facilities (NPRM)	In Progress	Fall 2019
2137-AF44	Repair Criteria for Hazardous Liquid Pipelines (NPRM)	In Progress	Spring 2020
2137-AF31	Coastal Ecological USAs (ANPRM)	In Progress	Spring 2020
2137-AF13	Periodic Standards Update (NPRM)	In Progress	Spring 2020
2137-AF48	Periodic Standards Update II (NPRM)	TBD	TBD



DOT General Counsel's Enforcement Memorandum

- February 15, 2019 DOT GC issued Memorandum Procedural Requirements for DOT Enforcement Actions
- October 9, 2019 E.O. on Promoting the Rule of Law Through Transparency and Fairness in Civil Administrative Enforcement and Adjudication



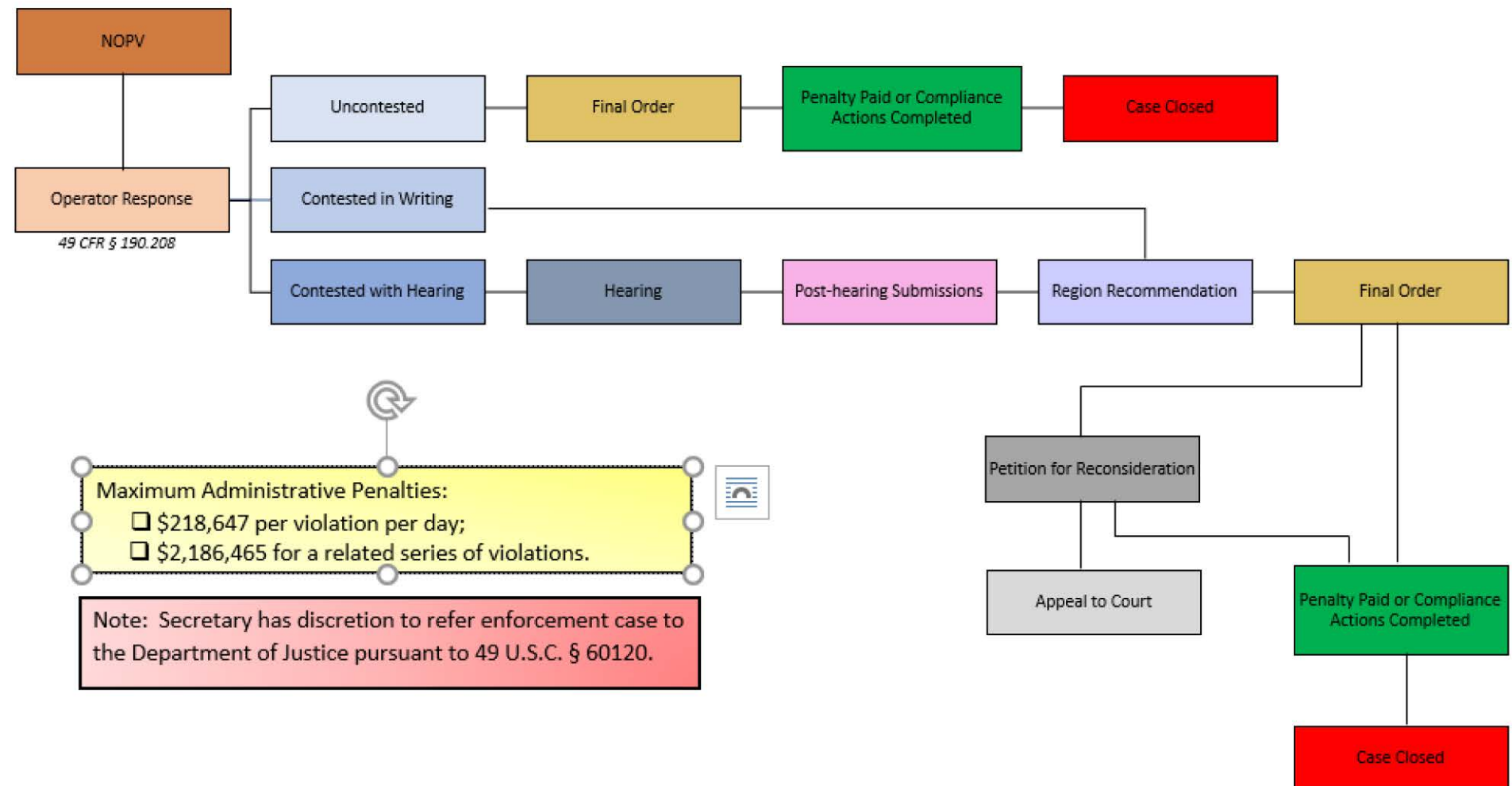
Procedural Requirements for DOT Enforcement Actions

- Ensure due process
- Prompt disclosure compliance issues
- Statutory prosecution authority
- No broad or unduly expansive interpretations
- Legally sufficient basis for the action
- Mandatory disclosure of materially exculpatory evidence
- Penalty considerations
- Explanation of penalty calculation
- Limitation on use of guidance documents
- Other Objectives: Ex parte communications; ADR; Fair notice; Avoiding bias



PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION

PIPELINE ENFORCEMENT PROCESS

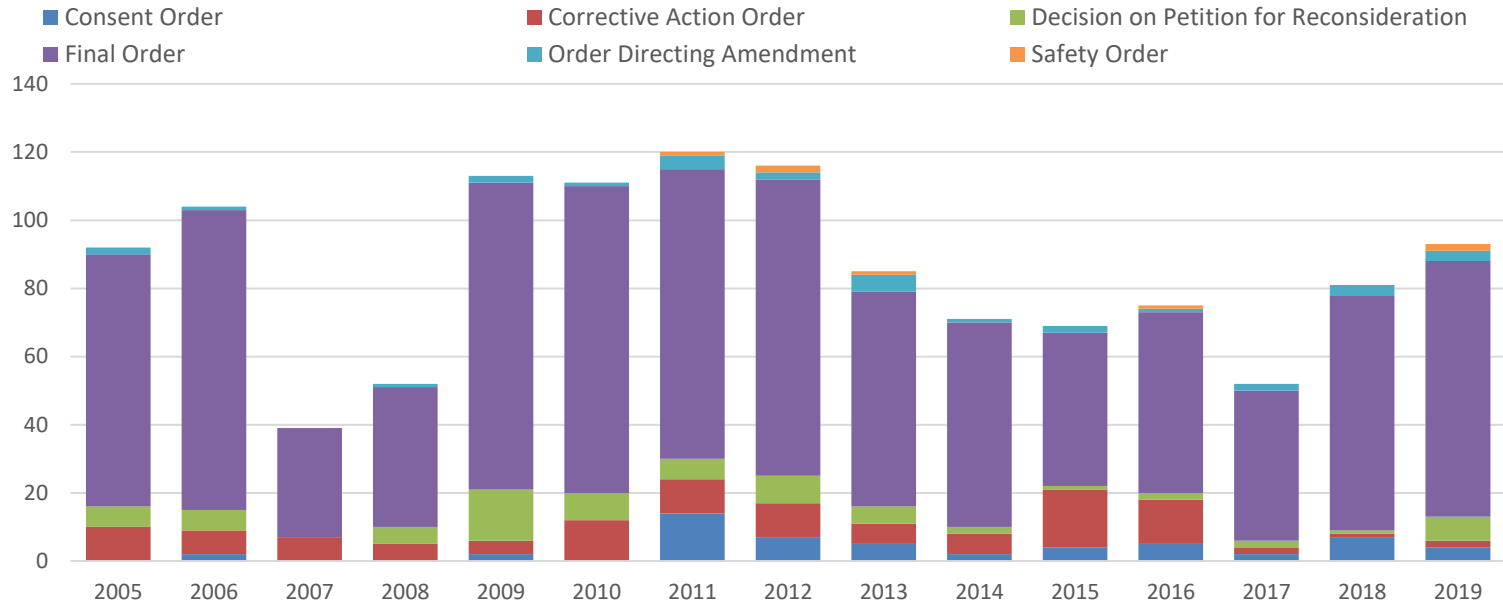


Our National Presence

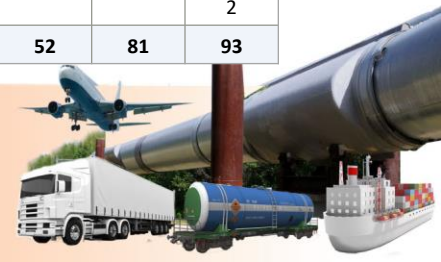


Enforcement Statistics

Orders Issued by Order Year



Number of Order Issued															
Order Type	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Consent Order		2			2		14	7	5	2	4	5	2	7	4
Corrective Action Order	10	7	7	5	4	12	10	10	6	6	17	13	2	1	2
Decision on Petition for Reconsideration	6	6		5	15	8	6	8	5	2	1	2	2	1	7
Final Order	74	88	32	41	90	90	85	87	63	60	45	53	44	69	75
Order Directing Amendment	2	1		1	2	1	4	2	5	1	2	1	2	3	3
Safety Order							1	2	1			1			2
Grand Total	92	104	39	52	113	111	120	116	85	71	69	75	52	81	93



Improvements in Enforcement Process

- More efficient timelines from completion of inspections to issuance of Final Orders.
- Streamlined process for Uncontested Cases where there is no challenge to the penalty or compliance actions.
- Requests for Extensions to Respond to Notice must include justification of good cause.
- Scheduling Order at the conclusion of hearings to set dates for Post Hearing Briefs and Region Recommendations.



Pipeline Litigation

- INGAA v. DOT – Miscellaneous Rule (Boiler Pressure Vessel Test Factor)
- State of Texas v. DOT – Underground Natural Gas Storage Rule
- National Wildlife Federation v. DOT – Approval of Part 194 Oil Spill Response Plan
- WildEarth Guardians v. DOT – Examination of Pipelines on Federal Lands
- Hilcorp Alaska, LLC v. DOT – Report on Inventory of Pipelines in Upper Cook Inlet



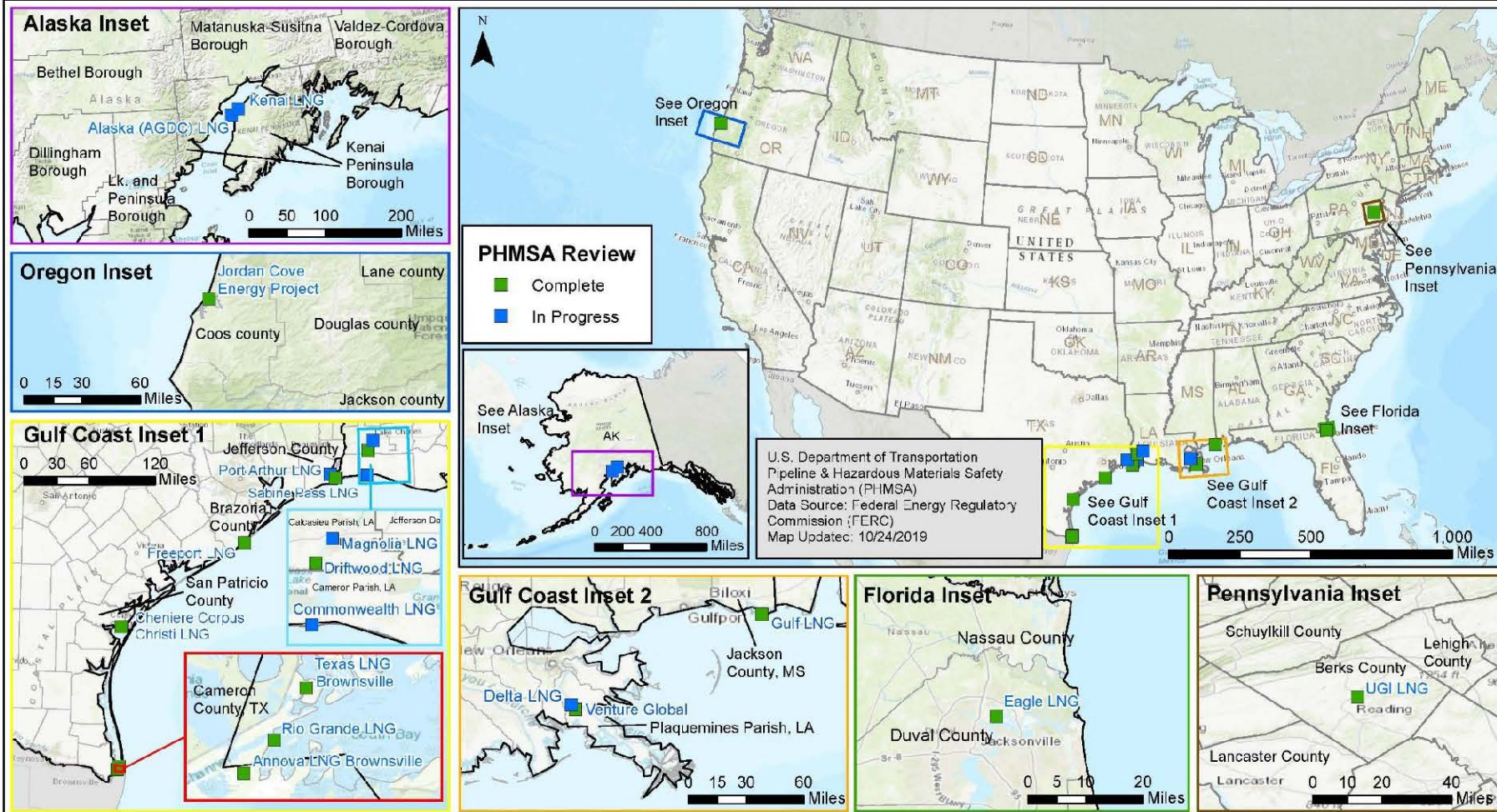
LNG Agenda

- Liquefied Natural Gas NPRM
- LNG-By-Rail NPRM
- August 31, 2018 FERC-PHMSA MOU
- Executive Order 13868: Promoting Energy Infrastructure and Economic Growth (April 10, 2019)
- Issued 13 Letters of Determination to FERC



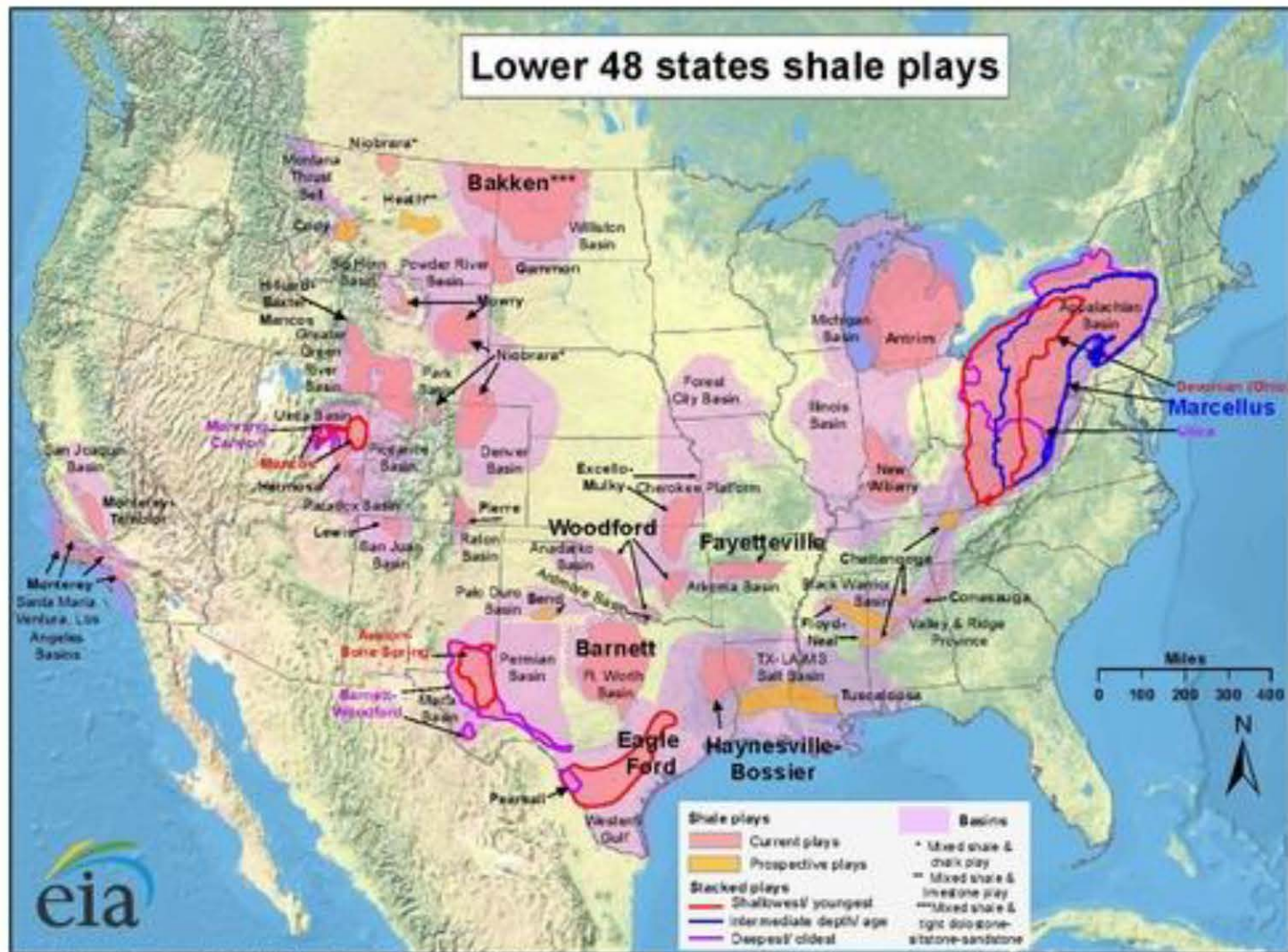


PHMSA Review of FERC Jurisdictional LNG Facilities



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U.S. LNG Exports to 37 Countries



LNG by Rail

April 10, 2019
E.O. on Promoting
Energy Infrastructure
and Economic Growth

October 24, 2019
NPRM Liquefied Natural
Gas by Rail



Reauthorization 2020

Administration Proposal	Congressional Proposals
Appropriations FY 2020-2024	Whistleblower Protection
Overpressure Protection/MOC/OQ for New Construction	Citizen Mandamus
Safety Incentives Program	LNG Center of Excellence
Voluntary Information Sharing	Regulatory Update
Underground Storage Fees	Self-disclosure of Violations
Property Damage Threshold (\$118K)	Community Right-To-Know
LNG Siting Review Fees	Physical and Cyber Security
Pilot Programs	Methane Emissions
Criminal Trespass Standard	
Operating Status: Idle Pipelines	
State Program Requirements	
Pipeline Construction Data Collection	



FOIA Update

- Food Marketing Institute v. Argus Leader Media, 139 S. Ct. 2356 (2019) - the Supreme Court issued this opinion on June 24, 2019 addressing the meaning of the word "confidential" in Exemption 4 of the Freedom of Information Act, which overturned over forty years of precedent.
- No longer apply the "substantial competitive harm" test to determine whether information is "confidential" under Exemption 4.
- Consider both: (1) whether the information is "customarily kept private, or at least closely held," by the submitter; and (2) whether the government provides "some assurance" that the information will not be publicly disclosed.



Upcoming GPAC/LPAC meeting – November 14, 2019

- Two Federal Advisory Committees:
 - Technical Pipeline Safety Standards Committee (a/k/a GPAC)
 - Technical Hazardous Liquid Pipeline Safety Committee (a/k/a LPAC)
- Function as peer review committees for all proposed safety standards
 - Technical feasibility
 - Reasonableness
 - Cost Effectiveness
 - Practicality
- “Shall prepare and submit” a Report to the Secretary
- Secretary not bound by Committee Reports
- Meet “at least up to 4 times annually”



Questions?



PUBLIC UTILITIES

November 2015

FORTNIGHTLY

ENERGY, MONEY, POWER

Regulators Clear the Air



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- **Renewable Odds**
- **Death Spiral Defined**
- **Rational Rate Design**
- **Questioning Market Manipulation**

**Less carbon and
safer pipelines
keeping them busy**

2015 Regulators Forum



State Utility Commissioners in Their Own Words



Perhaps the biggest issue that state utility regulators are facing is complying with the Obama administration's Clean Power Plan. It's no secret that the states with more sustainable fuel forms will have an easier time fulfilling their requirements, which would lead to a 32 percent cut in carbon dioxide emissions by 2030. In this space, we've spoken to Oregon's Susan Ackerman and South Dakota's Chris Nelson. Both states are flush with green energies but each still has challenges. In South Dakota's case, coal remains big there.

And then we've chosen to have two commissioners file unrelated stories but nonetheless, relevant ones. One is from Tim Echols of Georgia on how commissioners can use social media and the other is from Paul Roberti of Rhode Island, on the natural gas pipeline explosion in East Harlem a few years ago.

We think each has something valuable to say.

Rhode Island: The Challenge of an Aging Infrastructure

Paul J. Roberti, Rhode Island Pub. Utils. Comm'n

It was March 12, 2014. I was in Santa Fe, New Mexico when I heard the news. Two buildings in East Harlem, New York had collapsed after what was believed to be a natural gas explosion. It would turn out to be another cataclysmic incident and the death toll would equal the San Bruno incident in California, another pipeline explosion from four years earlier that sent shock waves through the industry and regulatory community. In East Harlem, early media reports indicated that the gas likely came from Con Edison's cast iron distribution system dating back to 1887.

Something about that date struck me. Then I remembered that I had visited an open air market in Santa Fe four days earlier and purchased a silver dollar dated in the late 19th century. When I returned to my hotel room, I fetched my silver dollar and discovered that it too was dated 1887. But unlike my coin, which increases in value over time, the cast iron pipeline system represented a growing liability both to public safety and the financial interests of a public utility.

Upon my return to Rhode Island, I contacted the National Transportation Safety Board (NTSB), which had assumed control of the investigation, and then received permission to tour the site. By the time I arrived at the site, most of the building

debris had been removed. The magnitude of the cleanup effort was overwhelming. An army of construction, utility, fire and police officials combed the cordoned-off area that covered several city blocks. According to the NTSB investigator, the crews were still searching for the body of the eighth victim, who happened to be from Japan. Some of the other victims were from Greece and Mexico.

After touring the site, I began the drive back to Rhode Island, contemplating all that I had witnessed. I realized that in addition to the breadth of the destruction and loss of life, the incident drew attention to a chilling fact: the same cast iron systems are prevalent not only in New York City, but also throughout many cities and urban areas across the United States. Such pipelines are deemed by regulators and industry to be "high risk" and "leak prone," and it was clear that with the current pace of replacement, the heightened risk would exist for decades to come. I was anxious to find out what the NTSB would learn as the investigation unfolded.

Multiple Systems, Hidden Dangers

The 2010 San Bruno incident in California had been a game changer in terms of heightened scrutiny on pipeline safety. Pacific

Paul J. Roberti serves as a commissioner at the Rhode Island Public Utilities Commission and serves as chairman of NARUC's subcommittee on pipeline safety. Prior to his appointment to the PUC, Roberti served for 17 years in the state's Office of Attorney General, most recently as Assistant Attorney General and Chief of the Regulatory Unit. In that capacity, he represented the State during the landmark restructuring and deregulation of the electric, gas and telecommunications industries.

Gas & Electric (PG&E) had failed to understand the characteristics of a pipeline, and ultimately the latent defects in construction gave way on a section of high-pressure transmission pipe running thorough a densely populated suburban community. The resulting inferno killed eight people, destroyed 35 houses and an entire neighborhood. The total cost would be in the billions. After the incident, severe criticism was leveled not only against PG&E, but also federal and state regulators as they had arguably failed to supervise the utility's operations and its compliance with federal safety regulations. Five months later on February 9, 2011, another incident occurred in Allentown, Pennsylvania. This time it was an 85 year-old cast iron main that cracked and leaked gas on a cold winter's night. The gas ultimately ignited into a fireball that destroyed eight homes and claimed the lives of five more unsuspecting citizens. Both incidents had something important in common: they were preventable.

On June 9, 2015, the NTSB released its Accident Report on the 2014 gas explosion in East Harlem. At first blush, Con Edison's antiquated 8-inch diameter cast iron pipeline system appeared to be a prime suspect, but the cause of the incident turned out to be far more complicated. A 72-foot section of high-density polyethylene (HDPE) material – the gold standard today – had been installed, replacing a cast iron segment in 2011 to accommodate service connections to a newly constructed building. Although Con Edison had replaced a section of its cast iron system, the water and sewer divisions of New York City had replaced neither the 12-inch cast-iron water system installed in 1887, nor the brick-lined sewer system installed in 1873.

And it was a failure of this seemingly unrelated water system that eventually brought down the whole house of cards.

The water main was found to have a 3/4-inch circumferential crack almost entirely around the pipe, except for the bottom area which sat directly on a large rock. The cracked pipe released a torrent of water, causing the street to collapse shortly after the explosion. The 1873 sewer line had integrity issues as well. As a result, groundwater was able to flow into a sewer breach and wash away supporting soil underneath the gas and water mains. Not surprisingly, the investigation revealed that another arm of municipal government, the New York City Department of Transportation, had been responding to periodic "cave in" and sunken roadway reports by repeatedly applying asphalt patches. And it was the weight of this asphalt, measuring more than a foot thick, that placed greater downward pressure on an already over-strained environment.

The investigation also revealed a large void under the sidewalk,

which provided the pathway for natural gas to migrate toward the brick foundation of the building, and eventually to enter and accumulate in the basement, where an ignition source triggered the explosion.

In the final analysis, NTSB determined that the probable cause of the accident was a combination of a defective fusion joint and the large breach in the sewer main. The East Harlem explosion, like the San Bruno and Allentown blasts, was clearly preventable. The New York Public Service Commission (NYPSC) conducted

“It's akin to a marathon – a race we absolutely have to finish.”

– Paul J. Roberti,
Rhode Island Pub. Utils. Comm'n



its own independent investigation of the incident, and its findings are expected to be released soon. It will be interesting see if the NYPSC's report reaches the same conclusions as the NTSB.

Lessons Learned and Even Deeper Questions

There is much to be learned from the East Harlem explosion. But there also lurks a deeper question about the extent of aging infrastructure.

Three utility systems – gas, water and sewer – all delivering essential services to one of the nation's largest cities – had an average system age of 132 years at the time of the incident. Was it simply a matter of time before the gas pipe would have failed as a result of the increasing force from the subsiding ground?

One might also ask whether any or all of these utility systems should have been modernized long before they reached their century-plus status. With old systems, the risks are greater and the interactive threats between the systems loom higher, as clearly demonstrated in East Harlem. That leads to a final, burning question: Had all utility systems been appropriately modernized in the last 30 years, might this explosion and the loss of life and property that accompanied it have been averted altogether?

Clearly, one of the most significant issues we face today is aging infrastructure, and it is not evenly distributed across the nation. Leaving aside water and sewer infrastructure, 83 percent of the cast iron pipelines in the gas industry are situated in only 10 States. State regulators are attuned to this challenge,

and the National Association of Regulatory Utility Commissioners (NARUC) has been actively engaged in promoting infrastructure replacement programs, and has encouraged state commissions to consider alternative rate-recovery mechanisms if they are deemed necessary to expedite the replacement of outdated infrastructure.

But here is the sobering reality: it will take significant time to meet this challenge. Most systems at risk lie in urban areas like East Harlem and thus require extensive logistical coordination, particularly between public works departments and utilities.

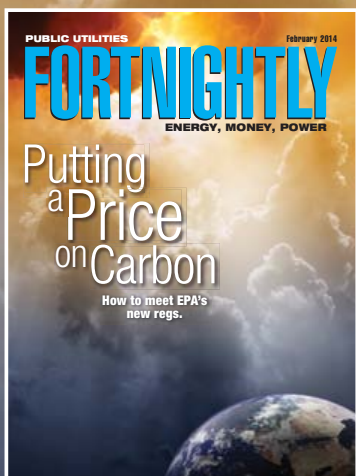
The cost of meeting this challenge is significant. At an estimated replacement rate of \$1 to \$3 million per mile, the price tag could run as high as \$250 billion or more. On a positive note, states have made progress, and more so recently. Since 1990, more than 65,000 miles of cast iron and bare steel pipes have been replaced with high-density polyethylene pipes. Despite that progress, we still have a long way to go: According to the Pipeline and Hazardous Materials Safety Administration, 29,989 miles of cast iron and 41,824 miles of bare steel

mains are still waiting to be replaced. The most important question is how long the task will take, given new risks and the challenges ahead, like certain vintages of compromised plastics and whatever else the future may hold. Some utilities

‘Most pipeline systems at risk lie in urban areas, which require extensive logistical coordination.’

have a lot to do and the pace of progress is critical. And regulators must be vigilant to ensure that the level of investment and the pace of pipe replacement is sufficient to mitigate the growing risks stemming from antiquated utility systems.

It is akin to a marathon, where the route is defined by the age, location, material, and condition of the pipelines; and the pace is defined by the magnitude of the risk to the public. But this is not an ordinary marathon because we absolutely have to finish, and we must do so within a respectable timeframe. ■



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THE ESSENTIAL ROLE OF STATE ENGAGEMENT IN DEMAND RESPONSE

Anne Hoskins and Paul Roberti***

INTRODUCTION

In writing the majority opinion for the United States Supreme Court in *Federal Energy Regulatory Commission v. Electric Power Supply Ass'n* (“*EPSA*”),¹ Justice Elena Kagan reaffirmed “cooperative federalism” as an essential mechanism for competitive electricity markets in the 21st century.² With technological advancements providing opportunities for cleaner and less costly electricity production and use, there is no bright line preventing state utility commissions and the Federal Energy Regulatory Commission (“FERC”) from working in concert to advance a more efficient electricity system.

As Justice Kagan explained, “The [Federal Power] Act makes federal and state powers ‘complementary’ and ‘comprehensive,’” so that “there [will] be no ‘gaps’ for private interests to subvert the public welfare.”³ However, she also recognized that the statutory divisions of power between FERC and states generate “a steady flow of jurisdictional disputes because—in point of fact if not of law—the wholesale and retail markets in electricity are inextricably linked.”⁴

The *EPSA* decision is a defining moment in evolution of competitive electric markets. It reinforces FERC’s authority to ensure that any reliance on markets as a substitute for traditional cost-of-service regulation should employ market designs that promote greater participation in the wholesale marketplace, regardless of whether the participation takes the form of electricity production or alternatively, a practice like demand response (“DR”). As the decision illustrates, DR is a product that can provide value in both capacity and energy markets, and at both the wholesale and retail levels. It can bolster reliability and lower costs for consumers. While FERC Order 745 specifically

* Commissioner, Maryland Public Service Commission.

** Commissioner, Rhode Island Public Utilities Commission.

This Article reflects the authors’ personal views and is not intended to represent the views of their respective Commissions. Arnell Limberry and Todd Bianco provided legal and regulatory research and support in developing this article.

¹ 136 S. Ct. 760 (2016).

² *Id.* at 780.

³ *Id.* (citing *Fed. Power Comm’n. v. La. Power & Light Co.*, 406 U.S. 621, 631).

⁴ *Id.* at 766.

addressed the role and compensation of DR in wholesale energy markets,⁵ it had significant implications for capacity markets.⁶ To understand the impact of the *EPSA* decision, one must consider DR's origin and the role it has played in serving consumers.

I. WHY IS DEMAND RESPONSE SO SIGNIFICANT?

Understanding the physical characteristics of electricity helps to explain DR's origin in the electric industry. Electricity is unlike any other commodity; electrical energy travels at rates approaching the speed of light and its production must closely match consumer demand, which is constantly changing from moment to moment. As a result, the interconnected system of high-voltage power lines requires near instantaneous balancing of supply and demand, or else the voltage of the system can collapse and not only cause blackouts, but also do damage to generators and to consumers' energy-using equipment. DR resources are "dispatchable" and controllable resources, whereby consumers agree to reduce their demand when needed in exchange for compensation. Given the potentially dire consequences of a supply shortage during periods of high demand, it is easy to understand the strategic value of decreasing demand deliberately in order to maintain reliability.⁷

In ISO New England, DR came into existence in an effort to provide short term solutions to serious reliability problems in the southwest Connecticut region, where load was high, generation was inadequate, and transmission solutions remained years away.⁸ In December 2003, ISO New England conducted a competitive solicitation to find solutions, and the most cost-effective and reliable solutions were DR resources. The performance of the DR resources, coupled with ISO New England's growing confidence in using DR for addressing reliability challenges, marked the birth of large-scale DR in New England.

⁵ See generally Demand Response Compensation in Organized Wholesale Energy Markets, Order No. 745, 134 FERC ¶ 61,187 (Mar. 15, 2011).

⁶ See Amended Complaint of FirstEnergy Service at 9–10, *FirstEnergy Serv. Co. v. PJM Interconnection, LLC* (FERC 2011) (No. EL14-55-000).

⁷ See Order Conditionally Accepting Changes to NEPOOL Market Rule 1, 106 FERC ¶ 61,190 (Feb. 27, 2004); Letter from David T. Doot, Counsel, New England Power Pool to Magalie Roman Salas, Secretary, FERC (Dec. 23, 2003), <https://perma.cc/CNM7-P6FP>.

⁸ See Order Conditionally Accepting Changes to NEPOOL Market Rule 1, 106 FERC ¶ 61,190 (Feb. 27, 2004); Letter from David T. Doot, Counsel, New England Power Pool to Magalie Roman Salas, Secretary, FERC (Dec. 23, 2003), <https://perma.cc/CNM7-P6FP>.

Today, DR competes for market share as a capacity resource in ISO New England's Forward Capacity Market and in PJM's Reliability Pricing Model capacity market. Both capacity markets procure resources three years in advance of deployment. DR resources receive capacity market payments during a designated capacity year because they are available to be reduced and can be used as a control room resource. If they are called to perform, the DR resources must reduce demand commensurate with the amounts cleared in the market. As a capacity resource, the number of hours a year that DR resources are activated has been few, but their operational value is significant. DR allows system operators to quickly replenish reserves to maintain system reliability and avoid North American Electric Reliability Corporation ("NERC") violations, and in dire situations, can assist in preventing blackouts. DR has proven to be an effective resource in maintaining system reliability.

II. ACTION AT THE STATES

The Supreme Court's affirmation of DR in wholesale markets highlights the importance of effective and nimble regulation at both the state and federal levels. State commissions set retail rates, adjudicate consumer complaints, and hold distribution utilities accountable if the lights go out and remain out for too long. DR is a critical tool in our regulatory toolbox to protect the public interest. The D.C. Circuit's ruling⁹ vacating FERC Order 745 threatened to disable this tool, with serious implications for consumers as well as DR suppliers. While PJM and the PJM Market Monitor proposed alternative "demand-side" options that may have allowed a continued role for DR in the wholesale markets, it would have required additional action by states and load-serving entities and there was no certainty that this approach would work as effectively as maintaining DR on the supply side.¹⁰

In the post-*EPSA* world, there is no longer any lingering uncertainty about the dual rights of FERC and the states to continue to develop policies that encourage DR. At the retail level, many states are pursuing policies that leverage wholesale markets to optimize the societal value of DR. For instance, in Maryland, the Public Service Commission ("MDPSC") approved utility DR offerings as part of its EmPOWER program, seeking to achieve a fifteen

⁹ *EPSA v. FERC*, 753 F.3d 216 (D.C. Cir. 2014).

¹⁰ Order Rejecting Tariff Revisions 150 FERC ¶ 61,251 para. 32 (2015) ("Moreover, we are concerned that PJM's proposal introduces uncertainties that may exceed those it seeks to avoid, particularly with respect to potential unanticipated spillover effects on state programs and private sector arrangements. We find that, on balance, PJM's filing is premature and therefore reject it.").

percent reduction in demand between 2008 and 2015.¹¹ Since 2009, Maryland utilities collectively achieved 1,743 MW of demand reduction through EmPOWER programs, serving to offset critical summer and winter peak loads.¹²

Maryland authorizes its state-regulated utilities to sell aggregated DR commitments into FERC-regulated wholesale markets and use the proceeds to help finance incentives for participating customers. Had the D.C. Circuit decision stood, a considerable amount of DR resources would have been at risk, reducing the revenues earned from the PJM capacity market.¹³ Those revenues annually defray up to \$66.5 million in costs, covering twenty-eight percent of the program costs.¹⁴ The *EPSA* decision enables Maryland to continue to maximize the positive economic and societal effects of its DR programs by participating in the wholesale markets.

Maryland utilities have used their EmPOWER DR programs to improve reliability during peak use times, with DR playing a critical role in the PJM market during the “Polar Vortex” of 2014. On January 21, 2014, BGE and Pepco service territories lost 1,783 MW of generation capacity.¹⁵ On the next day, PJM called and received ninety-eight percent of the expected DR resources in those service territories.¹⁶ Through this cooperative funding and regulatory mechanism, Maryland, PJM, and FERC protected and advanced the public interest.

Rhode Island is harnessing DR to complement local efforts aimed at deferring distribution upgrades and eliminating local constraints. The Rhode Island Commission approved National Grid’s 2015–2017 Energy Efficiency and System Reliability Procurement Plan, under which National Grid will further incorporate “non-wires alternatives” including DR in its transmission and distribution planning process. A pilot is testing whether DR can help

¹¹ PUB. SERV. COMM’NS OF MD., *THE EMPOWER MARYLAND ENERGY EFFICIENCY ACT STANDARD REPORT OF 2014*, 1 (2014) (noting the EmPOWER Maryland Act’s declared a state goal of achieving a 15% reduction of both per capita energy consumption and per capita peak demand by 2015).

¹² *In the Matter of Potomac Edison Co.*, 323 P.U.R.4th 239 (2015).

¹³ Brief for Guarini Center on Environmental, Energy and Land Use Law at New York University School of Law as Amicus Curiae Supporting Petitioners, *FERC v. EPSA*, 136 S.Ct. 760 (2015) (Nos. 14-840, 14-841) (citing Letter from Martin O’Malley, Governor of Maryland, to Jon Wellenghoff, Chairman, FERC Docket No. RM10-17-000 (May 12, 2010)).

¹⁴ Protest of Md. Pub. Serv. Comm’n at 4, FERC Docket No. ER15-852-000 (Feb. 13, 2015).

¹⁵ PJM INTERCONNECTION, ANALYSIS OF OPERATION EVENTS AND MARKET IMPACTS DURING THE JANUARY 2014 COLD WEATHER EVENTS 35 (2014).

¹⁶ *Id.* at 38 (Figure 25).

manage local distribution capacity requirements during peak periods.¹⁷ DR can increase the cost-effectiveness of those programs, while reducing long term peak demand.

Post-*EPSA*, states have a range of options to further DR's growth. Where deployed, smart meters can enable customers to monitor their time of electricity use and change their usage patterns, particularly in response to real-time price signals. Maryland authorized smart meter deployments for four utilities beginning in 2010.¹⁸ FERC noted in its December 2015 Demand Response & Advanced Metering Staff Report that "8.7 million advanced meters were installed and operational between 2012 and 2013, resulting in advanced meters representing almost 38 percent of all meters in the United States."¹⁹ With growing access to data about electricity usage, data analytics offer the potential to spur more DR at both the retail and wholesale levels.

Except for the largest customers, however, barriers to robust DR participation still exist. Where smart meters have been deployed, there is often resistance to employing dynamic pricing at the retail level. Wholesale prices emanating from energy markets that fluctuate day-to-day and hour-by-hour are not usually synchronous with the rates set by state regulators, which for many customers are fixed for long intervals (typically six months) in order to promote rate stability. Dampened price signals make it harder to promote load reductions that could be monetized at either the retail or the wholesale level. However, these barriers would have stood higher had the Supreme Court ruled against the ability for DR to be sold as a resource into wholesale markets.

III. CONTINUING DR CHALLENGES CALL FOR COOPERATIVE ACTION

Notwithstanding the *EPSA* decision, DR is facing headwinds at the wholesale level due to capacity market rule changes that were approved by FERC in 2015.²⁰ The New England region suffered tremendous price volatility during the winters of 2013–14 when natural gas pipeline capacity into the

¹⁷ FERC ASSESSMENT OF DEMAND RESPONSE & ADVANCED METERING STAFF REPORT 27 (2015) (citing

Rhode Island Public Utility Commission, In Re: The Narragansett Electric Company d/b/a National Grid's 2015-2017 Energy Efficiency and System Reliability Procurement Plan, Order No. 21781, Docket No. 4522 (Dec 19, 2014)).

¹⁸ In the Matter of Baltimore Gas and Electric Company For Authorization To Deploy A Smart Grid Initiative And To Establish A Surcharge For The Recovery Of Cost, 283 P.U.R.4th 165 (2010).

¹⁹ See FERC ASSESSMENT, *supra* note 17, at 1.

²⁰ PJM Interconnection, LLC et. al, Order on Proposed Tariff Revisions, 151 FERC ¶ 61,208 para. 22 (Jun. 9, 2015).

region was constrained²¹ and gas-fired generators could not perform during peak demand periods, despite some resources presumably having received capacity payments in exchange for the obligation to perform when needed.²² Electric energy costs increased approximately \$3.8 billion across the region over the two-year period from 2012 to 2014.²³ This experience supported changes in the capacity market design called “Pay-for-Performance” in New England.²⁴ Similarly, the Polar Vortex gave rise to a PJM proposal called “Capacity Performance” (“CP”) that adjusts the compensation of resources to reflect their overall availability throughout all hours of the year, rather than just their seasonal capability.²⁵

Under the New England market rule changes, which take effect in 2018, all market participants will need to monitor system conditions and make every effort to perform by providing energy or reserves whenever scarcity conditions arise. Otherwise, their capacity market compensation will be clawed back and reallocated to those resources that performed when needed.²⁶ Similarly, PJM’s CP mechanism defines capacity as an annual concept and penalties can be assessed for nonperformance during any hour of the year.²⁷ Since a significant portion of DR relies on controlling cooling load, those types of loads cannot perform well outside of the summer. By 2020 when CP is fully implemented, this could have serious implications for the quantity of DR offered into the capacity markets.

The market rules allow seasonal resources to form an aggregated offer so as to provide year-round capability but it is not yet clear how useful the aggrega-

²¹ See generally Press Release, ISO New England, 2013 Wholesale Electricity Prices in New England Rose on Higher Natural Gas Price (Mar. 18, 2014), <https://perma.cc/TH9G-H27X>.

²² In filing for its proposed Pay-for-Performance changes to the FCM, ISO-NE presented expert testimony documenting \$647 million in Capacity Payments paid between June 2010 to November 2013 to a group of resources representing fifteen percent of the Net Installed Capacity requirement for the 2013/2014 commitment period. The resources provided, on average, only seventeen percent of their Capacity Supply Obligation during scarcity conditions during the period. The problem could have been mitigated, but unlikely eliminated, by the 2013/2014 Winter Reliability Program. See Testimony of Matthew White on Behalf of ISO New England, Inc. at 23–24, Order on Tariff Filing and Instituting Section 206 Proceeding, FERC Docket No. ER14-1050-000 (Jan. 17, 2014), <https://perma.cc/E6ZK-9JVU>.

²³ ISO NEW ENGLAND, 2016 REGIONAL ELECTRICITY OUTLOOK 22 (2016), <https://perma.cc/B8FP-JLAS>.

²⁴ See Letter from Maria Gulluni, Deputy General Counsel, ISO New England, Inc., & Eric K. Runge, New England Power Pool Participants Committee, to Kimberly D. Bose, Secretary, FERC (Feb. 29, 2016), <https://perma.cc/B7CU-J34N>.

²⁵ PJM INTERCONNECTION, PJM CAPACITY PERFORMANCE PROPOSAL 8–10 (2014).

²⁶ Letter from Jennifer Wolfson, Regulatory Counsel, ISO New England, Inc., to Kimberly D. Bose, Secretary, FERC (Nov. 3, 2014), <https://perma.cc/W2HT-DTAY>.

²⁷ PJM INTERCONNECTION, PJM CAPACITY PERFORMANCE PROPOSAL 26 (2014).

tion option will be. For example, the excess winter capability of an energy efficiency program consisting of lighting measures can combine with the summer capability of a DR program consisting of air conditioning control to provide an amount of capacity year-round. In New England's most recent Forward Capacity Market auction, a total of 2,746 MW of demand resources cleared as capacity resources. Of that amount, 371 MW were new resources.²⁸ Most of the existing and new resources comprise energy efficiency and other "passive demand resources," which can meet the assigned capacity obligation during all hours of the year.²⁹

In approving PJM's CP proposal to phase out existing limited and extended summer DR programs and accept only annual commitments from DR providers, FERC noted that "the vast majority of Demand Resources are available to PJM during the summer peak season only, with Limited Demand Response available for 10 days and for a maximum of 6 hours a day."³⁰ The statement reflects the quandary that RTOs face with respect to market design. A capacity resource is needed whenever there is a shortage or scarcity condition, which can occur at different times of the day and year. Given the same economic availability, a year-round resource is more useful and valuable to the system than a limited resource because it has greater technical availability. However, we know from our experience with the Polar Vortex that DR with limited availability can be highly valuable as well.

Indeed, it was primarily the non-performance of traditional capacity resources during cold and warm weather operations—generators that were expected to be available year-round—that exposed the need for capacity market changes in New England and PJM.³¹ Moreover, the U.S. Department of Energy reports multiple shutdowns, curtailments, and requests for special

²⁸ See generally Press Release, ISO New England, Finalized Capacity Auction Results Confirm 10th FCA Procured Sufficient Resources, at a Lower Price, for 2019–2020 (Feb. 29, 2016), <https://perma.cc/3DLD-EBRX>.

²⁹ See generally Letter from Kevin Flynn, Senior Regulatory Counsel, ISO New England, Inc., to Kimberly D. Bose, Secretary, FERC (Feb. 29, 2016), <https://perma.cc/MBS3-268E>; Mariah Winkler, Supervisor, Technical Studies, ISO New England, Inc., Presentation at NEPOOL Reliability Committee Meeting: Forward Capacity Auction #10 (FCA #10) – 2019/2020 Capacity Commitment Period Results Summary & Trends 6 (Mar. 23, 2016), <https://perma.cc/TXH8-RKLS>.

³⁰ PJM Interconnection, LLC et. al, Order on Proposed Tariff Revisions, 151 FERC ¶ 61,208 para. 43 (Jun. 9, 2015).

³¹ For example, ISO New England Whitepaper explains three concerns motivating the creation of forward capacity markets pay-for performance incentives. The second concern enumerated is the increasing reliance on natural gas-fired generation and the "just in time" nature of natural gas delivery, which can lead to operating day inadequacies. ISO NEW ENGLAND, FCM PERFORMANCE INCENTIVES 2 (2012), <https://perma.cc/9ECB-X6QL>.

operations due to over-warm cooling water temperatures, and notes such events could have an increased impact resulting from global climate change.³² The recognized economic value of a capacity resource to the system does not account for environmental or societal costs and benefits that may align with other state and federal policies. The challenge facing the RTOs/ISOs and federal and state regulators is how to value DR accurately so it remains a market resource.

While FERC initially rejected arguments from states and consumer organizations about the importance of retaining DR as a capacity resource,³³ PJM is now supporting a “problem statement” which could lead to the establishment of two capacity products—a summer product and a winter product, which would allow summer load to get some value from winter load control as a capacity resource.³⁴ Environmental organizations and DR providers are urging FERC to reconsider its approval of the CP tariff and to facilitate a solution that will keep DR as an effective tool for improving reliability during summer and winter peak periods.³⁵

While the *EPSA* decision confirms that DR can be compensated in the wholesale electric markets, there is still work to be done: DR providers can strive to become more available by improving their technical and economic capabilities and aggregating resources; and FERC, states, RTOs/ISOs and stakeholders can continue to refine the market design so that both active and passive demand resources receive compensation that fully reflects their value to the system.

CONCLUSION

Some may read Justice Kagan’s opinion as an expansion of federal jurisdiction at the expense of state power, but we see it otherwise. As National Association of Regulatory Utility Commissioners President Travis Kavulla noted after the Court’s decision, “the coordination of federal and state initiatives offers the best way to assure the full benefits of demand response are

³² See U.S. DEPT OF ENERGY, U.S. ENERGY SECTOR VULNERABILITIES TO CLIMATE CHANGE AND EXTREME WEATHER 2 (2013), <https://perma.cc/N3FR-FF9Q>.

³³ PJM Interconnection, LLC v. PJM, LLC, Order on Proposed Tariff Revisions 151 FERC ¶ 61,208 para. 62 (June 9, 2015) (“Joint Consumers and Rockland argue that there are cost savings associated with these summer peaking resources and that a mix of resource types, including Limited Demand Response, Extended Summer Demand Response, and peaking generation resources, is appropriate to meet PJM’s expected peak load service obligations.”).

³⁴ PJM INTERCONNECTION, PJM CAPACITY PERFORMANCE PROPOSAL 8–15 (2014).

³⁵ Supplement to Rehearing Request of Public Interest Organizations at 2, FERC Docket No. ER15-623-000 (July 9, 2015).

delivered to customers.”³⁶ Through cooperative regulation and policy, DR can continue to play a critical role in supporting the provision of affordable and reliable electricity through our evolving energy markets.

³⁶ Press Release, Nat’l Ass’n of Regulatory Util. Comm’rs, NARUC President Kavulla Reacts to High Court’s Ruling in Landmark Demand-Response Case (Jan. 25, 2016).

National Association of Regulatory Utility Commissioners

Committee on Gas

Scottsdale, Arizona

July 16, 2018

NARUC Role

- I want to thank you for your efforts—as you know, your work ensures that the vast majority of pipelines in our nation operate safely. Not only that, but many of you are proactive in going above and beyond our minimum federal safety requirements to address your state-specific pipeline safety needs.

Infrastructure and Damage Prevention

- Thanks to your efforts, we've seen the number of states with some form of accelerated infrastructure cost recovery program rise to 41.
- 21 states have eliminated cast or wrought iron in their natural gas distribution systems.
- Because damage to pipelines during excavation is a leading cause of serious pipeline incidents involving fatality or injury, the promotion of 8-1-1 is a top priority for PHMSA.
- August 11—811 Day—is coming up and I know we will have many exciting outreach activities.
- Data shows that States with effective enforcement of their One Call law have lower damage rates and improved safety, and that more 811 exemptions lead to more incidents.
- We need your help to take a look at the State level to bolster the enforcement of damage prevention laws and reduce 811 exemptions.

PHMSA Support

- We also provide training, guidance, and oversight to state programs:
 - Our Training & Qualifications Center provides state pipeline inspectors with the nation's only specialized training for understanding and applying federal pipeline safety regulations and standards incorporated by reference.
 - Our training includes in-depth classroom training and expanded outdoor/ lab areas to provide inspectors with hands-on opportunities to experience actual field scenarios.
 - In addition to hands-on training, TQ offers comprehensive online training modules to keep inspectors current on provisions of new and revised regulations, national consensus standards, interpretations, relevant research and development, and noteworthy practices.
 - TQ continues to revamp and update curriculum, including rolling out new curriculum for Underground Gas Storage facilities.

- PHMSA also has an active mentoring program for state inspectors. In the last 2 years, 31 State Inspectors have taken advantage of the program encompassing approximately 190 mentoring hours. PHMSA continues to encourage states to participate in our mentoring program to improve inspector skillsets through observing peers conduct inspections and benefitting from feedback from experienced inspectors.
- All in all, our PHMSA employees spent well over 7600 hours last year working directly with state pipeline safety programs supporting pipeline safety.

Regulatory Review and Updates

- One of my goals at PHMSA is to make our rulemaking process move more quickly and efficiently.
- We appreciate NARUC's participation in our processes, and we look forward to your continued support as we work to advance our regulatory goals.
- Like many other issues before us, PHMSA's regulatory agenda is part of an ongoing regulatory review pursuant to the Executive Orders issued last year by the White House.

SMS

- At PHMSA, we are strongly promoting the implementation of Safety Management Systems, both internally and for our other pipeline stakeholders.
- We understand that there is no one-size-fits-all method for creating an SMS program; the implementation varies from operator to operator, and from state to state.
- Our experience has taught us that a pipeline operator is only as good as its weakest link or least-informed division, whether that is a part of the operator or a contractor. This is where SMS can have the greatest impact, reaching all levels of an organization – including its contractors – and helping to ensure a safety culture is pervasive and all-encompassing.
- We are seeing a lot of commitment from industry to voluntarily implement SMS, so I encourage you to look for those efforts from the operators in your state. If you see operators requesting rate adjustments for cost recovery of SMS implementation, remember that SMS can help operators manage the multiple facets of pipeline safety, fundamentally changing day-to-day operations by incorporating a focus on safety into every aspect of pipeline management.

Technology

- I'm proud of the R&D work we've accomplished so far at PHMSA – funding 270 projects, bringing 27 new technologies to market, and refining our overall systematic process and sub-processes via ongoing review of program effectiveness.
 - PHMSA has also funded the following projects in recent years applicable to cast iron and liners to support their rehabilitation until such times that they can be replaced.

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Introduction

First, I want to thank Nick Wagner for the invitation to be here today to speak to you about what we're doing at PHMSA to advance our shared mission to promote pipeline safety.

Pathway to Washington DC

I was sworn in by Secretary Elaine Chao as Chief Counsel about one year ago.

PHMSA's Administrator, Howard "Skip" Elliott, is a tremendous leader with deep industry experience, who along with Secretary Chao, are relentless about safety and executing our government responsibilities with the utmost efficiency and accountability.

Trip Down Memory Lane

After the San Bruno, CA disaster in 2010, and then Allentown, PA explosion in early 2011, the national focus on pipeline safety and aged infrastructure became a centerpiece of federal and state policy. Those two incidents took the lives of 13 innocent victims.

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The Transportation Secretary at the time, Ray LaHood, issued a “Call to Action” to industry and States to modernize the nation’s pipeline infrastructure, and in particular, high risk systems like bare steel and cast iron, which were far too old to breed the public’s continued confidence that industry and regulators were doing enough to safeguard the public. At that point, our 2.6 million-mile pipeline system had about 51,000 miles of bare steel and 36,000 miles of cast iron, along with much more in the way of service lines.

At the NAPSR Annual Meeting in Springfield, Illinois four years ago, I spoke in my capacity as Chairman of NARUC’s Subcommittee on Pipeline Safety, and remarked about my visit to the Lincoln library, where I was able to add context to the age of some of these systems. It was there I learned that the oldest components of the system I regulated in Rhode Island were put in the ground when Abraham Lincoln was still the proverbial “country lawyer” – 1848.

My visit to Springfield wasn’t long after the East Harlem, explosion in New York, which leveled two buildings and

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killed 8 people. It was March 12, 2014, and I happened to be here in Santa Fe when it was revealed that Con Ed's cast-iron system was installed in 1887 – 126 years old.

I reached for a coin that I had purchased earlier that morning at the “open air” market in the parking lot right next door to this resort. I knew there was something about that date that struck me. It turned out that this coin happened to have been minted the same year Con Ed's system went into the ground – 1887.

However, unlike currency, the value of a 130-year-old system is clearly not the same, especially when you factor in the risk that something could go wrong. And it wasn't the only antiquated system lying beneath the streets of East Harlem – the cast iron water mains were also installed in 1887, and the brick-lined sewers in 1873.

The patchwork of system repairs, replacements, and defective workmanship created a perfect storm of interactive threats that caused a T-service fusion weld to separate from the main, allowing gas to migrate and fill the basement of building before the spark and ensuing explosion destroyed the building.

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In January, we had the explosion in Brooklyn, NY that injured five people – it was a cast iron main that cracked after a frost heave. In February of this year, Atmos Energy's wrapped steel mains were leaking in a Dallas neighborhood, and the last of three houses that exploded finally claimed the life of a 12-year-old girl. There were early warning signs there as well.

And then, of course, one month ago, the Merrimac Valley of Massachusetts became ground zero after Columbia Gas failed to reconnect sensing lines, leading to an over pressurization of the system that caused 131 fires, one fatality, and destruction or significant property damage to more than 20 structures. Indeed we were lucky – it could have been far, far worse than San Bruno.

And you all know the irony of this latest incident – it happened as a result of a robust replacement program, except that we witnessed a major failure in execution. The fallout from this incident will (and should) affect all of us. Because it, like all of the other ones I just described, had one thing in common – they were all avoidable, plain and simple.

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Let be clear about something – I’m not saying that we don’t have a safe pipeline system in this country. 99.9% of the products moving through pipelines reach their final destination safely. And we have made great strides in replacing leak prone systems – the combined inventory decreased approximately 30 percent since San Bruno and Allentown brought the necessary awareness about the need for action.

But despite our efforts, we still have 36,000 miles of bare steel pipe and 24,000 miles of cast iron, which collectively will take more than twenty years to eliminate. Under that timeframe, the last section of pipeline in my hometown Capital of Providence may be 188 years old when it is finally removed. That gives me great pause and should do the same for everyone – especially the operator.

Understandably, there are real-world logistical and economic consequences that we must contend with, such as contractor availability, operator supervision, impacts to roadways and public works departments, and lastly, rate impacts to consumers. Yet, if we don’t have a

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robust pace, and if economic regulators (i.e. commissioners) don't have the fortitude to raise rates for infrastructure upgrades, the public safety risks will continue to haunt us.

Iowa is one of 21 States that no longer have cast iron systems. 41 States have some form of rate mechanism that provides for timely recovery of capital investments.

For system operators that derive their revenues from regulated rates, there is always a question about need and justification for rate increases. I always say that utilities carry the fundamental obligation to make compelling presentations to regulators about need for capital investment, particularly as it relates to safety.

But I also believe that you all can play an important role in the ratemaking dialogue. You all possess the knowledge and expertise to advise economic regulators about the safety of the system and aid the process of prioritizing investments. I can tell you from experience that in many States, way too much money is spent to prioritize investments in other areas – like expensive renewables, grid modernization, etc.

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My message is simple: Investments for safety can never take a back seat in the regulatory process. Regulators need to consult you about the needs of the system, especially as it relates to safety. You are the soldiers on the battlefield conducting inspections and keeping your pulse on the condition of systems, the effectiveness of utility supervision over contractor crews, and everything else that troubles you.

Make sure that you report back to the Commissioners or those who are in charge. As someone who has worked in government for more than 25 years, sometimes you have to tell the Emperor about proper attire, if you know what I mean. That reality exists in each your States, and I can tell you it sometimes exists in Washington DC as well.

Commissioners may come and go, but the risks of maintaining a safe and reliable system are constant. So, do your part to educate your leaders so that they fully understand the gravity of what is at stake. And every once and while let them ride shotgun with you out into the field so that they can see it with their own eyes and thereby advance their understanding about the systems

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they regulate, including what needs to be done going forward.

This is No Longer Your Father's Utility

Now let me talk about the other side of the equation – the industry that we regulate.

We clearly operate in a different environment than a couple of decades ago when I was cutting my teeth on NOPVs in Rhode Island, where we would escort the utility folks into a room, slap them on the hand, and substitute penalties for effective remedial actions, mostly in the way of increased investment and corrective operational practices.

These are not the same utilities of today – and it's the money side of the equation that is driving this reality, and the risks as well. Let me explain why. Before the elimination of PUHCA, our utilities were local. They were members of the community; the management lived in your neighborhoods; the workers had pensions that would keep them active in the company for the long haul, thus maintaining a strong institutional memory and knowledge about the pipeline system, its configuration,

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operational practices, and, of course, the risks of the system.

The Board Room, like the corporate headquarters, were local. So were the investors – mostly of whom were people like my father, and local teacher/pension funds. It provided a strong accountability regime. After the repeal of PUHCA, which fostered the convergence of many gas and electric utilities across State borders, all of this changed – for the worse.

The local investors were cashed out. The workers were locked out. The managers were ushered to the airplane doors with their golden parachutes, and large holding companies, many of which are foreign, operated the utilities remotely from out of state headquarters. Utility work crews were swapped out for independent contractors who could lower construction costs at the expense of safety. Sound familiar?

Utilities now seem to be focused on earnings and rate cases more than the enterprise risks of the system and public safety. This is what I witnessed in my 25 years. In the aftermath of so many incidents, I have to question

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whether the regulatory construct has kept pace with the changes.

I think the day has likely arrived where business as usual will not suffice. The airline industry is not flying 100 year-old airplanes, and we really should never have been placed in the present predicament of having to endure excessively aged infrastructure. Pipelines that were fully depreciated a century ago shouldn't be in service today. Construction execution failures like the one we witnessed in Massachusetts are not only avoidable, they're simply, and absolutely, unacceptable. And I'll go one step further and question how we could have contractors not asking questions about pressure sensing lines and controls. How could they not understand the basics of gas operations and proper procedures?

One theme I think you'll hear from my colleagues at PHMSA, is that if you're not already doing it, we need to step up on our inspections and enforcement for newly constructed facilities. We need to step up our inspections and enforcement regarding compliance with integrity management protocols. Our performance-

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based regulatory regime provided the industry substantial discretion to evaluate system risks, prioritize investments, and balance decisions against efficiency and safety. But as I said last week at the New England Pipeline Representatives' meeting in New Hampshire, with broad discretion comes great responsibility.

I think the days when incidents in the pipeline space were mere civil enforcement proceedings might be coming to an end as well, particularly after the recent criminal convictions for Plains All America after the 2015 Refugio pipeline rupture that released crude oil into the Pacific waters off Santa Barbara, CA.

Another point: While excavation damage accounts for 30% of incidents, our analysis of enforcement data on the transmission sector showed that more than half of those incidents were due to mismarks by pipeline operators, something that is beyond the capability of 811 public awareness campaigns.

The bottom line is this: You all need to have a constant eye on what's happening out in the field. From general operations to new construction. If you need more

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resources, your principal responsibility is to go back to your commissioners and document the need clearly.

We strive to provide 80% funding, and we are working hard to meet that commitment. But first comes first – you have to bring those inspectors on board, and your commissioners need to fully support this. Remember, Congress left your authority untouched. The federal government respected State occupation of the field concerning regulation of intrastate pipeline facilities. The States possess the authority and responsibility to inspect and enforce – with one proviso: they must annually certify to DOT that they will enforce the minimum standards in Part 193. And remember, your State possesses the authority to go “above and beyond” the minimum standards. We are partners in this effort, and decisions about resources cannot be delayed or held hostage to the expectation of 80% funding from the federal government. That undercuts the effectiveness of our partnership and compromises safety. But like I said before, we at PHMSA will continue to do everything to provide as close to 80 percent funding as possible.

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Lastly, if there are any problems or concerns, then please pick up the phone and call us! Because we are partners, and we have to meet the challenges together. This is an arranged marriage through a congressional mandate. And like with any marriage, consistent and timely communication is essential.

PHMSA Support - Training & Qualifications Center

We know training is an issue, and we are going to step up our efforts to expedite training of new inspectors in light of the significant turnover we have been experiencing. The nation's pipeline infrastructure is expanding at a dramatic pace. On the transmission front alone, FERC authorized construction of 18,000 miles of pipelines since 2000. This Administration is turning energy abundance into a position of energy dominance, and using export of oil and natural gas to reduce trade deficits and to leverage exports to tip the geopolitical balance away from Russia pipeline exports to eastern Europe, and Venezuelan oil in Latin America and the Caribbean. This means oil and gas production is rising and will continue to rise. That will place higher demands on

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regulators to oversee the industry in the way of safety inspections. At the same time, the demands for qualified personnel is at an all-time high, and this means we have to train more and more inspectors, but at a more rapid pace. Alan will discuss in more detail.

Safety Management Systems

While I wish that culture of the industry was already mature enough to do what safety management systems are designed to accomplish, it is clear that SMS is desperately needed if we are ever to achieve Administrator Elliott's vision of zero incidents. But we don't believe SMS should be embodied in a regulation. How can you mandate culture? How do you force people to wake up at 2 am because they are worried about something?

It's our belief that operators should be voluntarily pursuing SMS as a formal business approach to managing safety risk, since it embodies a systematic approach to advancing safety throughout the organization, from management commitment; organizational structures,

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accountabilities, policies, and procedures; and a platform to share lessons learned.

Our experience has taught us that a pipeline operator is only as good as its weakest link (like a contractor or utility field supervisor who doesn't ask or think about the location of a pressure sensor line), or the least-informed division, whether that is a part of the operator or a contractor.

This is where SMS can have the greatest impact, reaching all levels of an organization – including its contractors – and helping to ensure a safety culture is pervasive and all-encompassing. SMS can help operators incorporate a focus on safety into every aspect of pipeline management.

Conclusion

In closing, I want to tell you how much it means for me to be here today speaking to you. I made it to Washington DC because of all of you. You supported my efforts as a Commissioner to advance pipeline safety, and that ultimately led me to Washington DC where I am grateful to serve my nation. I believe we have an unprecedented

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opportunity to make a difference for the better. Our partnership has never been stronger. So let's continue to work hard together to think about how we can avoid tomorrow's incidents, and do everything possible to make sure that we have no more victims on our watch. You are such important players, since you stand as the interface between industry and economic regulators. So please continue doing everything that you can to advance safety and protect the public interest.

Thank you.

###

National Association of Regulatory Utility Commissioners (NARUC) Committee on Gas 2019 Annual Meeting San Antonio, TX November 2019



Paul Roberti
Chief Counsel
Office of Chief Counsel
Pipeline and Hazardous Materials Safety Administration



U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

To Protect People and the Environment From the Risks of
Hazardous Materials Transportation



PHMSA's Mission

“To protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives”

Four Pillars Undergirding PHMSA's Mission:

- Safety – Prevent incidents by establishing national policy, setting and enforcing standards, educating, and conducting research.
- Infrastructure – Support policies that promote continuous investment in legacy systems
- Innovation – Promote research and development to enable new technologies and innovation
- Accountability – Hold regulated industries accountable for meeting safety standards, and be held accountable as an effective regulator



PHMSA Regulated Pipeline Facilities

OPS and States

Pipeline Facilities by System Type				
System Type		Miles	Percent of Miles	Number of Operators
Hazardous Liquid	CY 2017	215,817 8,118 Tanks	8%	531
Gas Transmission	CY 2018	301,147	11%	1,045
Gas Gathering	CY 2018	17,556	1%	344
Gas Distribution	CY 2018	2,234,258	80%	1,283
Total Miles: 2,769,048				
Liquefied Natural Gas		157 Plants, 228 Tanks, 86 Operators		
CY 2018		Plants: 27 Interstate and 130 Intrastate		
Underground Natural Gas Storage		397 Facilities, 451 Reservoirs		
CY 2018		17,281 Wells, 124 Operators		
		Facilities: 221 Interstate and 176 Intrastate		

Data accurate as of March 27, 2019



PHMSA Transmits Three New Rules to Federal Register in a Single Day



Published Rulemakings

- **Safety of Gas Transmission Pipelines**
 - Fulfills statutory mandates and NTSB requirements by expanding IM assessments, requiring MAOP reconfirmation, and requiring use of PRDs prior to insertion/removal of ILI tools.
 - Effects 300,000 miles of transmission lines.
- **Safety of Hazardous Liquid Pipelines**
 - Expanded integrity management requirements.
 - Directs operators to periodically evaluate the condition of all HL pipelines, regardless of their location, and set repair timelines.
 - Extends leak detection requirement to all HL pipelines.
 - Fulfills multiple safety recommendations and Congressional mandates.
 - Effects 215,000 miles of HL lines.
- **Enhanced Emergency Order (EO) Procedures**
 - Revises EO procedures by adding protections for petitioners that seek to modify or terminate an EO.



Safety of Gas Transmission Pipelines Final Rule

- Requires reconfirmation of the maximum allowable operating pressure (MAOP) for certain pipelines with (1) inadequate MAOP records and (2) grandfathered pipelines that have not had a pressure test;
- Introduces “moderate consequence areas” (MCA) for populated areas not currently subject to integrity assessments where an incident could pose risk to human life and property;
- Collect or create records of the material properties of the pipeline if they must reconfirm the pipeline’s MAOP;
- Use devices that safely relieve pressure prior to the insertion or removal of in-line inspection (ILI) tools to help ensure the safety of personnel performing in-line inspections;
- Consider seismicity as a factor in threat assessments and incorporate into P&M measures;
- Report to PHMSA MAOP exceedances on or before the 5th day following the date on which the exceedance occurs;
- Use industry consensus standards for in-line inspections that provide rigorous processes for qualifying the equipment, people, processes, and software used in such inspections.



Safety of Hazardous Liquid Pipelines Final Rule

- Extension of reporting requirements to previously-unregulated gravity lines and gathering lines.
- Expansion of leak-detection requirements.
- Inspection of pipelines after extreme weather events or natural disasters.
- Expands integrity management (IM) requirements to onshore segments not currently covered.
- Expanded use of inline inspection tools for HCA and non-HCA segments.
- Requires leak detection systems for all hazardous liquid pipelines, including those outside of HCAs.
- Updates data integration requirements for identifying HCAs and seismicity risks.
- More timely provision of safety data sheets to first responders (within 6 hours of reported spill).
- Expanded accident reporting requirements for pipelines and unregulated gathering lines.
- Annual in-line inspection assessments and other surveys of certain onshore underwater pipelines.



Enhanced Emergency Order Procedures Final Rule

- Amends an earlier IFR, clarifies the duration and scope of emergency orders and revises the administrative or judicial timeline for these orders.
- Specifies that PHMSA will publish emergency orders on both PHMSA's website and with the Federal Register.
- Extends the deadline for filing a petition for reconsideration and explains that an emergency order may be removed when the relevant imminent hazard no longer exists.
- Specifies that PHMSA may consolidate petitions for reconsideration, provided such consolidation occurs prior to the commencement of a formal hearing.



Pipeline Regulatory Update

Rule (RIN)	Description	Rulemaking Status	Current Target
2137-AE66	Safety of Hazardous Liquid Pipelines (Final rule)	Published	N/A
2137-AE72	Safety of Gas Transmission (Final rule)	Published	N/A
2137-AF26	Enhanced Emergency Order Procedures (Final Rule)	Published	N/A
2137-AF06	Rupture Detection and Valves (NPRM)	In Progress	Fall 2019
2137-AF22	Underground Natural Gas Storage Facilities (Final Rule)	In Progress	Fall 2019
2137-AF29	Class Location Requirements (NPRM)	In Progress	Fall 2019
2137-AF38	Safety of Gas Gathering Pipelines (Final rule)	In Progress	Spring 2020
2137-AF39	Safety of Gas Pipelines: IM Improvements (Final rule)	In Progress	Winter 2019
2137-AF36	Gas Pipeline Regulatory Reform (NPRM)	In Progress	Fall 2019
2137-AF37	Liquid Pipeline Regulatory Reform (NPRM)	In Progress	Fall 2019
2137-AF45	Amendments to LNG Facilities (NPRM)	In Progress	Fall 2019
2137-AF44	Repair Criteria for Hazardous Liquid Pipelines (NPRM)	In Progress	Spring 2020
2137-AF31	Coastal Ecological USAs (ANPRM)	In Progress	Spring 2020
2137-AF13	Periodic Standards Update (NPRM)	In Progress	Spring 2020
2137-AF48	Periodic Standards Update II (NPRM)	TBD	TBD



DOT General Counsel's Enforcement Memorandum

- On February 15, 2019, DOT issued Memorandum on Procedural Requirements for DOT Enforcement Actions
- Two companion DOT Memoranda recently issued – Address Rulemaking Procedures and Use of Guidance
- October 9, 2019 Executive Order on “Promoting the Rule of Law Through Transparency and Fairness in Civil Administrative Enforcement and Adjudication”



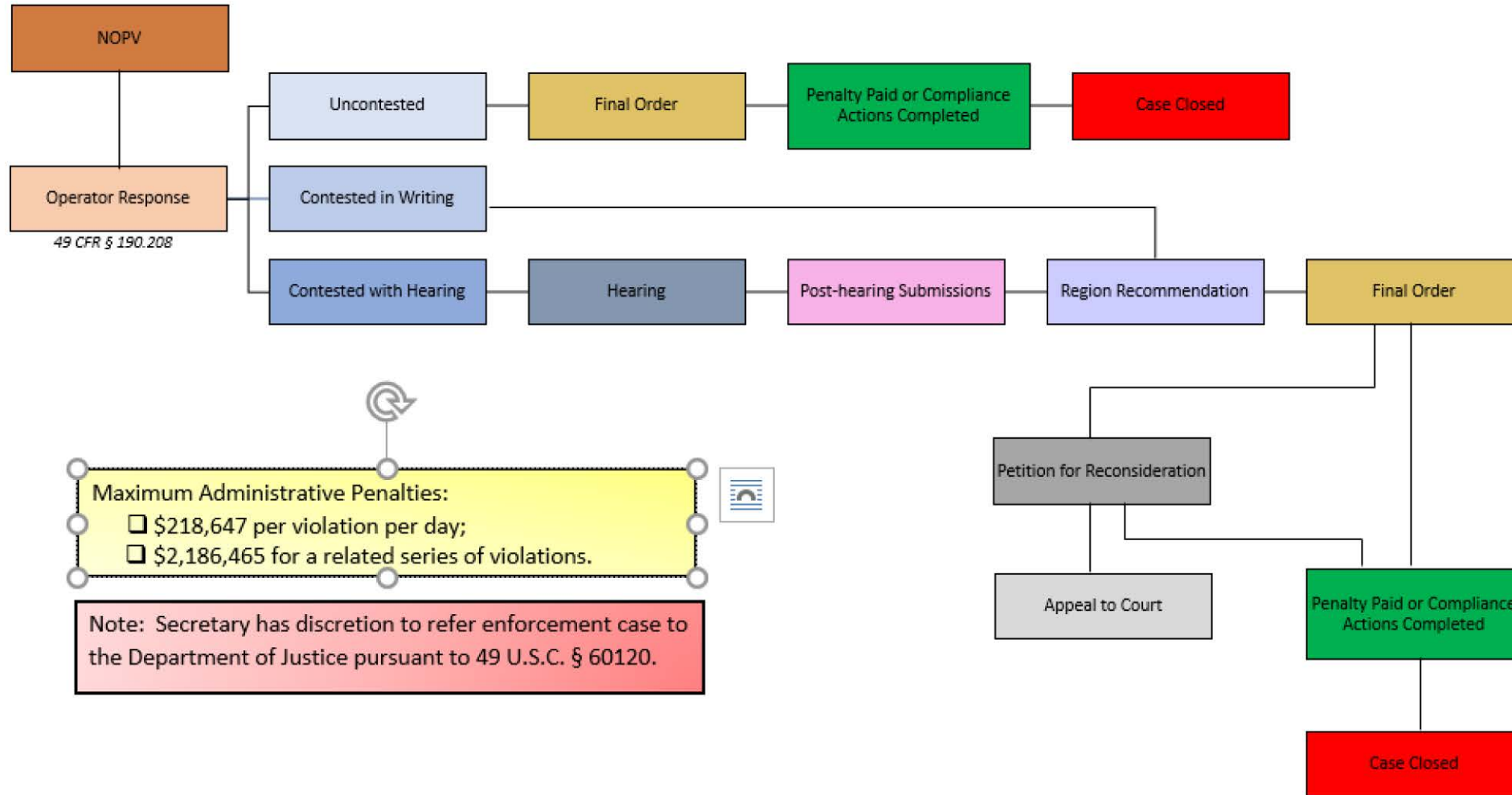
Procedural Requirements for DOT Enforcement Actions

- Ensure due process throughout enforcement process
- Prompt disclosure compliance issues
- No broad or unduly expansive interpretations of regulations
- Legally sufficient basis for an enforcement action
- Mandatory disclosure of materially exculpatory evidence
- Objective and transparent methodology for penalty considerations
- Timely disclosure of penalty calculation worksheets
- Limitation on use of guidance documents
- Other Objectives: Ex parte communications; ADR; Fair notice; Avoiding bias





PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION PIPELINE ENFORCEMENT PROCESS



Improvements in Enforcement Process

- More efficient timelines from completion of inspections to issuance of Final Orders.
- Streamlined process for Uncontested Cases where there is no challenge to the penalty or compliance actions.
- Requests for Extensions to Respond to Notice must include justification of good cause.
- Scheduling Order at the conclusion of hearings to set dates for Post Hearing Briefs and Region Recommendations.

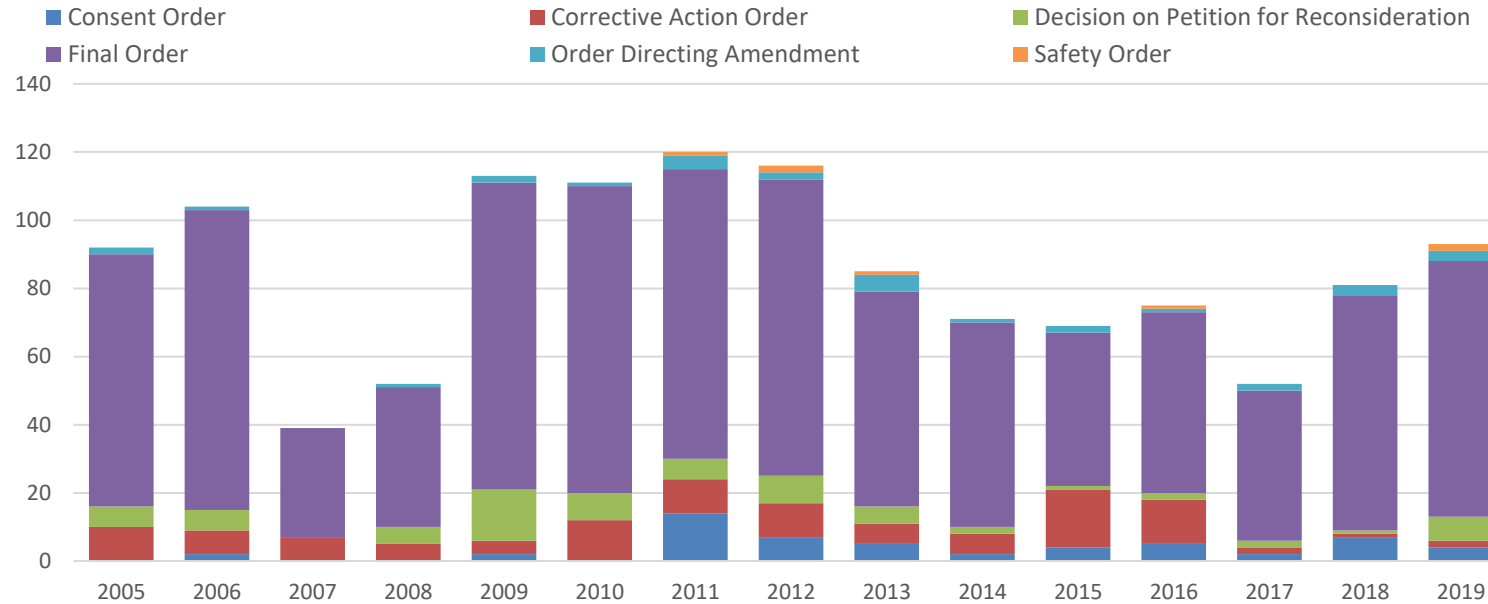


Our National Presence



Enforcement Statistics

Orders Issued by Order Year



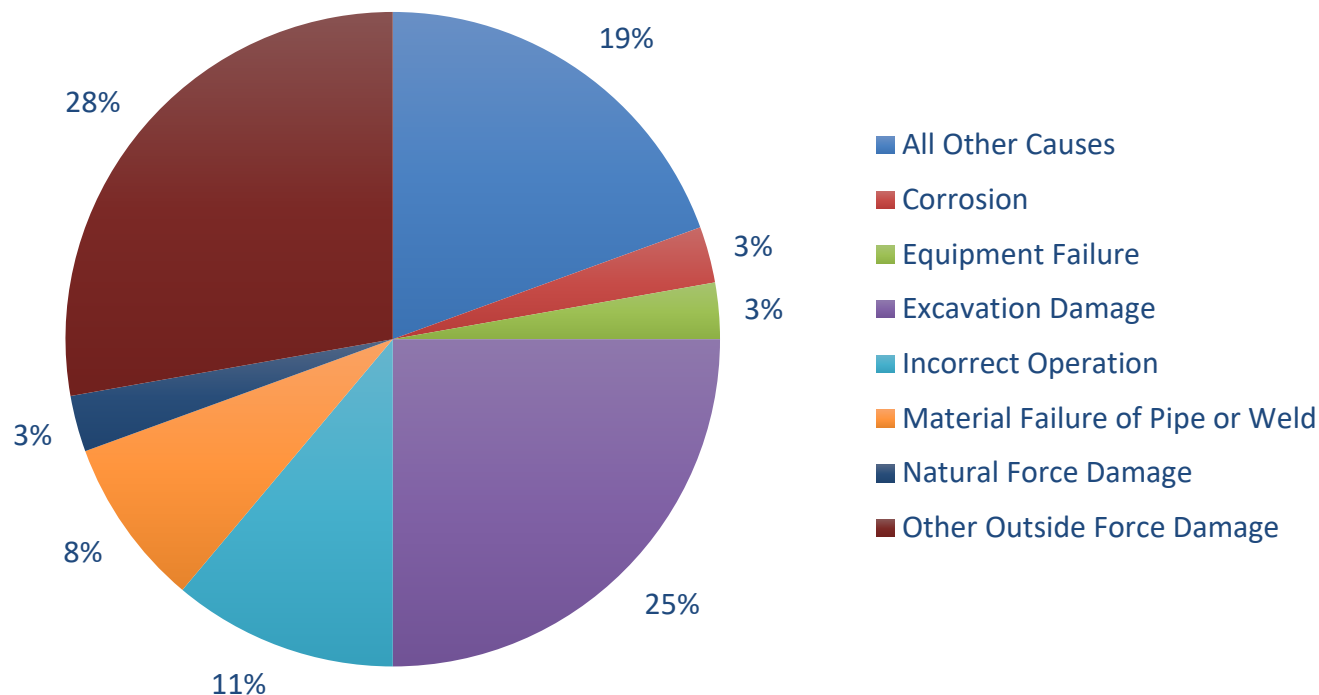
	Number of Order Issued														
Order Type	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Consent Order		2			2		14	7	5	2	4	5	2	7	4
Corrective Action Order	10	7	7	5	4	12	10	10	6	6	17	13	2	1	2
Decision on Petition for Reconsideration	6	6		5	15	8	6	8	5	2	1	2	2	1	7
Final Order	74	88	32	41	90	90	85	87	63	60	45	53	44	69	75
Order Directing Amendment	2	1		1	2	1	4	2	5	1	2	1	2	3	3
Safety Order							1	2	1			1			2
Grand Total	92	104	39	52	113	111	120	116	85	71	69	75	52	81	93



Serious Gas Distribution Incidents

CY 2018 Leading Causes

- Other outside force damage (vehicular damage)
- Excavation damage
- All other causes (under investigation)



Data accurate as of March 1, 2019



Gas Distribution Serious Incidents

Gas distribution incidents increased 44% from 2017 to 2018



As of February 14, 2019



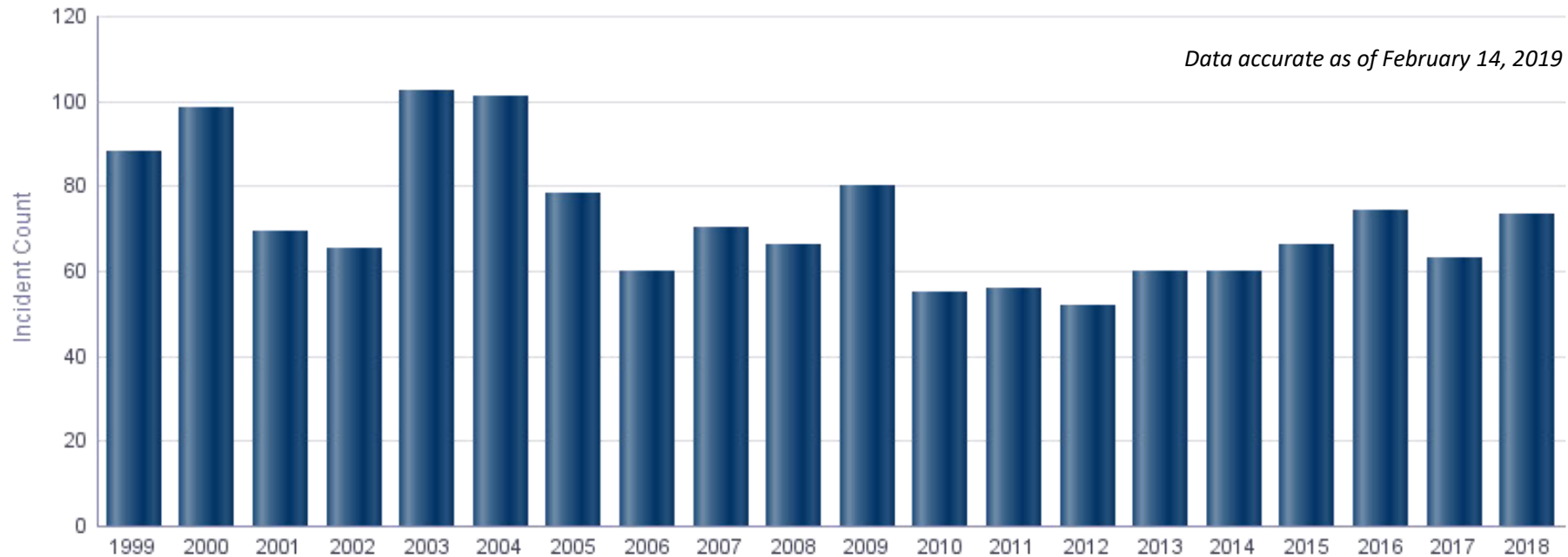
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**Pipeline and Hazardous Materials
Safety Administration**

"To protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives."



Gas Distribution Significant Incidents

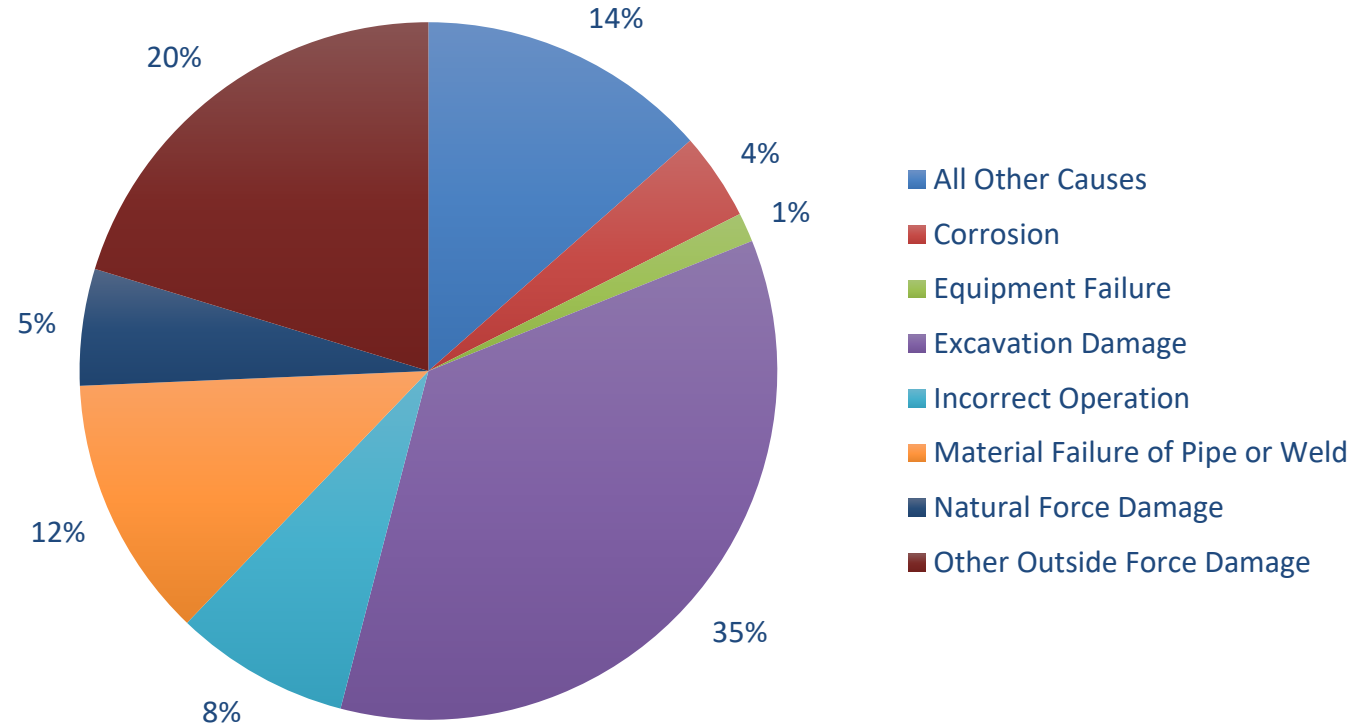
Increased by 16% from 2017 to 2018!



Significant Gas Distribution Incidents

CY 2018 Leading Causes

- Excavation damage
- Other outside force damage (vehicular damage and other)
- All other causes (under investigation)



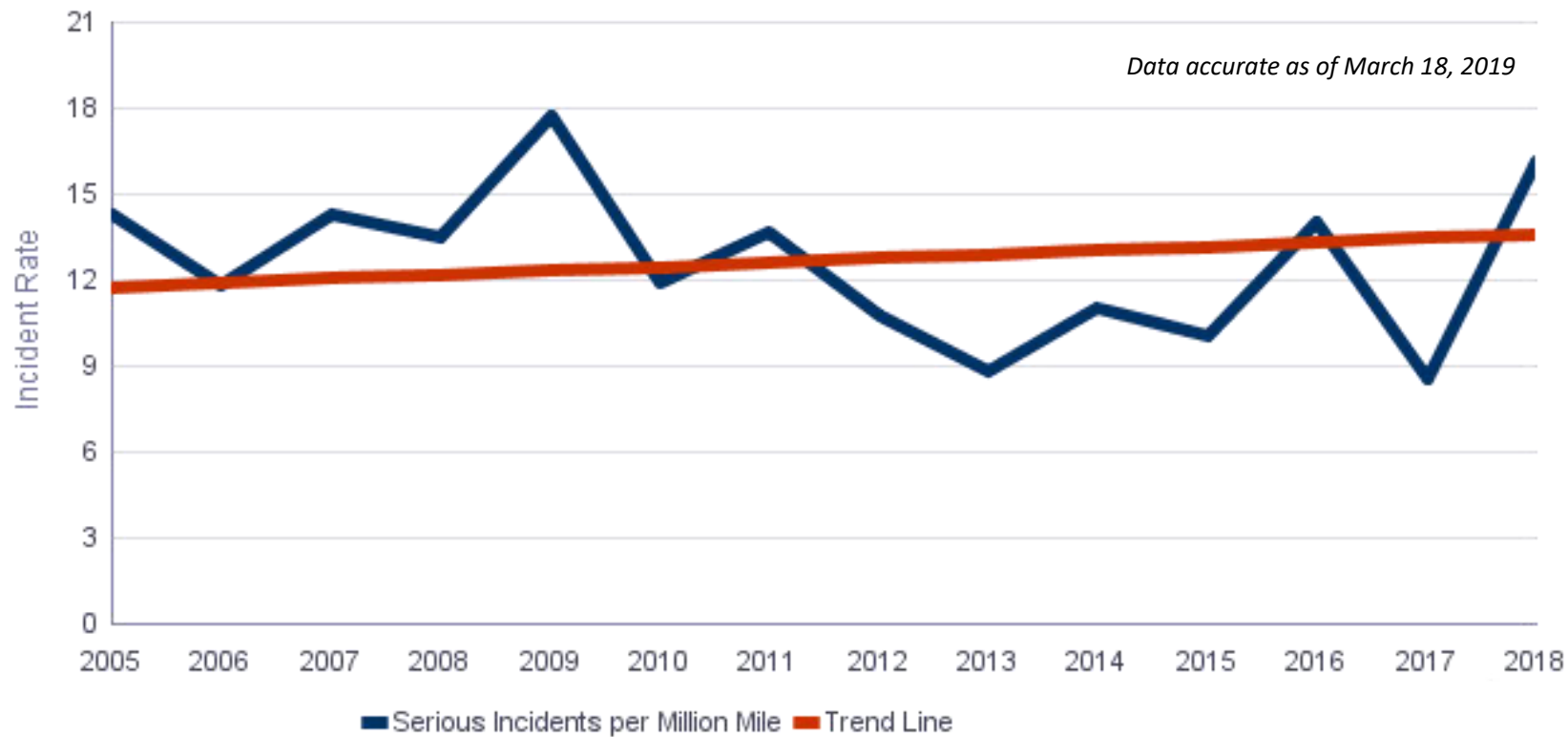
Data accurate as of March 1, 2019



Gas Distribution Serious Incidents per Million Miles

2005-2018

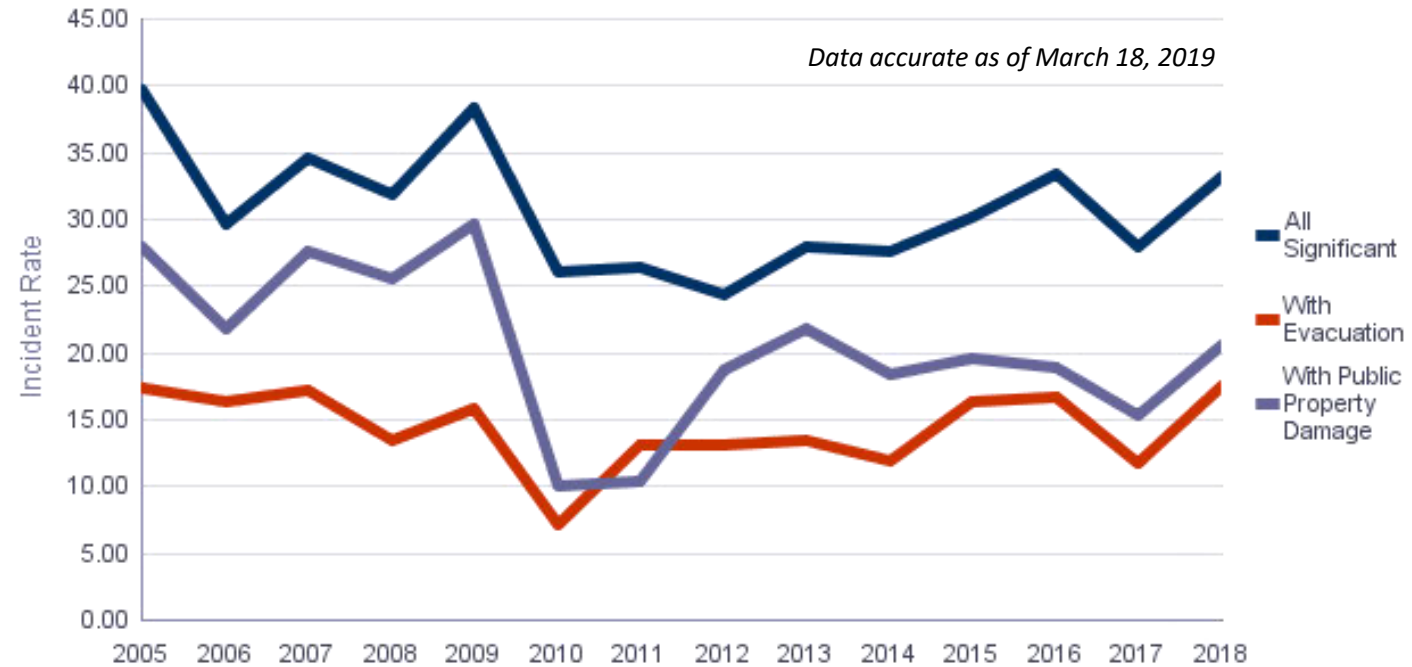
The rate has fluctuated since 2005, with an overall increase of 13%.



Gas Distribution Significant Incidents per Million Miles

2005-2018

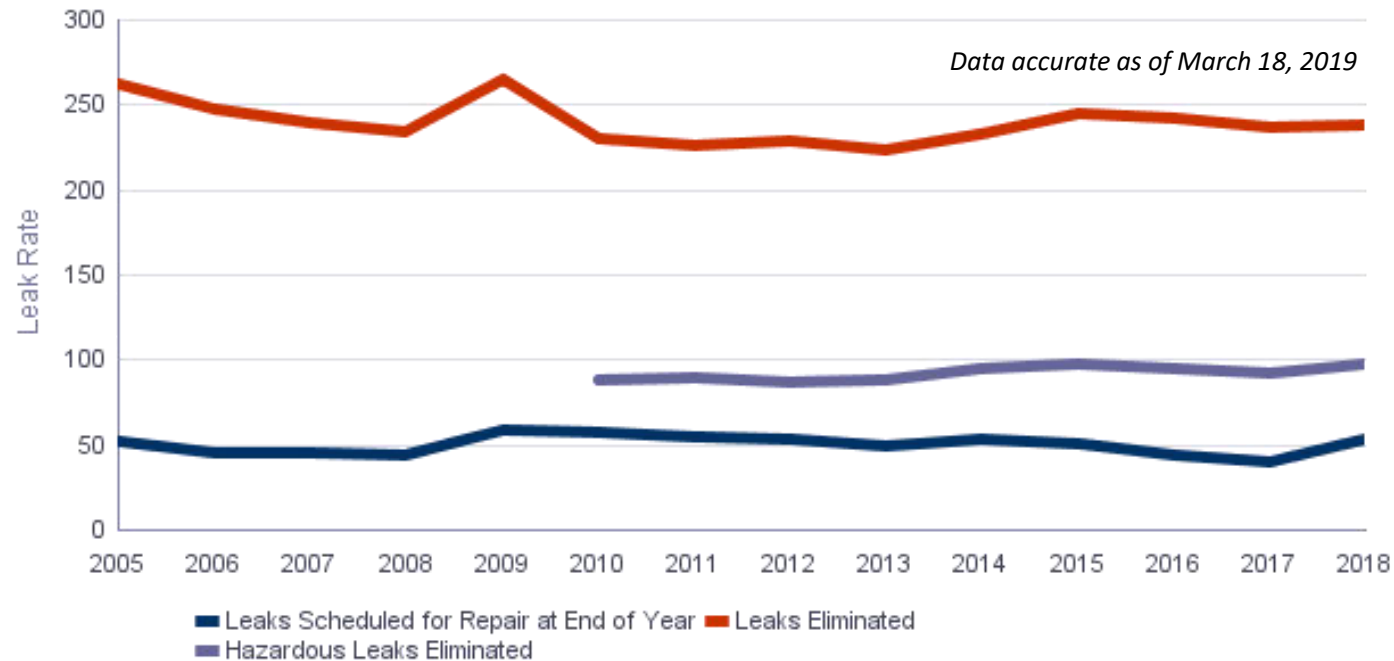
- All Significant rate has fluctuated since 2005, decreasing by 16%.
- With Evacuation increased by 1%.
- With Public Property Damage decreased by 26%.



Gas Distribution Leaks per 1,000 Miles

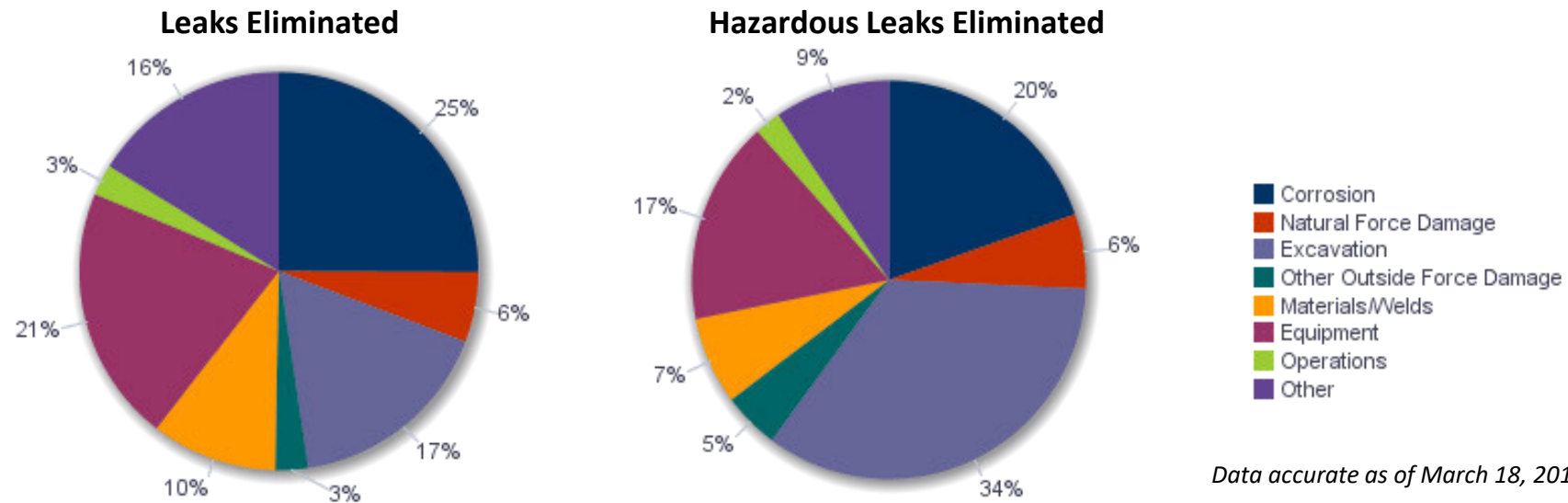
2005-2018

- The rate of hazardous leaks eliminated has increased by 10% since 2010.
 - The effective date for PHMSA's gas distribution integrity management (DIMP) regulations was 2011.
 - PHMSA expects an eventual rate decrease as pipeline operators identify integrity threats and implement measures to reduce risk.
- The rate for all leaks eliminated has decreased by 10% since 2005.
- The rate for leaks scheduled for repair at the end of the year has increased by 2% since 2005.



Gas Distribution Leaks Eliminated by Cause

2005-2018



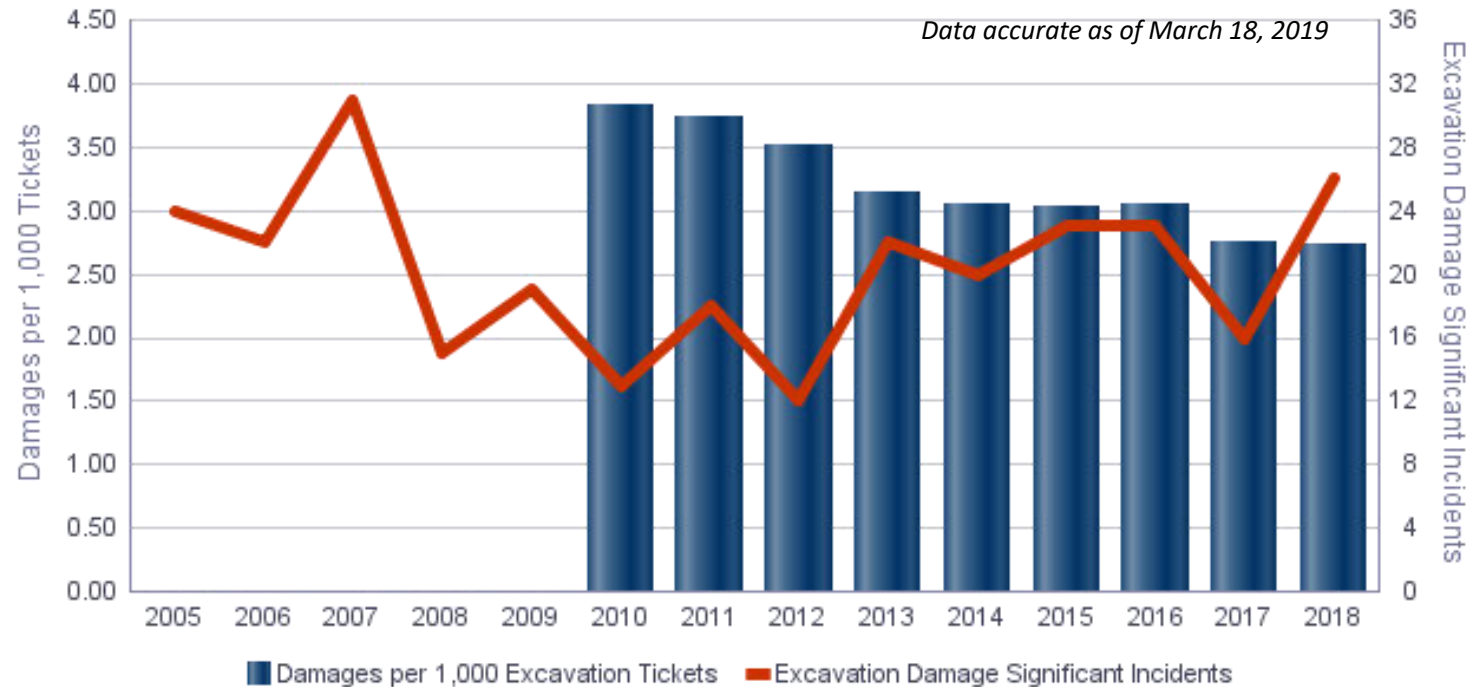
Data accurate as of March 18, 2019

Excavation damage is the leading cause of hazardous leaks and accounts for 34% of hazardous leaks, but only 17% of leaks overall.



Gas Distribution Excavation Damage

2005-2018



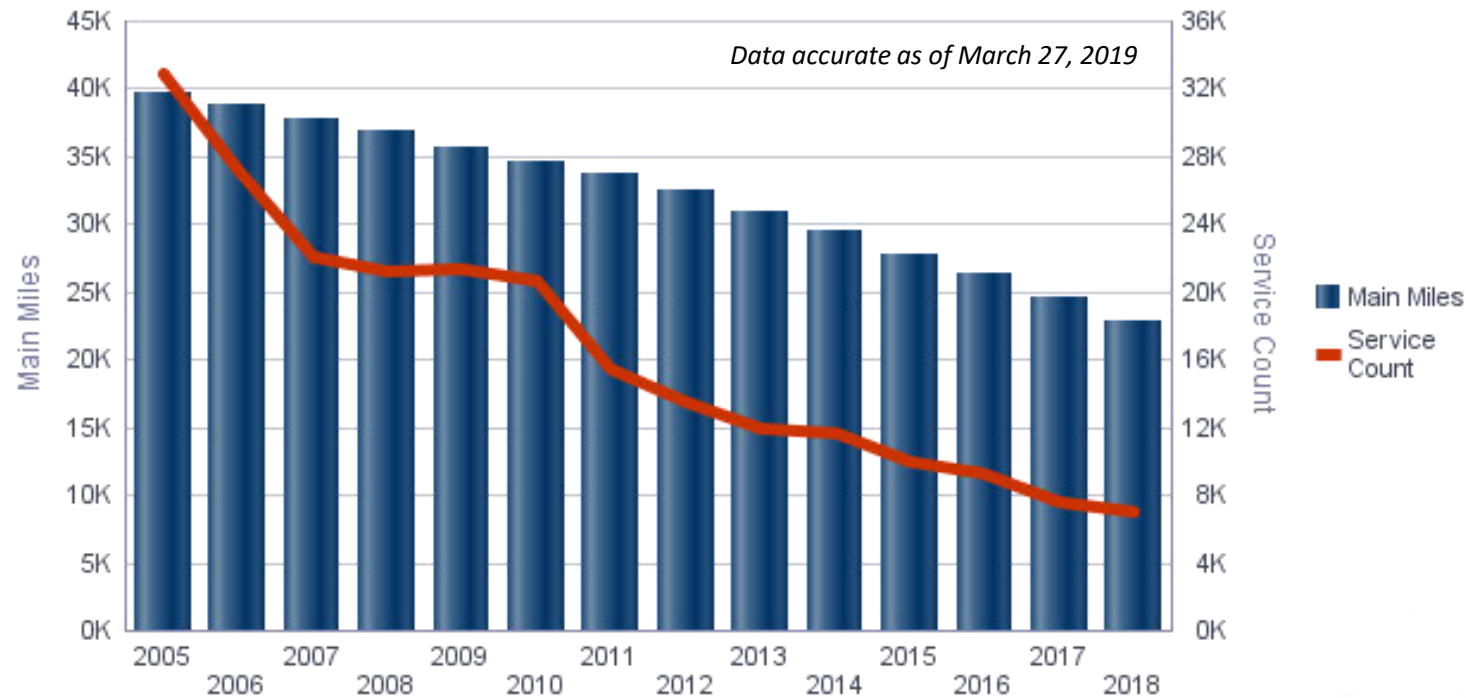
- The number of significant incidents caused by excavation damage has fluctuated since 2005 but increased 8% overall.
- Damages per 1,000 tickets have decreased by 29% since 2010.



Gas Distribution Cast & Wrought Iron

2005-2018

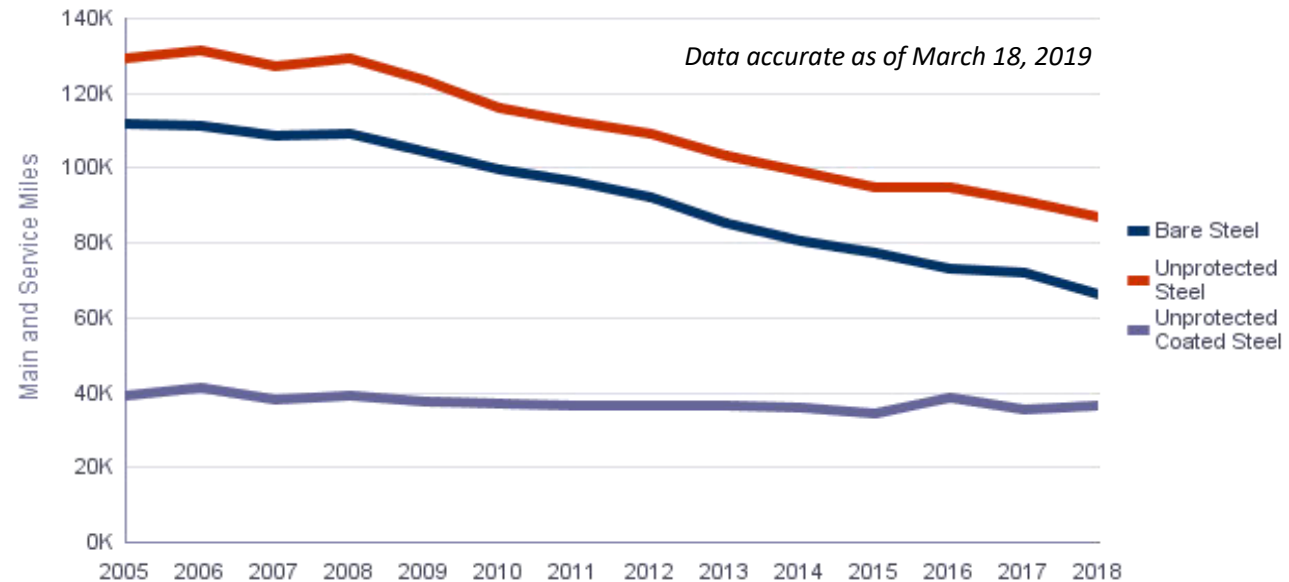
- Cast and wrought iron main miles have decreased by 42% since 2005.
- Cast iron mains make up 1% of all gas distribution main miles.
- Cast and wrought iron service lines have decreased by 79% since 2005.



Gas Distribution Steel Miles Bare and Unprotected

2005-2018

- Miles of bare steel have decreased by 40%.
 - 3% of gas distribution systems are bare steel.
- Miles of unprotected steel have decreased by 33%.
 - 4% of gas distribution systems are unprotected steel.
- Miles of unprotected coated steel have decreased by 7%.
 - 3% of gas distribution systems are unprotected coated steel.



NTSB Releases Final Report on September 2018 Merrimack Valley, MA Accident



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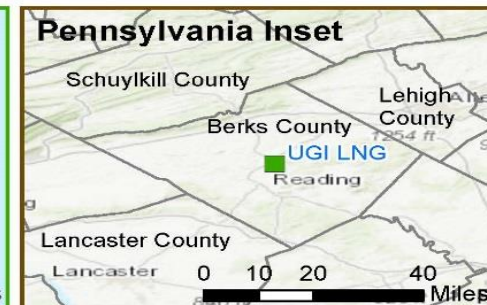
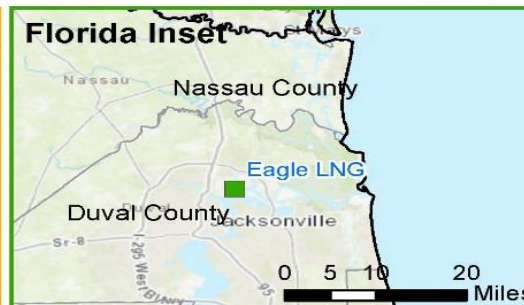
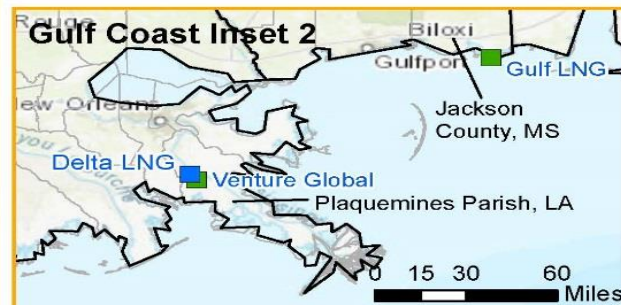
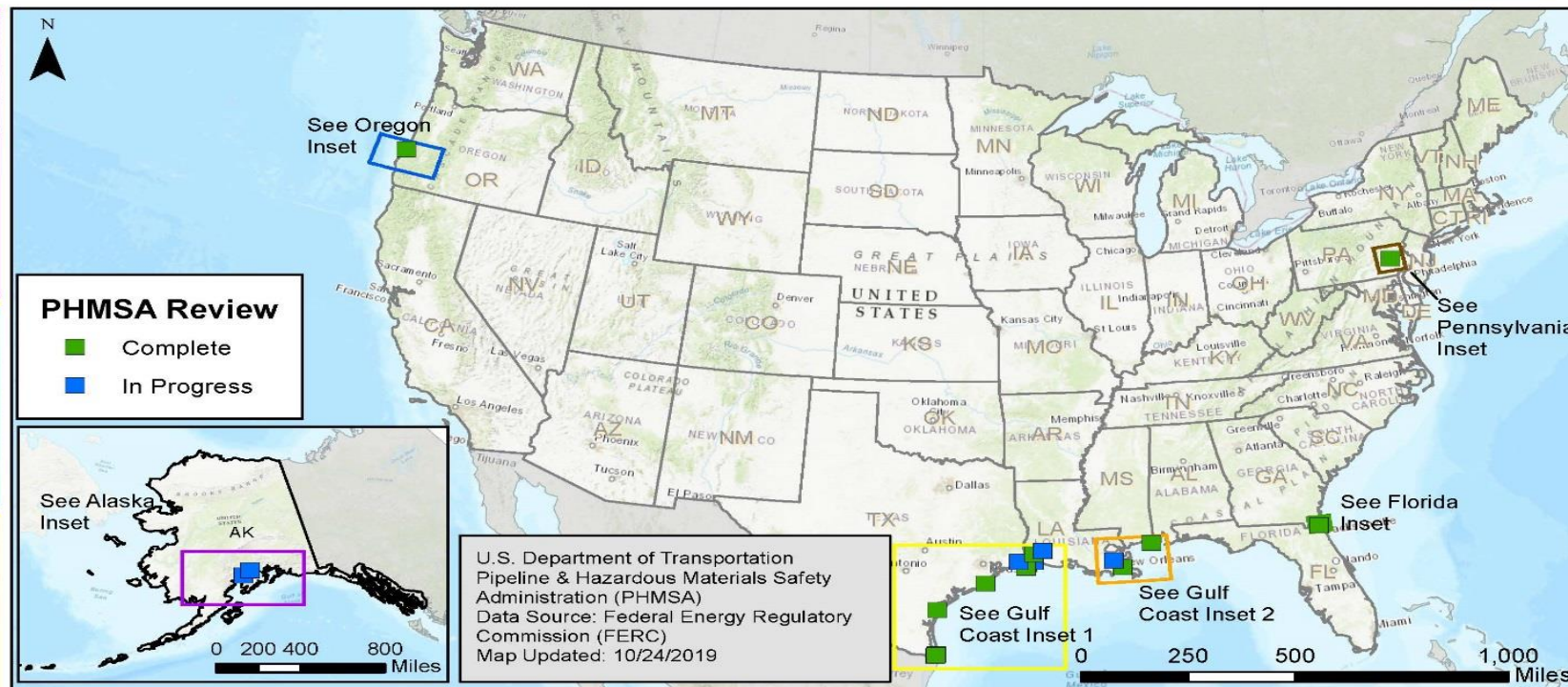
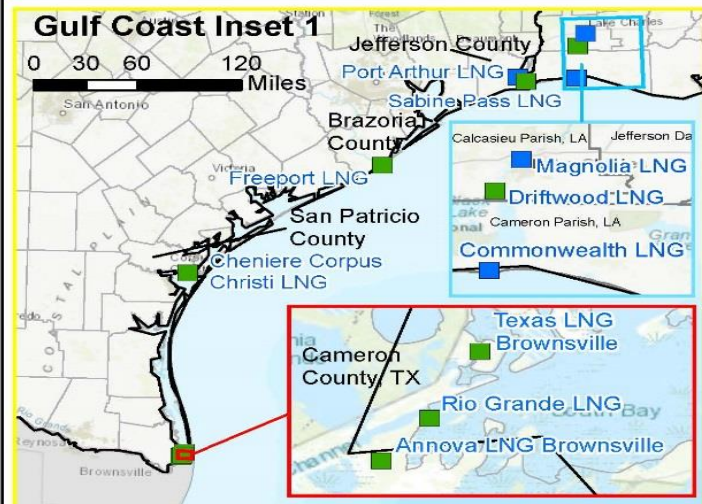
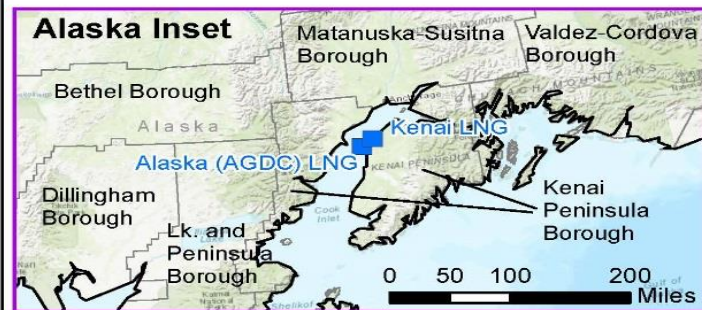
PHMSA's LNG Agenda

- Liquefied Natural Gas NPRM – Part 193 Update.
- LNG-By-Rail NPRM.
- August 31, 2018 FERC-PHMSA MOU Governing Siting Process for Interstate LNG Facilities.
- Executive Order 13868: Promoting Energy Infrastructure and Economic Growth (April 2019).
- PHMSA Issued 13 “Letters of Determination” to FERC regarding compliance with DOT siting and location standards.



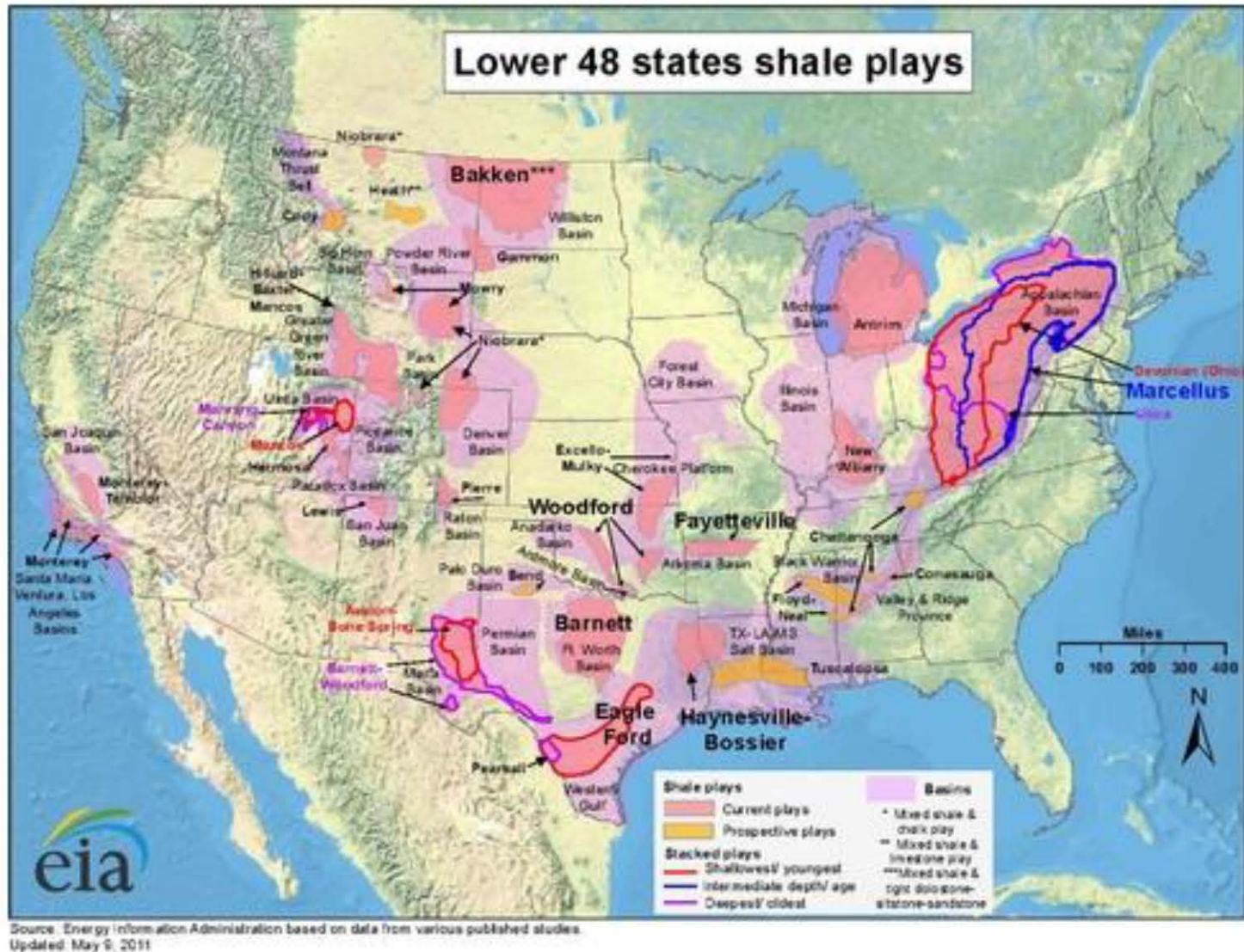


PHMSA Review of FERC Jurisdictional LNG Facilities

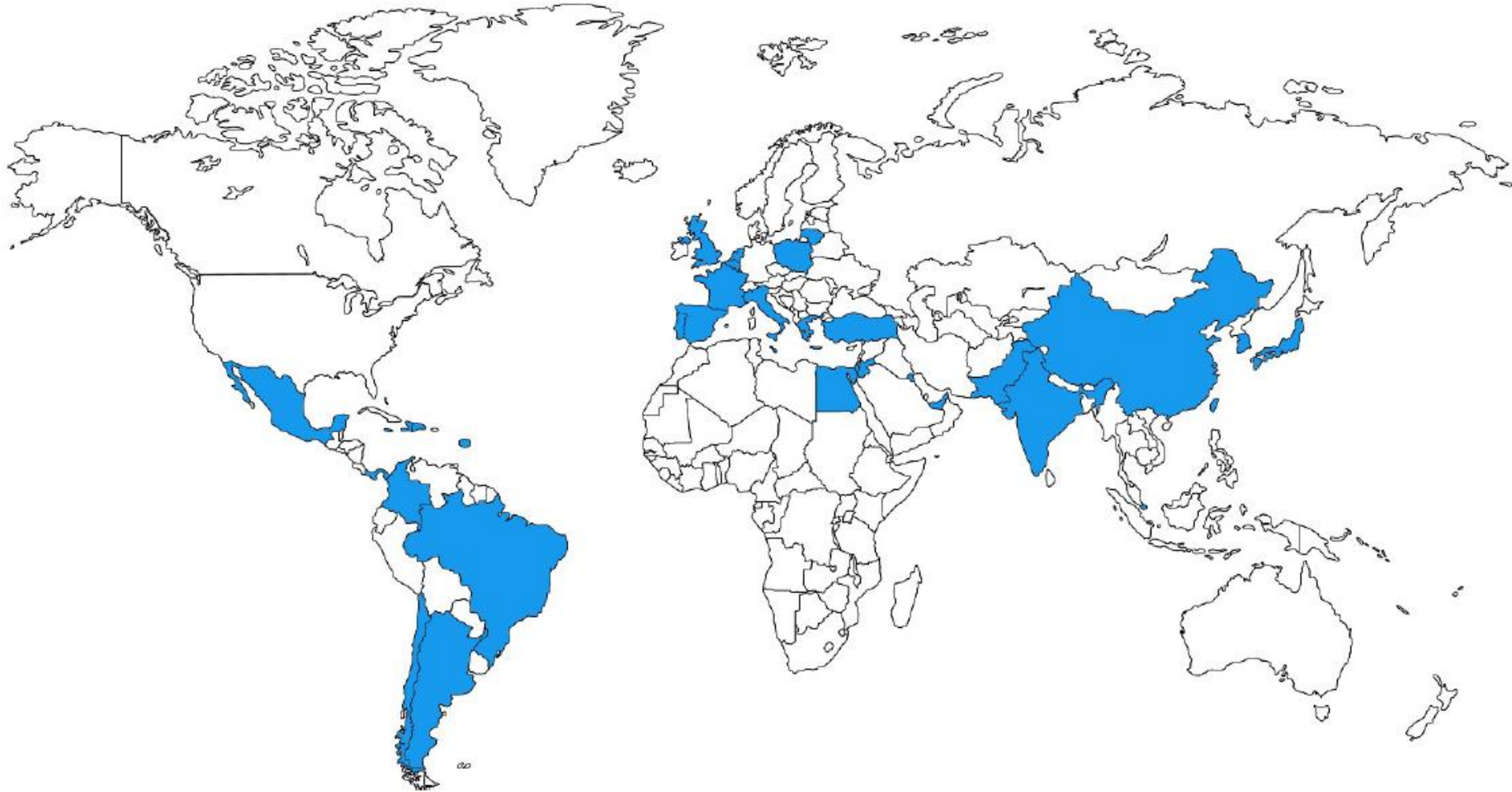


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U.S. LNG Exports to 37 Countries



Reauthorization 2020

Administration Proposal	Congressional Proposals
Appropriations FY 2020-2024	Whistleblower Protection
Overpressure Protection/MOC/OQ for New Construction	Citizen Mandamus
Safety Incentives Program	LNG Center of Excellence
Voluntary Information Sharing	Regulatory Update
Underground Storage Fees	Self-disclosure of Violations
Property Damage Threshold (\$118K)	Community Right-To-Know
LNG Siting Review Fees	Physical and Cyber Security
Pilot Programs	Methane Emissions
Criminal Trespass Standard	
Operating Status: Idle Pipelines	
State Program Requirements	
Pipeline Construction Data Collection	



FOIA Update

- Food Marketing Institute v. Argus Leader Media, 139 S. Ct. 2356 (2019) - the Supreme Court issued this opinion on June 24, 2019 addressing the meaning of the word "confidential" in Exemption 4 of the Freedom of Information Act, which overturned over forty years of precedent.
- No longer apply the "substantial competitive harm" test to determine whether information is "confidential" under Exemption 4.
- Consider both: (1) whether the information is "customarily kept private, or at least closely held," by the submitter; and (2) whether the government provides "some assurance" that the information will not be publicly disclosed.



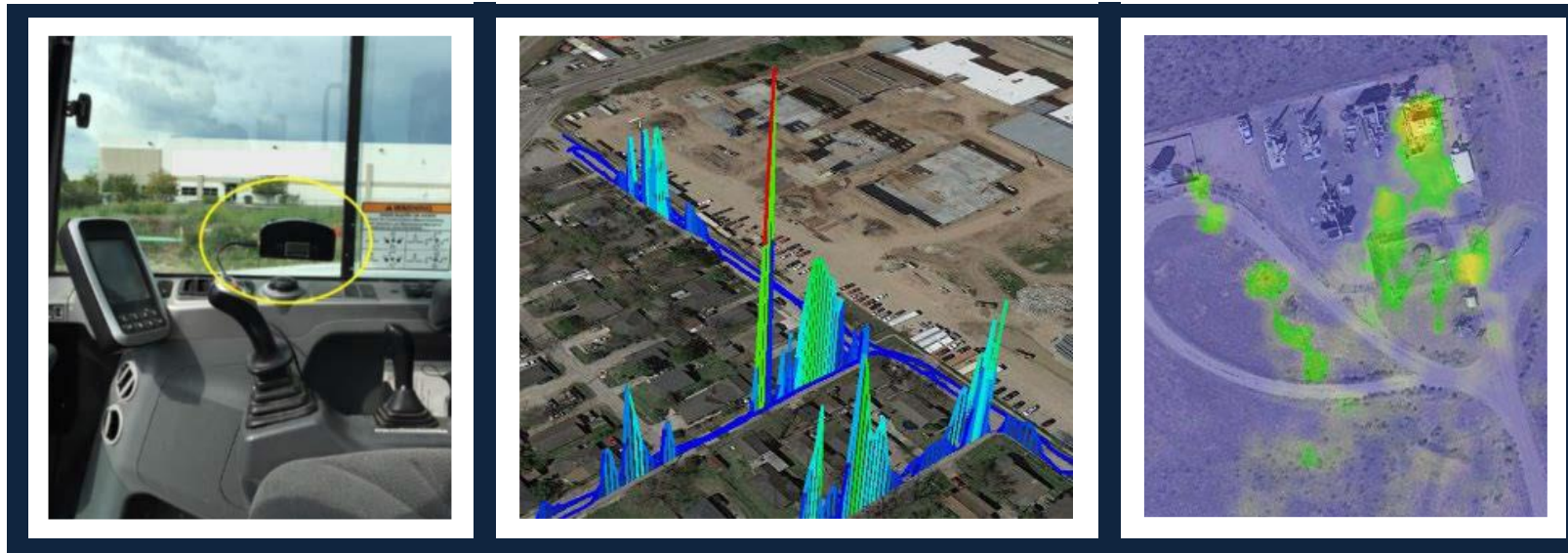
GPAC/LPAC meeting – November 14, 2019

- PHMSA has two Federal Advisory Committees:
 - Technical Pipeline Safety Standards Committee (a/k/a GPAC)
 - Technical Hazardous Liquid Pipeline Safety Committee (a/k/a LPAC)
- Function as peer review committees for all proposed safety standards
 - Technical feasibility
 - Reasonableness
 - Cost Effectiveness
 - Practicality
- “Shall prepare and submit” a Report to the Secretary
- Secretary not bound by Committee Reports
- Meet “at least up to 4 times annually”



PHMSA Awarded \$94 Million in Grants to Promoted Emergency Preparedness, Training & Support, and R&D

- GPS-based Excavation Encroachment Notification
- Natural Gas Pipeline Leak Rate Measurement System
- Rapid Aerial Small Methane Leak Survey



Questions?



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**Pipeline and Hazardous Materials
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**National Association of Pipeline Safety Representatives
2018 Annual Meeting
Santa Fe, New Mexico
October 16, 2018**

Introduction

First, I want to thank you for all your efforts to advance our shared safety mission.

Pathway to Washington DC

I was sworn in by Secretary Elaine Chao as Chief Counsel in March of this year. Many of you know my background and how I ended up in this position. In fact, some of you were pivotal in helping to forge my pathway to Washington DC. And when I arrived there, I found an incredible team of professionals led by people like Alan Mayberry and Linda Daugherty, who I have the utmost respect for.

PHMSA leadership now includes another stalwart from the State ranks – Massoud Tahamtani. PHMSA's Administrator, Howard "Skip" Elliott, is a tremendous leader with deep industry experience, who along with Secretary Chao, are relentless about safety and executing our government responsibilities with the utmost efficiency and accountability. It's what Alan, Massoud and I refer to as "good government."

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Trip Down Memory Lane

After the San Bruno, CA disaster in 2010, and then Allentown, PA explosion in early 2011, the national focus on pipeline safety and aged infrastructure became a centerpiece of federal and state policy. Those two incidents took the lives of 13 innocent victims.

The Transportation Secretary at the time, Ray LaHood, issued a “Call to Action” to industry and States to modernize the nation’s pipeline infrastructure, and in particular, high risk systems like bare steel and cast iron, which were far too old to breed the public’s continued confidence that industry and regulators were doing enough to safeguard the public. At that point, our 2.6 million-mile pipeline system had about 51,000 miles of bare steel and 36,000 miles of cast iron, along with much more in the way of service lines.

At the NAPSAR Annual Meeting in Springfield, Illinois four years ago, I spoke in my capacity as Chairman of NARUC’s Subcommittee on Pipeline Safety, and remarked about my visit to the Lincoln library, where I was able to add

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context to the age of some of these systems. It was there I learned that the oldest components of the system I regulated in Rhode Island were put in the ground when Abraham Lincoln was still the proverbial “country lawyer” – 1848.

My visit to Springfield wasn’t long after the East Harlem, explosion in New York, which leveled two buildings and killed 8 people. It was March 12, 2014, and I happened to be here in Santa Fe when it was revealed that Con Ed’s cast-iron system was installed in 1887 – 126 years old.

I reached for a coin that I had purchased earlier that morning at the “open air” market in the parking lot right next door to this resort. I knew there was something about that date that struck me. It turned out that this coin happened to have been minted the same year Con Ed’s system went into the ground – 1887.

However, unlike currency, the value of a 130-year-old system is clearly not the same, especially when you factor in the risk that something could go wrong. And it wasn’t the only antiquated system lying beneath the

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streets of East Harlem – the cast iron water mains were also installed in 1887, and the brick-lined sewers in 1873.

The patchwork of system repairs, replacements, and defective workmanship created a perfect storm of interactive threats that caused a T-service fusion weld to separate from the main, allowing gas to migrate and fill the basement of building before the spark and ensuing explosion destroyed the building.

In January, we had the explosion in Brooklyn, NY that injured five people – it was a cast iron main that cracked after a frost heave. In February of this year, Atmos Energy's wrapped steel mains were leaking in a Dallas neighborhood, and the last of three houses that exploded finally claimed the life of a 12-year-old girl. There were early warning signs there as well.

And then, of course, one month ago, the Merrimac Valley of Massachusetts became ground zero after Columbia Gas failed to reconnect sensing lines, leading to an over pressurization of the system that caused 131 fires, one fatality, and destruction or significant property damage

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to more than 20 structures. Indeed we were lucky – it could have been far, far worse than San Bruno.

And you all know the irony of this latest incident – it happened as a result of a robust replacement program, except that we witnessed a major failure in execution. The fallout from this incident will (and should) affect all of us. Because it, like all of the other ones I just described, had one thing in common – they were all avoidable, plain and simple.

Let be clear about something – I'm not saying that we don't have a safe pipeline system in this country. 99.9% of the products moving through pipelines reach their final destination safely. And we have made great strides in replacing leak prone systems – the combined inventory decreased approximately 30 percent since San Bruno and Allentown brought the necessary awareness about the need for action.

But despite our efforts, we still have 36,000 miles of bare steel pipe and 24,000 miles of cast iron, which collectively will take more than twenty years to

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eliminate. Under that timeframe, the last section of pipeline in my hometown Capital of Providence may be 188 years old when it is finally removed. That gives me great pause and should do the same for everyone – especially the operator.

Understandably, there are real-world logistical and economic consequences that we must contend with, such as contractor availability, operator supervision, impacts to roadways and public works departments, and lastly, rate impacts to consumers. Yet, if we don't have a robust pace, and if economic regulators (i.e. commissioners) don't have the fortitude to raise rates for infrastructure upgrades, the public safety risks will continue to haunt us.

I also recognize that not all States face this problem any longer – 21 States no longer have these vintage pipelines or have taken the necessary steps to replace them, and 41 States have some form of rate mechanism that provides for timely recovery of capital investments.

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For system operators that derive their revenues from regulated rates, there is always a question about need and justification for rate increases. I always say that utilities carry the fundamental obligation to make compelling presentations to regulators about need for capital investment, particularly as it relates to safety.

But I also believe that you all can play an important role in the ratemaking dialogue. You all possess the knowledge and expertise to advise economic regulators about the safety of the system and aid the process of prioritizing investments. I can tell you from experience that in many States, way too much money is spent to prioritize investments in other areas – like expensive renewables, grid modernization, etc.

My message is simple: Investments for safety can never take a back seat in the regulatory process. Regulators need to consult you about the needs of the system, especially as it relates to safety. You are the soldiers on the battlefield conducting inspections and keeping your pulse on the condition of systems, the effectiveness of

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utility supervision over contractor crews, and everything else that troubles you.

Make sure that you report back to the Commissioners or those who are in charge. As someone who has worked in government for more than 25 years, sometimes you have to tell the Emperor about proper attire, if you know what I mean. That reality exists in each your States, and I can tell you it sometimes exists in Washington DC as well.

Commissioners may come and go, but the risks of maintaining a safe and reliable system are constant. So, do your part to educate your leaders so that they fully understand the gravity of what is at stake. And every once and while let them ride shotgun with you out into the field so that they can see it with their own eyes and thereby advance their understanding about the systems they regulate, including what needs to be done going forward.

This is No Longer Your Father's Utility

Now let me talk about the other side of the equation – the industry that we regulate.

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We clearly operate in a different environment than a couple of decades ago when I was cutting my teeth on NOPVs in Rhode Island, where we would escort the utility folks into a room, slap them on the hand, and substitute penalties for effective remedial actions, mostly in the way of increased investment and corrective operational practices.

These are not the same utilities of today – and it's the money side of the equation that is driving this reality, and the risks as well. Let me explain why. Before the elimination of PUHCA, our utilities were local. They were members of the community; the management lived in your neighborhoods; the workers had pensions that would keep them active in the company for the long haul, thus maintaining a strong institutional memory and knowledge about the pipeline system, its configuration, operational practices, and, of course, the risks of the system.

The Board Room, like the corporate headquarters, were local. So were the investors – mostly of whom were people like my father, and local teacher/pension funds.

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It provided a strong accountability regime. After the repeal of PUHCA, which fostered the convergence of many gas and electric utilities across State borders, all of this changed – for the worse.

The local investors were cashed out. The workers were locked out. The managers were ushered to the airplane doors with their golden parachutes, and large holding companies, many of which are foreign, operated the utilities remotely from out of state headquarters. Utility work crews were swapped out for independent contractors who could lower construction costs at the expense of safety. Sound familiar?

Utilities now seem to be focused on earnings and rate cases more than the enterprise risks of the system and public safety. This is what I witnessed in my 25 years. In the aftermath of so many incidents, I have to question whether the regulatory construct has kept pace with the changes.

I think the day has likely arrived where business as usual will not suffice. The airline industry is not flying 100

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year-old airplanes, and we really should never have been placed in the present predicament of having to endure excessively aged infrastructure. Pipelines that were fully depreciated a century ago shouldn't be in service today. Construction execution failures like the one we witnessed in Massachusetts are not only avoidable, they're simply, and absolutely, unacceptable. And I'll go one step further and question how we could have contractors not asking questions about pressure sensing lines and controls. How could they not understand the basics of gas operations and proper procedures?

One theme I think you'll hear from my colleagues at PHMSA, is that if you're not already doing it, we need to step up on our inspections and enforcement for newly constructed facilities. We need to step up our inspections and enforcement regarding compliance with integrity management protocols. Our performance-based regulatory regime provided the industry substantial discretion to evaluate system risks, prioritize investments, and balance decisions against efficiency and safety. But as I said last week at the New England

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Pipeline Representatives' meeting in New Hampshire, with broad discretion comes great responsibility.

I think the days when incidents in the pipeline space were mere civil enforcement proceedings might be coming to an end as well, particularly after the recent criminal convictions for Plains All America after the 2015 Refugio pipeline rupture that released crude oil into the Pacific waters off Santa Barbara, CA.

Another point: While excavation damage accounts for 30% of incidents, our analysis of enforcement data on the transmission sector showed that more than half of those incidents were due to mismarks by pipeline operators, something that is beyond the capability of 811 public awareness campaigns.

The bottom line is this: You all need to have a constant eye on what's happening out in the field. From general operations to new construction. If you need more resources, your principal responsibility is to go back to your commissioners and document the need clearly.

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We strive to provide 80% funding, and we are working hard to meet that commitment. But first comes first – you have to bring those inspectors on board, and your commissioners need to fully support this. Remember, Congress left your authority untouched. The federal government respected State occupation of the field concerning regulation of intrastate pipeline facilities. The States possess the authority and responsibility to inspect and enforce – with one proviso: they must annually certify to DOT that they will enforce the minimum standards in Part 193. And remember, your State possesses the authority to go “above and beyond” the minimum standards. We are partners in this effort, and decisions about resources cannot be delayed or held hostage to the expectation of 80% funding from the federal government. That undercuts the effectiveness of our partnership and compromises safety. But like I said before, we at PHMSA will continue to do everything to provide as close to 80 percent funding as possible.

Lastly, if there are any problems or concerns, then please pick up the phone and call us! Because we are partners,

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and we have to meet the challenges together. This is an arranged marriage through a congressional mandate. And like with any marriage, consistent and timely communication is essential.

PHMSA Support - Training & Qualifications Center

We know training is an issue, and we are going to step up our efforts to expedite training of new inspectors in light of the significant turnover we have been experiencing. The nation's pipeline infrastructure is expanding at a dramatic pace. On the transmission front alone, FERC authorized construction of 18,000 miles of pipelines since 2000. This Administration is turning energy abundance into a position of energy dominance, and using export of oil and natural gas to reduce trade deficits and to leverage exports to tip the geopolitical balance away from Russia pipeline exports to eastern Europe, and Venezuelan oil in Latin America and the Caribbean.

This means oil and gas production is rising and will continue to rise. That will place higher demands on regulators to oversee the industry in the way of safety

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inspections. At the same time, the demands for qualified personnel is at an all-time high, and this means we have to train more and more inspectors, but at a more rapid pace. Alan will discuss in more detail.

Safety Management Systems

While I wish that culture of the industry was already mature enough to do what safety management systems are designed to accomplish, it is clear that SMS is desperately needed if we are ever to achieve Administrator Elliott's vision of zero incidents. But we don't believe SMS should be embodied in a regulation. How can you mandate culture? How do you force people to wake up at 2 am because they are worried about something?

It's our belief that operators should be voluntarily pursuing SMS as a formal business approach to managing safety risk, since it embodies a systematic approach to advancing safety throughout the organization, from management commitment; organizational structures,

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accountabilities, policies, and procedures; and a platform to share lessons learned.

Our experience has taught us that a pipeline operator is only as good as its weakest link (like a contractor or utility field supervisor who doesn't ask or think about the location of a pressure sensor line), or the least-informed division, whether that is a part of the operator or a contractor.

This is where SMS can have the greatest impact, reaching all levels of an organization – including its contractors – and helping to ensure a safety culture is pervasive and all-encompassing. SMS can help operators incorporate a focus on safety into every aspect of pipeline management.

Conclusion

In closing, I want to tell you how much it means for me to be here today speaking to you. I made it to Washington DC because of all of you. You supported my efforts as a Commissioner to advance pipeline safety, and that ultimately led me to Washington DC where I am grateful

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to serve my nation. I believe we have an unprecedented opportunity to make a difference for the better. Our partnership has never been stronger. So let's continue to work hard together to think about how we can avoid tomorrow's incidents, and do everything possible to make sure that we have no more victims on our watch. You are the such important players, since you stand as the interface between industry and economic regulators. So please continue doing everything that you can to advance safety and protect the public interest.

Thank you.

###

National Association of State Utility Consumer Advocates Committee on Gas 2019 Annual Meeting

San Antonio, TX
November 18, 2019



Paul Roberti
Chief Counsel

U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration



U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

To Protect People and the Environment From the Risks of
Hazardous Materials Transportation



PHMSA's Mission

“To protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives”

Four Pillars Undergirding PHMSA's Mission:

- Safety – Prevent incidents by establishing national policy, setting and enforcing standards, educating, and conducting research.
- Infrastructure – Support policies that promote continuous investment in legacy systems
- Innovation – Promote research and development to enable new technologies and innovation
- Accountability – Hold regulated industries accountable for meeting safety standards, and be held accountable as an effective regulator



PHMSA Regulated Pipeline Facilities

OPS and States

Pipeline Facilities by System Type				
System Type		Miles	Percent of Miles	Number of Operators
Hazardous Liquid	CY 2017	215,817 8,118 Tanks	8%	531
Gas Transmission	CY 2018	301,147	11%	1,045
Gas Gathering	CY 2018	17,556	1%	344
Gas Distribution	CY 2018	2,234,258	80%	1,283
Total Miles: 2,769,048				
Liquefied Natural Gas		157 Plants, 228 Tanks, 86 Operators		
CY 2018		Plants: 27 Interstate and 130 Intrastate		
Underground Natural Gas Storage		397 Facilities, 451 Reservoirs		
CY 2018		17,281 Wells, 124 Operators		
		Facilities: 221 Interstate and 176 Intrastate		

Data accurate as of March 27, 2019



PHMSA Transmits Three New Rules to Federal Register in a Single Day



U.S. Department of Transportation
**Pipeline and Hazardous Materials
Safety Administration**

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Published Rulemakings

- **Safety of Gas Transmission Pipelines**
 - Fulfills statutory mandates and NTSB requirements by expanding IM assessments, requiring MAOP reconfirmation, and requiring use of PRDs prior to insertion/removal of ILI tools.
 - Effects 300,000 miles of transmission lines.
- **Safety of Hazardous Liquid Pipelines**
 - Expanded integrity management requirements.
 - Directs operators to periodically evaluate the condition of all HL pipelines, regardless of their location, and set repair timelines.
 - Extends leak detection requirement to all HL pipelines.
 - Fulfills multiple safety recommendations and Congressional mandates.
 - Effects 215,000 miles of HL lines.
- **Enhanced Emergency Order (EO) Procedures**
 - Revises EO procedures by adding protections for petitioners that seek to modify or terminate an EO.



Safety of Gas Transmission Pipelines Final Rule

- Requires reconfirmation of the maximum allowable operating pressure (MAOP) for certain pipelines with (1) inadequate MAOP records and (2) grandfathered pipelines that have not had a pressure test;
- Introduces “moderate consequence areas” (MCA) for populated areas not currently subject to integrity assessments where an incident could pose risk to human life and property;
- Collect or create records of the material properties of the pipeline if they must reconfirm the pipeline’s MAOP;
- Use devices that safely relieve pressure prior to the insertion or removal of in-line inspection (ILI) tools to help ensure the safety of personnel performing in-line inspections;
- Consider seismicity as a factor in threat assessments and incorporate into P&M measures;
- Report to PHMSA MAOP exceedances on or before the 5th day following the date on which the exceedance occurs;
- Use industry consensus standards for in-line inspections that provide rigorous processes for qualifying the equipment, people, processes, and software used in such inspections.



Safety of Hazardous Liquid Pipelines Final Rule

- Extension of reporting requirements to previously-unregulated gravity lines and gathering lines.
- Expansion of leak-detection requirements.
- Inspection of pipelines after extreme weather events or natural disasters.
- Expands integrity management (IM) requirements to onshore segments not currently covered.
- Expanded use of inline inspection tools for HCA and non-HCA segments.
- Requires leak detection systems for all hazardous liquid pipelines, including those outside of HCAs.
- Updates data integration requirements for identifying HCAs and seismicity risks.
- More timely provision of safety data sheets to first responders (within 6 hours of reported spill).
- Expanded accident reporting requirements for pipelines and unregulated gathering lines.
- Annual in-line inspection assessments and other surveys of certain onshore underwater pipelines.



Enhanced Emergency Order Procedures Final Rule

- Amends an earlier IFR, clarifies the duration and scope of emergency orders and revises the administrative or judicial timeline for these orders.
- Specifies that PHMSA will publish emergency orders on both PHMSA's website and with the Federal Register.
- Extends the deadline for filing a petition for reconsideration and explains that an emergency order may be removed when the relevant imminent hazard no longer exists.
- Specifies that PHMSA may consolidate petitions for reconsideration, provided such consolidation occurs prior to the commencement of a formal hearing.



Pipeline Regulatory Update

Rule (RIN)	Description	Rulemaking Status	Current Target
2137-AE66	Safety of Hazardous Liquid Pipelines (Final rule)	Published	N/A
2137-AE72	Safety of Gas Transmission (Final rule)	Published	N/A
2137-AF26	Enhanced Emergency Order Procedures (Final Rule)	Published	N/A
2137-AF06	Rupture Detection and Valves (NPRM)	In Progress	Fall 2019
2137-AF22	Underground Natural Gas Storage Facilities (Final Rule)	In Progress	Fall 2019
2137-AF29	Class Location Requirements (NPRM)	In Progress	Fall 2019
2137-AF38	Safety of Gas Gathering Pipelines (Final rule)	In Progress	Spring 2020
2137-AF39	Safety of Gas Pipelines: IM Improvements (Final rule)	In Progress	Winter 2019
2137-AF36	Gas Pipeline Regulatory Reform (NPRM)	In Progress	Fall 2019
2137-AF37	Liquid Pipeline Regulatory Reform (NPRM)	In Progress	Fall 2019
2137-AF45	Amendments to LNG Facilities (NPRM)	In Progress	Fall 2019
2137-AF44	Repair Criteria for Hazardous Liquid Pipelines (NPRM)	In Progress	Spring 2020
2137-AF31	Coastal Ecological USAs (ANPRM)	In Progress	Spring 2020
2137-AF13	Periodic Standards Update (NPRM)	In Progress	Spring 2020
2137-AF48	Periodic Standards Update II (NPRM)	TBD	TBD



DOT General Counsel's Enforcement Memorandum

- On February 15, 2019, DOT issued Memorandum on Procedural Requirements for DOT Enforcement Actions
- Two companion DOT Memoranda recently issued – Address Rulemaking Procedures and Use of Guidance
- October 9, 2019 Executive Order on “Promoting the Rule of Law Through Transparency and Fairness in Civil Administrative Enforcement and Adjudication”



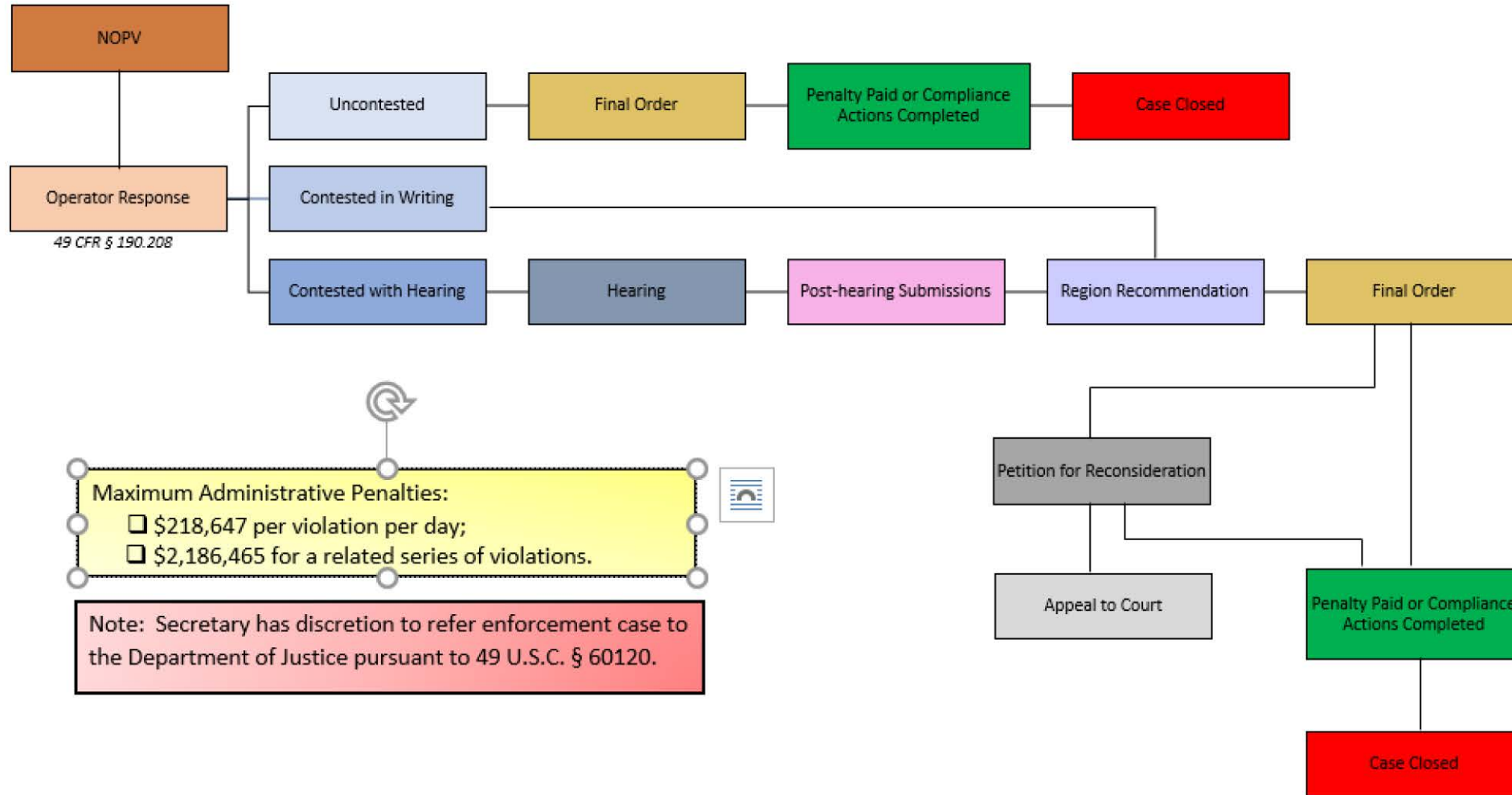
Procedural Requirements for DOT Enforcement Actions

- Ensure due process throughout enforcement process
- Prompt disclosure compliance issues
- No broad or unduly expansive interpretations of regulations
- Legally sufficient basis for an enforcement action
- Mandatory disclosure of materially exculpatory evidence
- Objective and transparent methodology for penalty considerations
- Timely disclosure of penalty calculation worksheets
- Limitation on use of guidance documents
- Other Objectives: Ex parte communications; ADR; Fair notice; Avoiding bias





PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION PIPELINE ENFORCEMENT PROCESS



Improvements in Enforcement Process

- More efficient timelines from completion of inspections to issuance of Final Orders.
- Streamlined process for Uncontested Cases where there is no challenge to the penalty or compliance actions.
- Requests for Extensions to Respond to Notice must include justification of good cause.
- Scheduling Order at the conclusion of hearings to set dates for Post Hearing Briefs and Region Recommendations.



Our National Presence





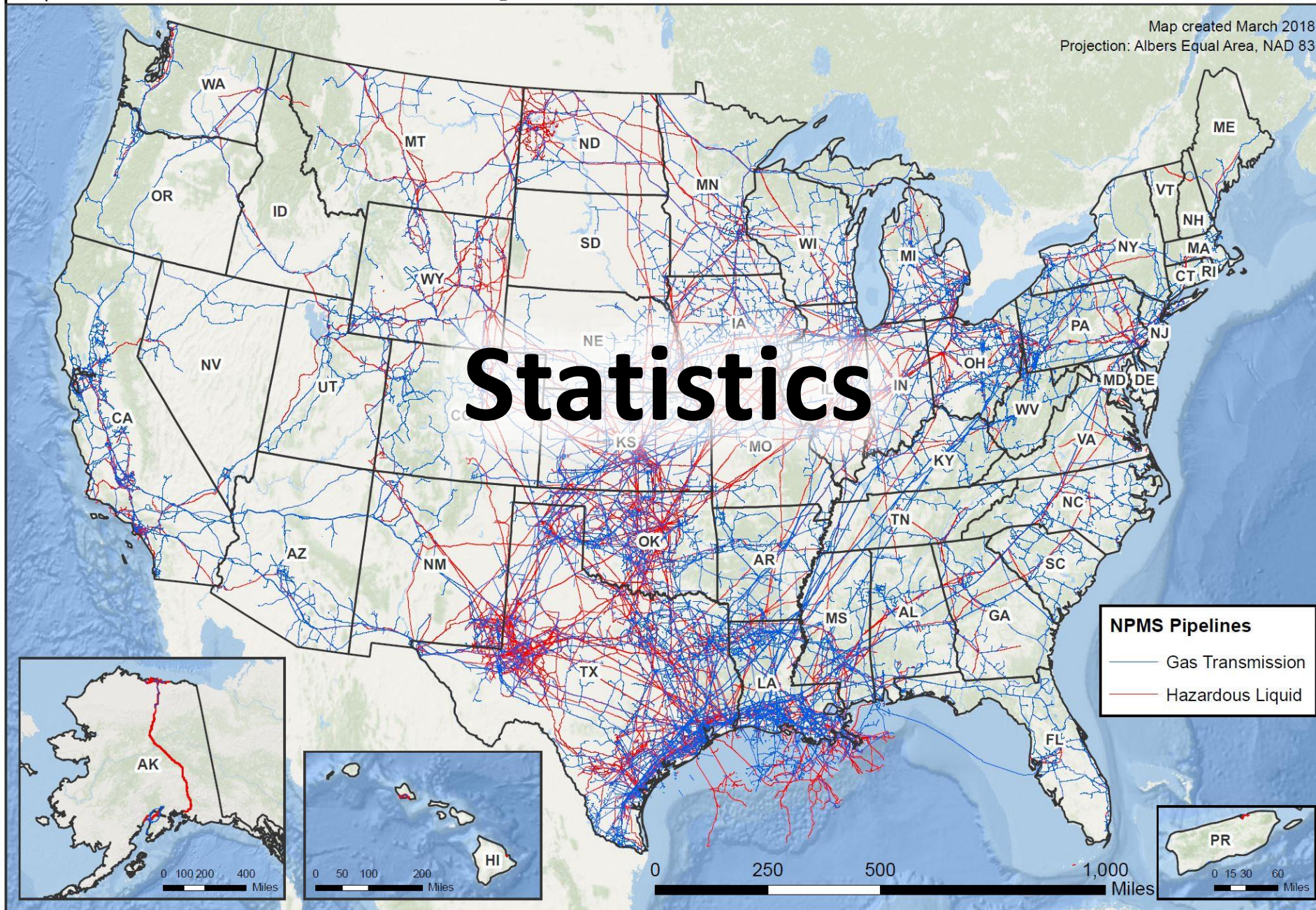
U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

Gas Transmission and Hazardous Liquid Pipelines

Pipeline data as of 02/22/2018



Map created March 2018
Projection: Albers Equal Area, NAD 83

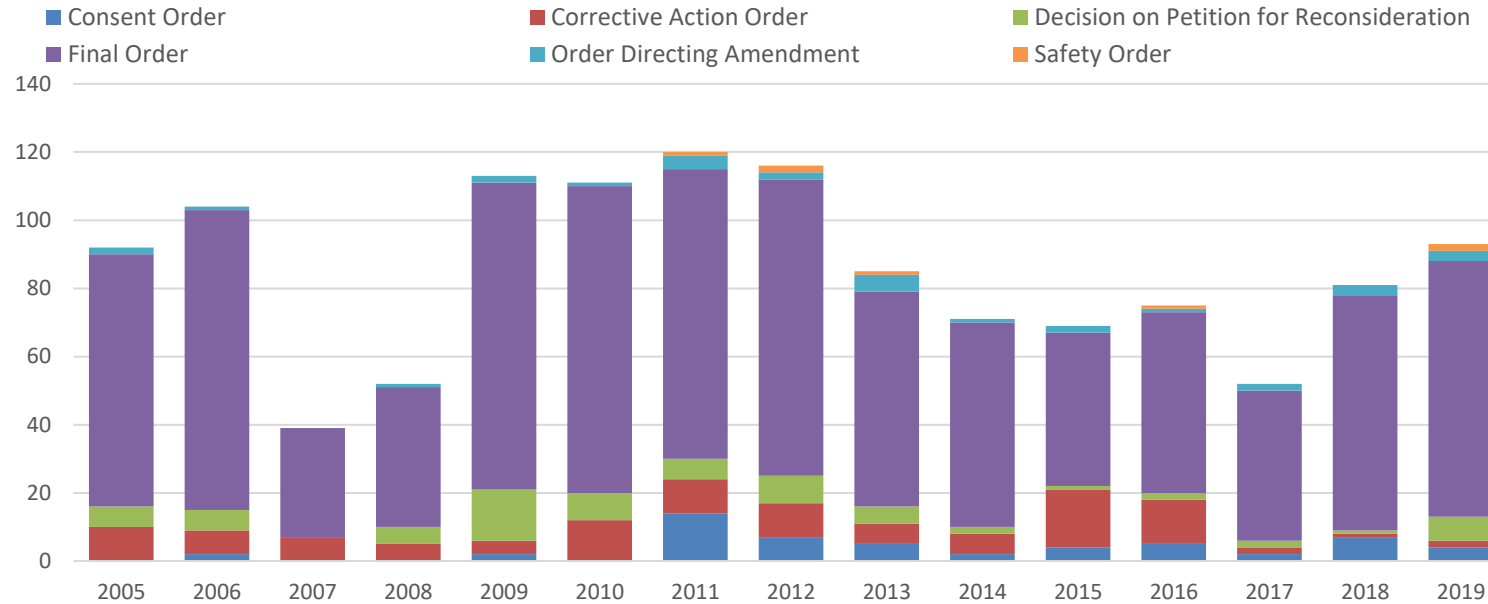


U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration



Enforcement Statistics

Orders Issued by Order Year



	Number of Order Issued														
Order Type	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Consent Order		2			2		14	7	5	2	4	5	2	7	4
Corrective Action Order	10	7	7	5	4	12	10	10	6	6	17	13	2	1	2
Decision on Petition for Reconsideration	6	6		5	15	8	6	8	5	2	1	2	2	1	7
Final Order	74	88	32	41	90	90	85	87	63	60	45	53	44	69	75
Order Directing Amendment	2	1		1	2	1	4	2	5	1	2	1	2	3	3
Safety Order							1	2	1			1			2
Grand Total	92	104	39	52	113	111	120	116	85	71	69	75	52	81	93



Serious Incidents

Increased by 67% from 2017 to 2018!



CY 2018

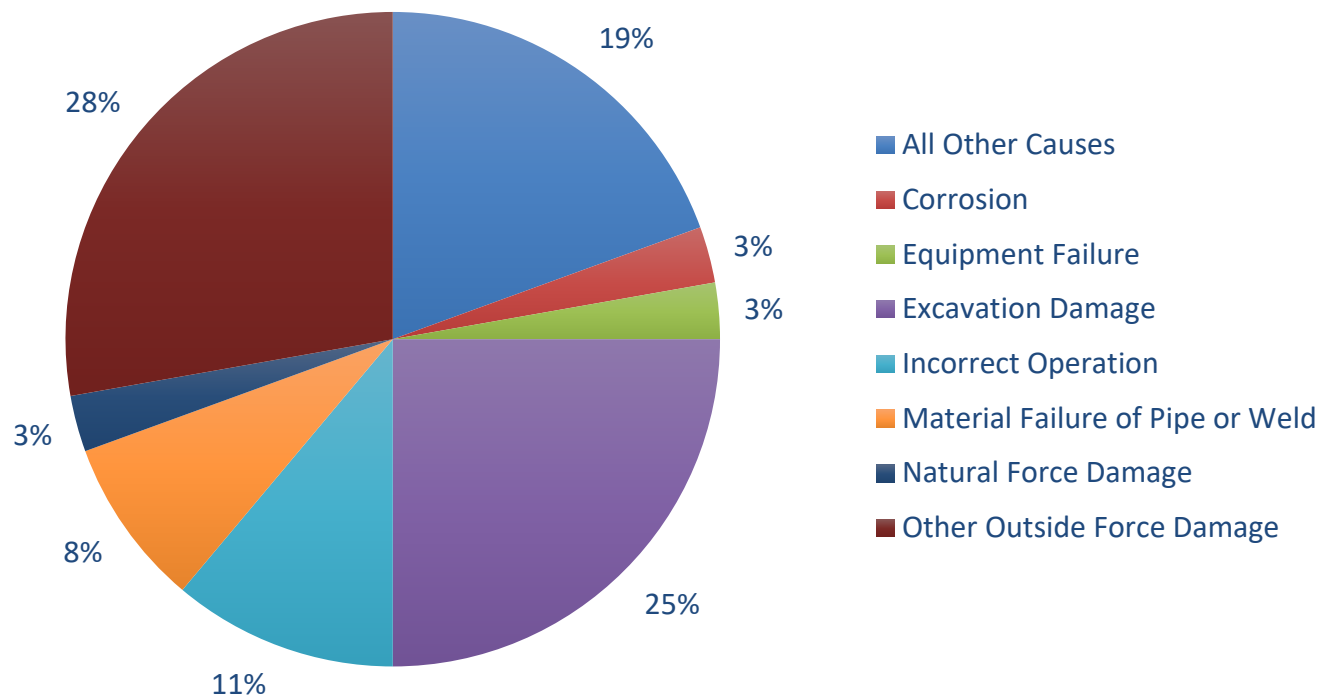
90%	Gas Distribution	2.5%	Hazardous Liquid
7.5%	Gas Transmission	0%	Liquefied Natural Gas (LNG), Gas Gathering, or Underground Natural Gas Storage



Serious Gas Distribution Incidents

CY 2018 Leading Causes

- Other outside force damage (vehicular damage)
- Excavation damage
- All other causes (under investigation)



Data accurate as of March 1, 2019



Gas Distribution Serious Incidents

Gas distribution incidents increased 44% from 2017 to 2018



As of February 14, 2019



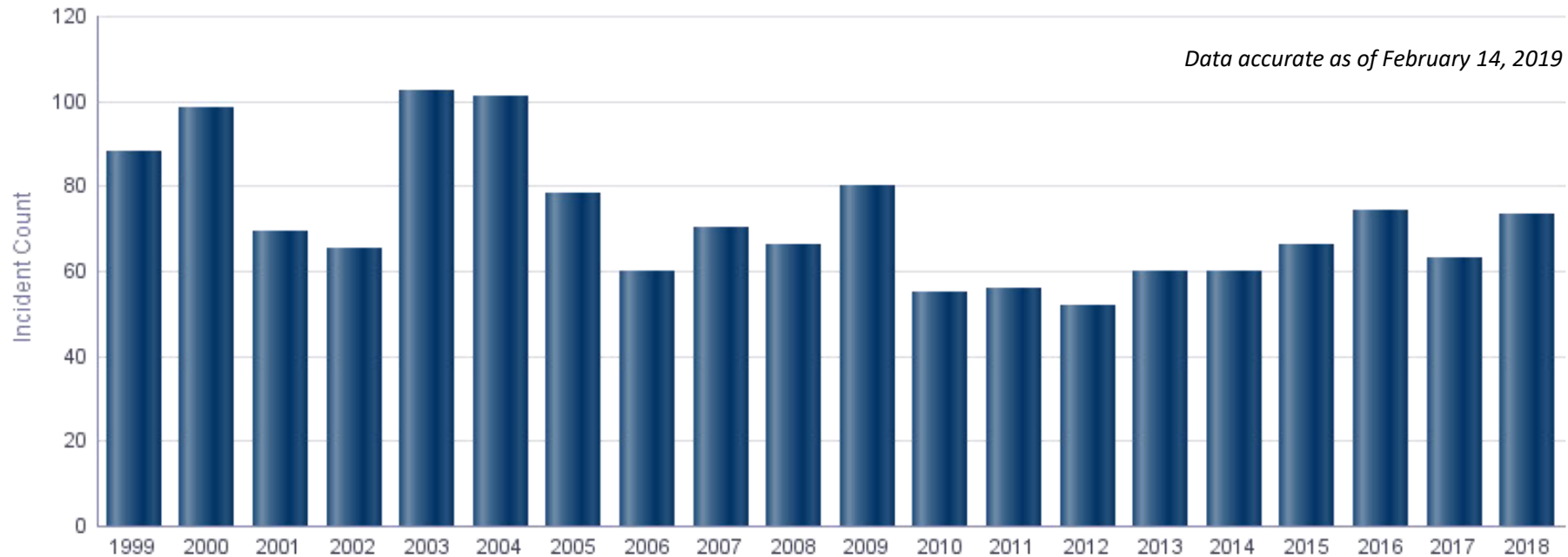
U.S. Department of Transportation
**Pipeline and Hazardous Materials
Safety Administration**

"To protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives."



Gas Distribution Significant Incidents

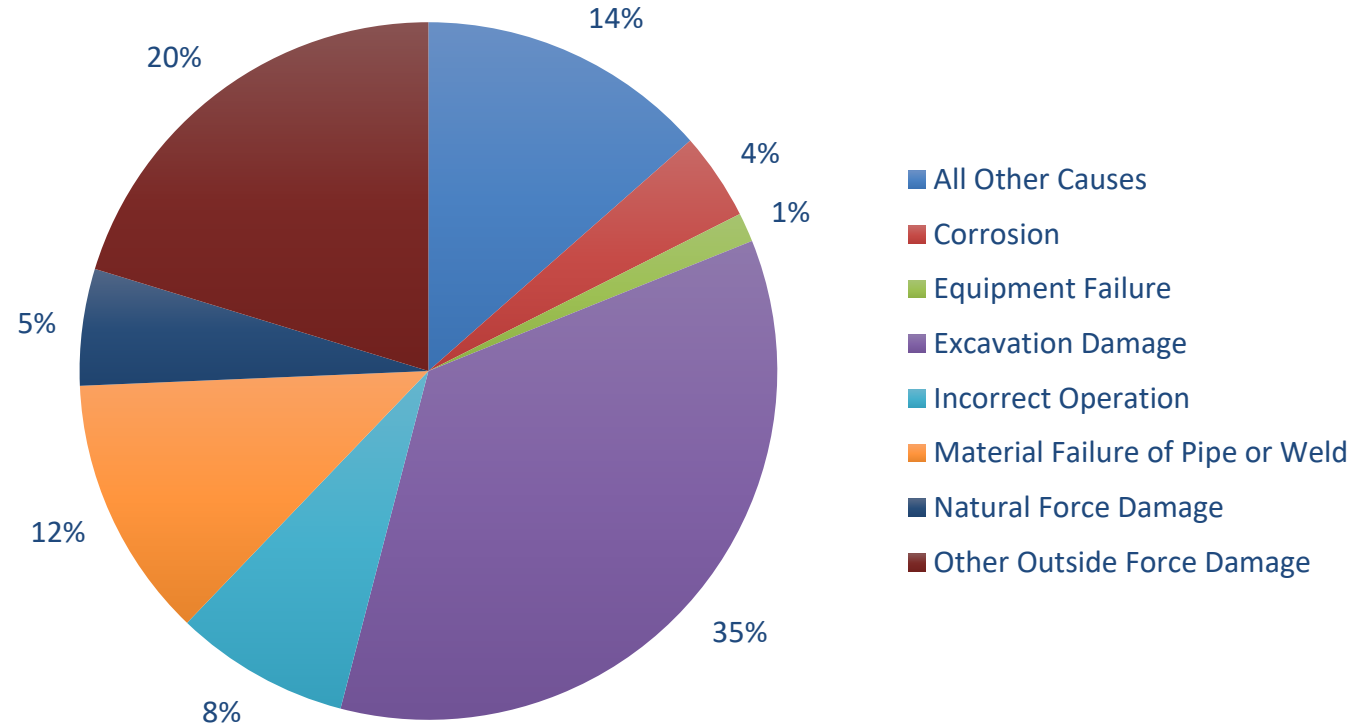
Increased by 16% from 2017 to 2018!



Significant Gas Distribution Incidents

CY 2018 Leading Causes

- Excavation damage
- Other outside force damage (vehicular damage and other)
- All other causes (under investigation)



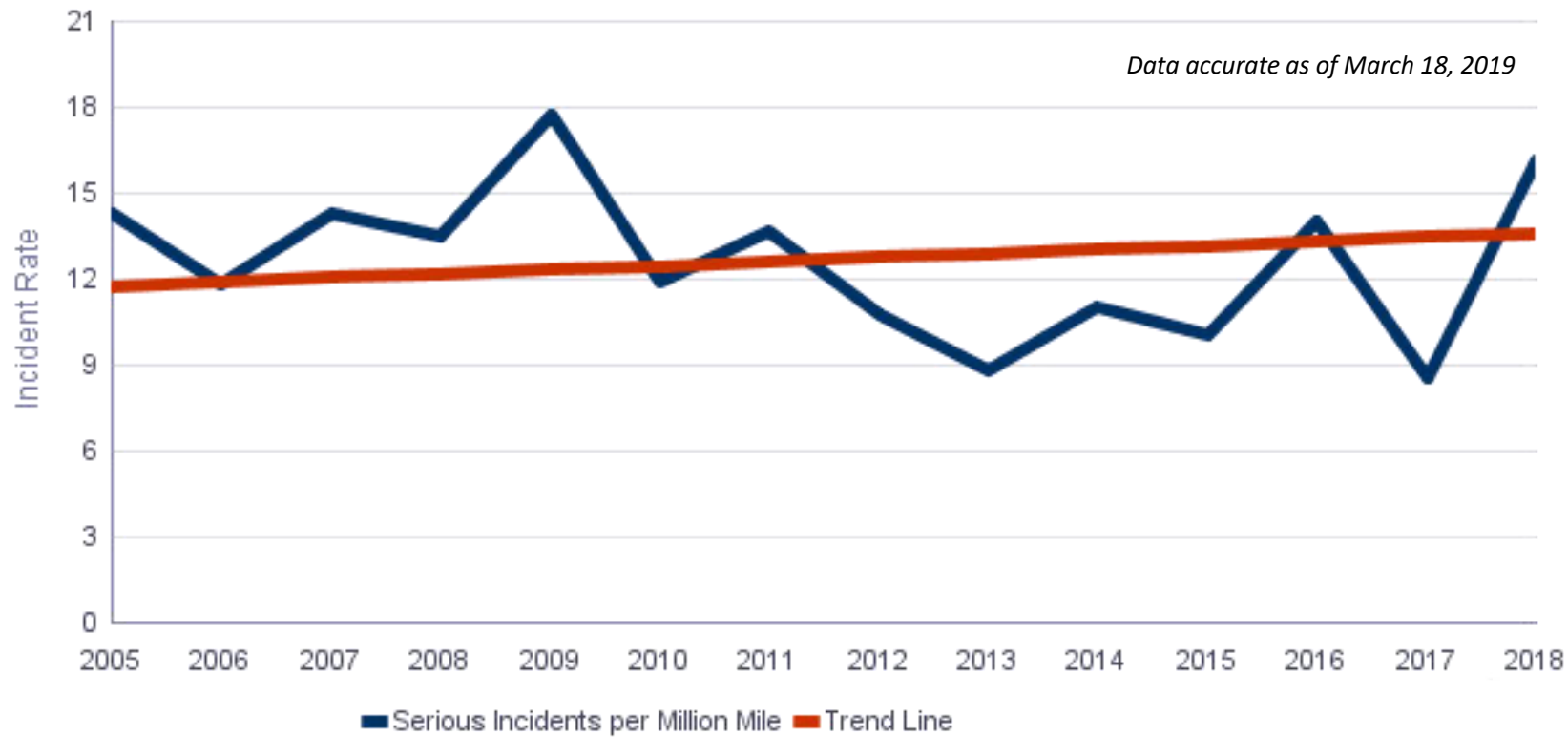
Data accurate as of March 1, 2019



Gas Distribution Serious Incidents per Million Miles

2005-2018

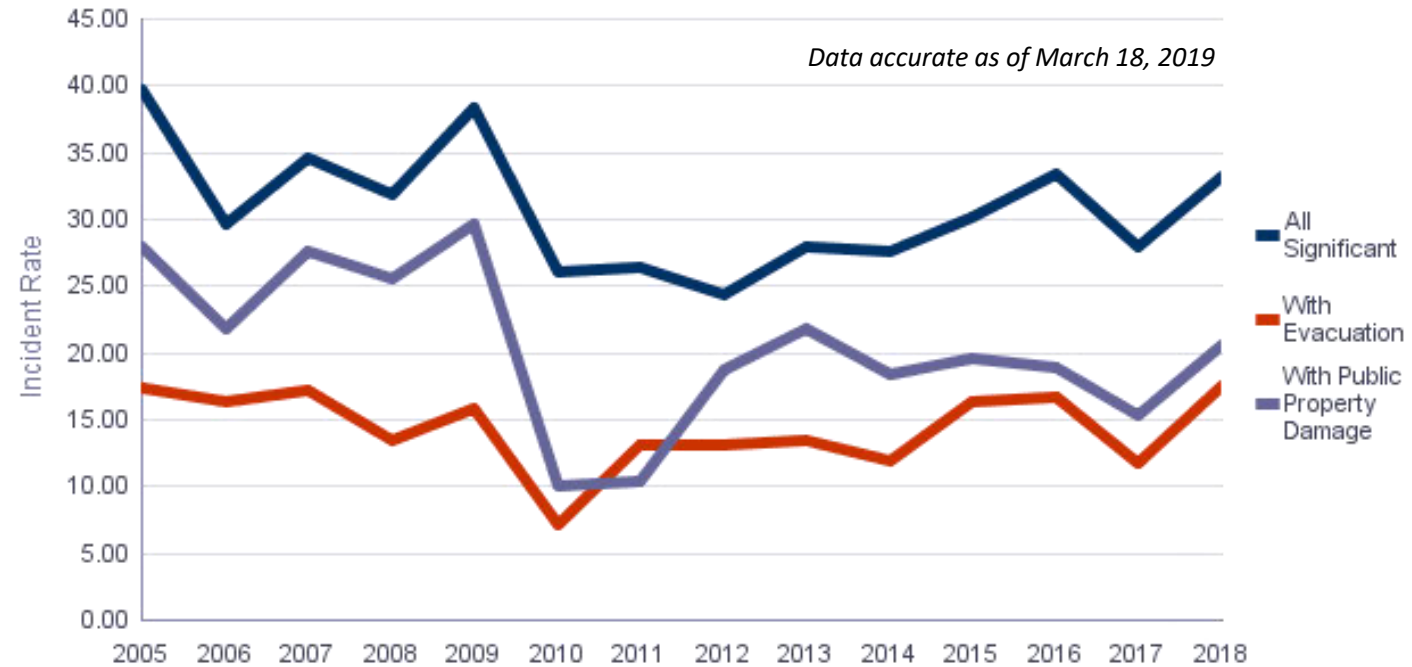
The rate has fluctuated since 2005, with an overall increase of 13%.



Gas Distribution Significant Incidents per Million Miles

2005-2018

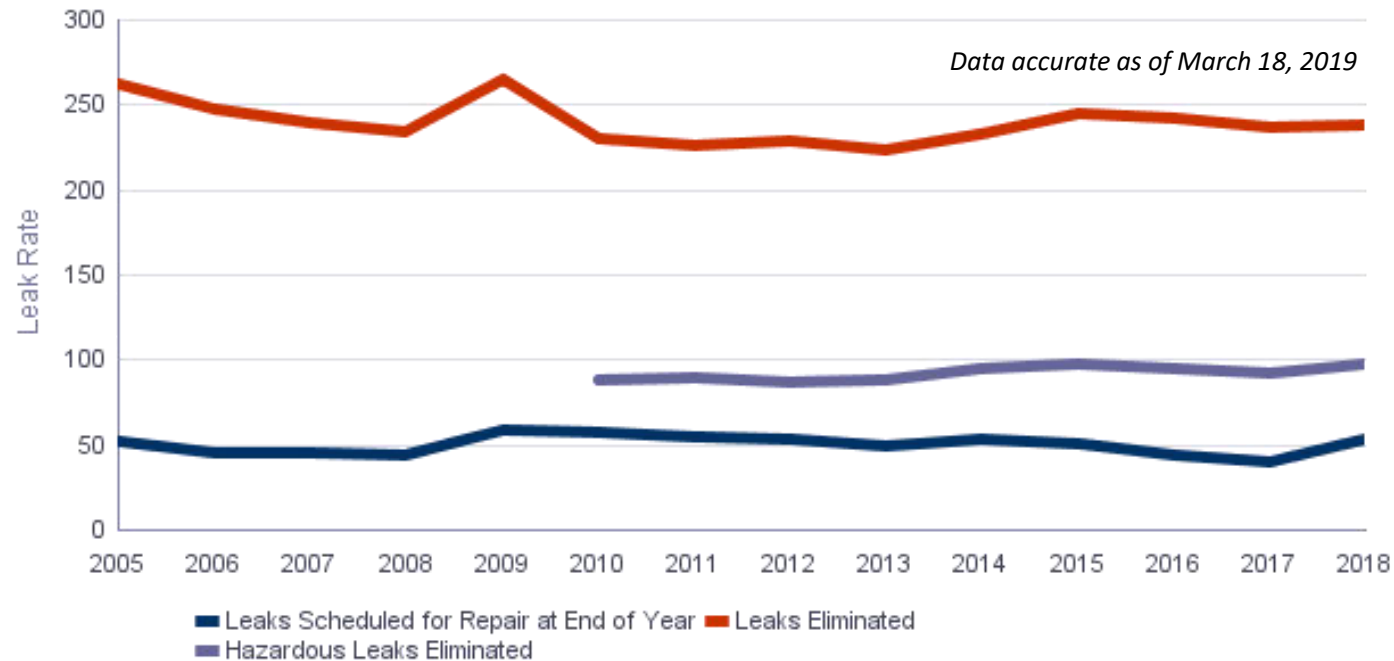
- All Significant rate has fluctuated since 2005, decreasing by 16%.
- With Evacuation increased by 1%.
- With Public Property Damage decreased by 26%.



Gas Distribution Leaks per 1,000 Miles

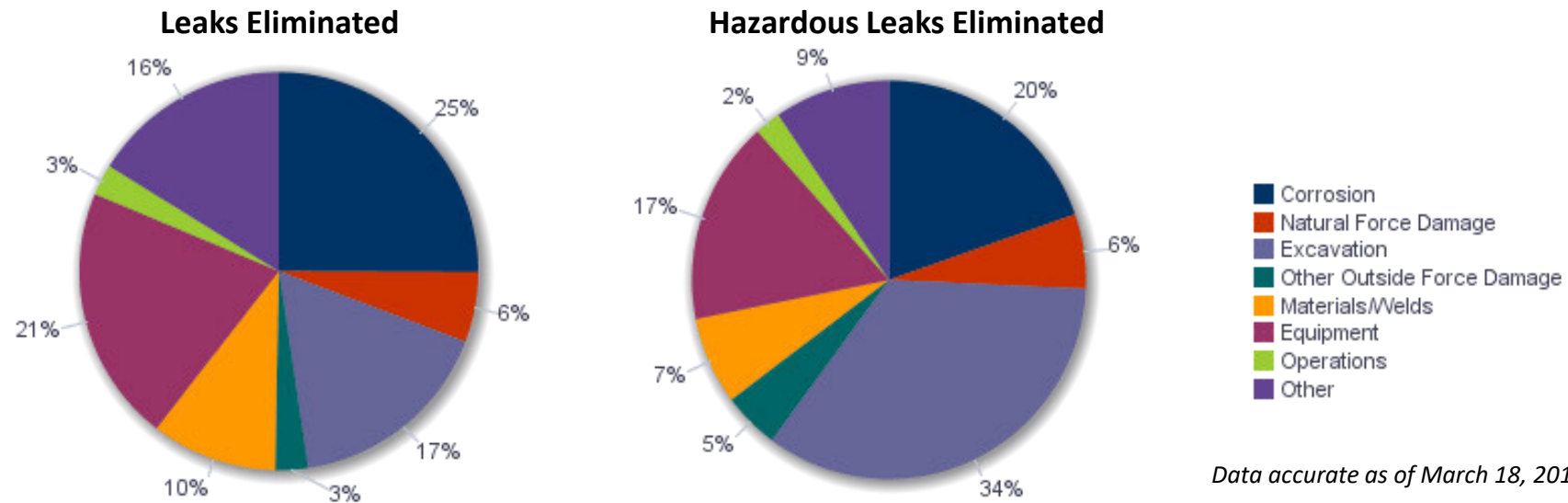
2005-2018

- The rate of hazardous leaks eliminated has increased by 10% since 2010.
 - The effective date for PHMSA's gas distribution integrity management (DIMP) regulations was 2011.
 - PHMSA expects an eventual rate decrease as pipeline operators identify integrity threats and implement measures to reduce risk.
- The rate for all leaks eliminated has decreased by 10% since 2005.
- The rate for leaks scheduled for repair at the end of the year has increased by 2% since 2005.



Gas Distribution Leaks Eliminated by Cause

2005-2018



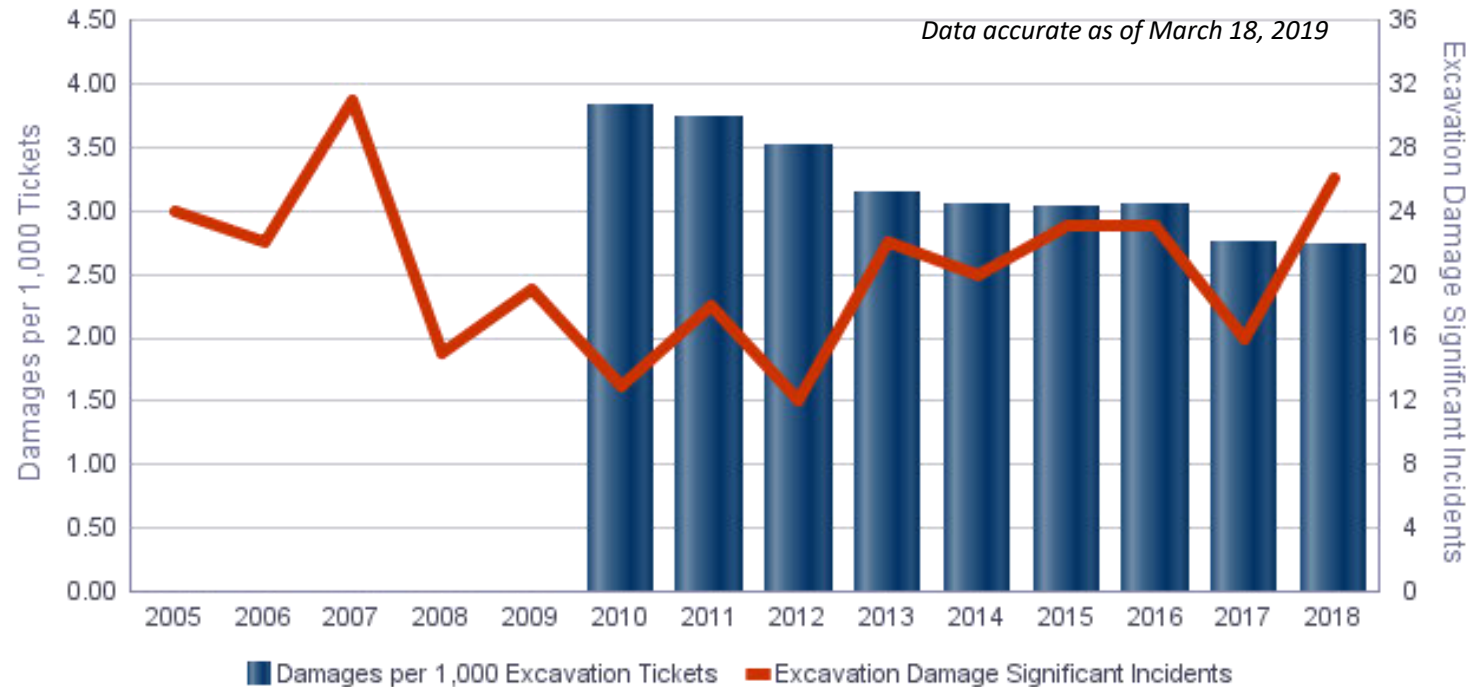
Data accurate as of March 18, 2019

Excavation damage is the leading cause of hazardous leaks and accounts for 34% of hazardous leaks, but only 17% of leaks overall.



Gas Distribution Excavation Damage

2005-2018



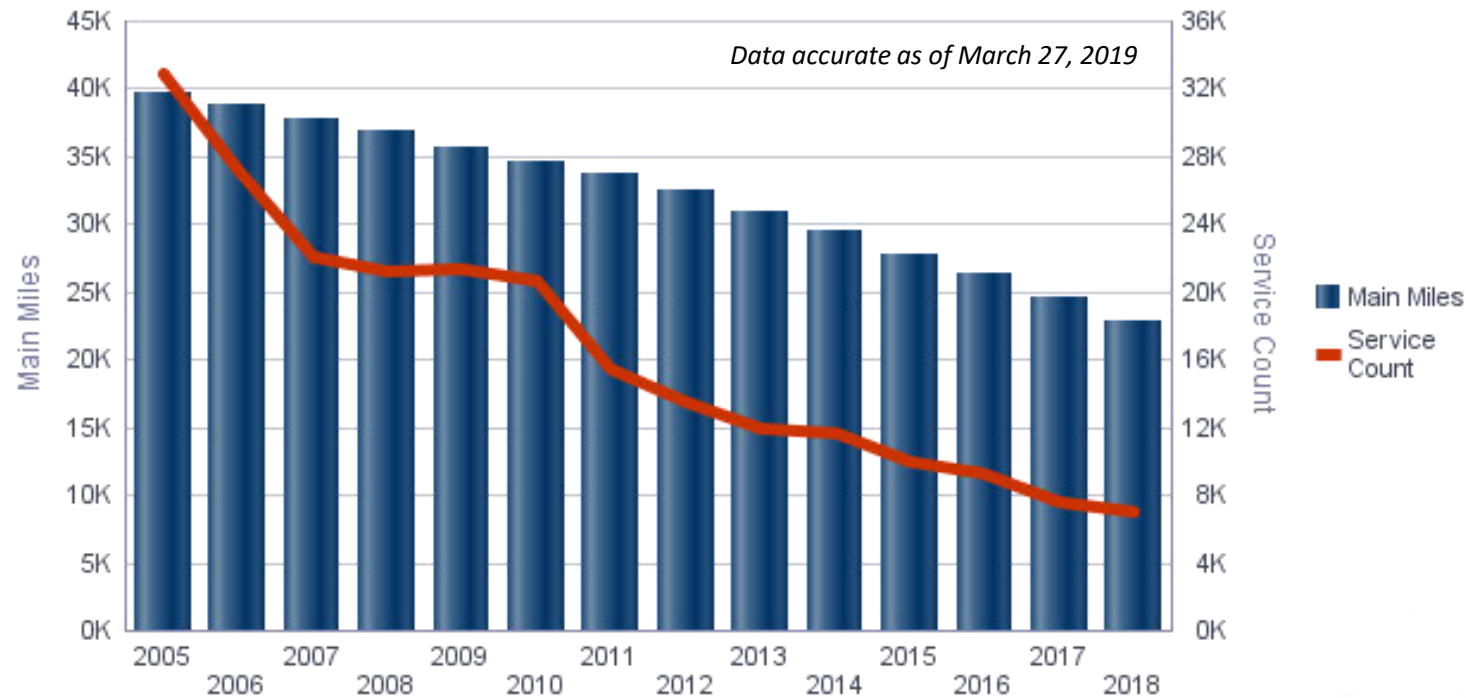
- The number of significant incidents caused by excavation damage has fluctuated since 2005 but increased 8% overall.
- Damages per 1,000 tickets have decreased by 29% since 2010.



Gas Distribution Cast & Wrought Iron

2005-2018

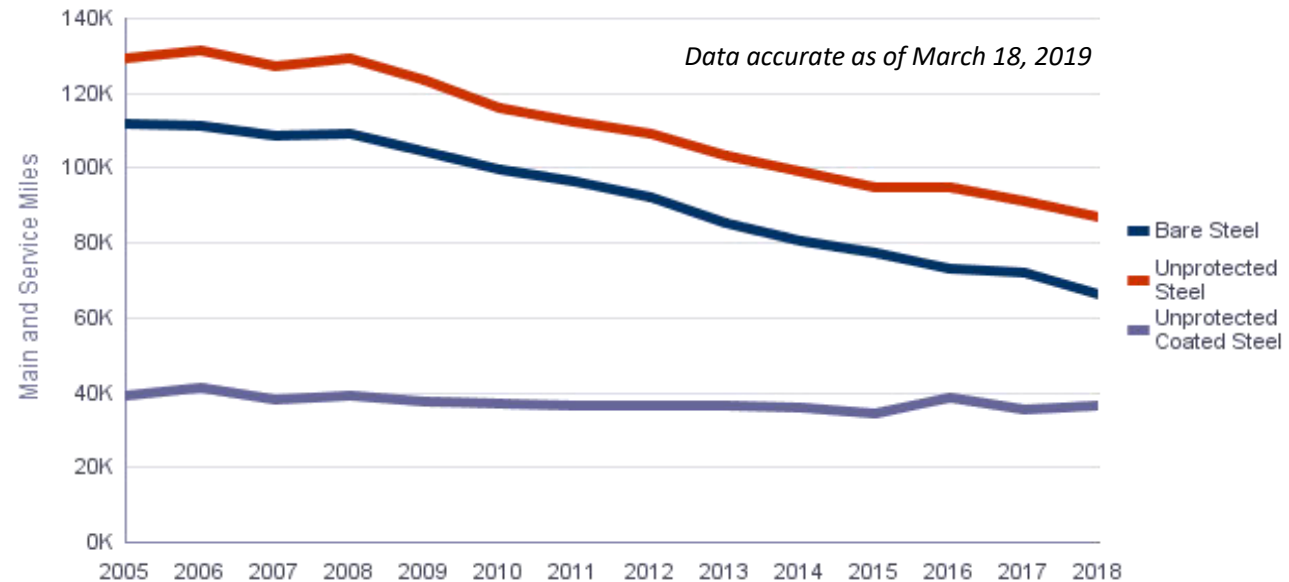
- Cast and wrought iron main miles have decreased by 42% since 2005.
- Cast iron mains make up 1% of all gas distribution main miles.
- Cast and wrought iron service lines have decreased by 79% since 2005.



Gas Distribution Steel Miles Bare and Unprotected

2005-2018

- Miles of bare steel have decreased by 40%.
 - 3% of gas distribution systems are bare steel.
- Miles of unprotected steel have decreased by 33%.
 - 4% of gas distribution systems are unprotected steel.
- Miles of unprotected coated steel have decreased by 7%.
 - 3% of gas distribution systems are unprotected coated steel.



NTSB Releases Final Report on September 2018 Merrimack Valley, MA Accident



U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

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Hazardous Materials Transportation



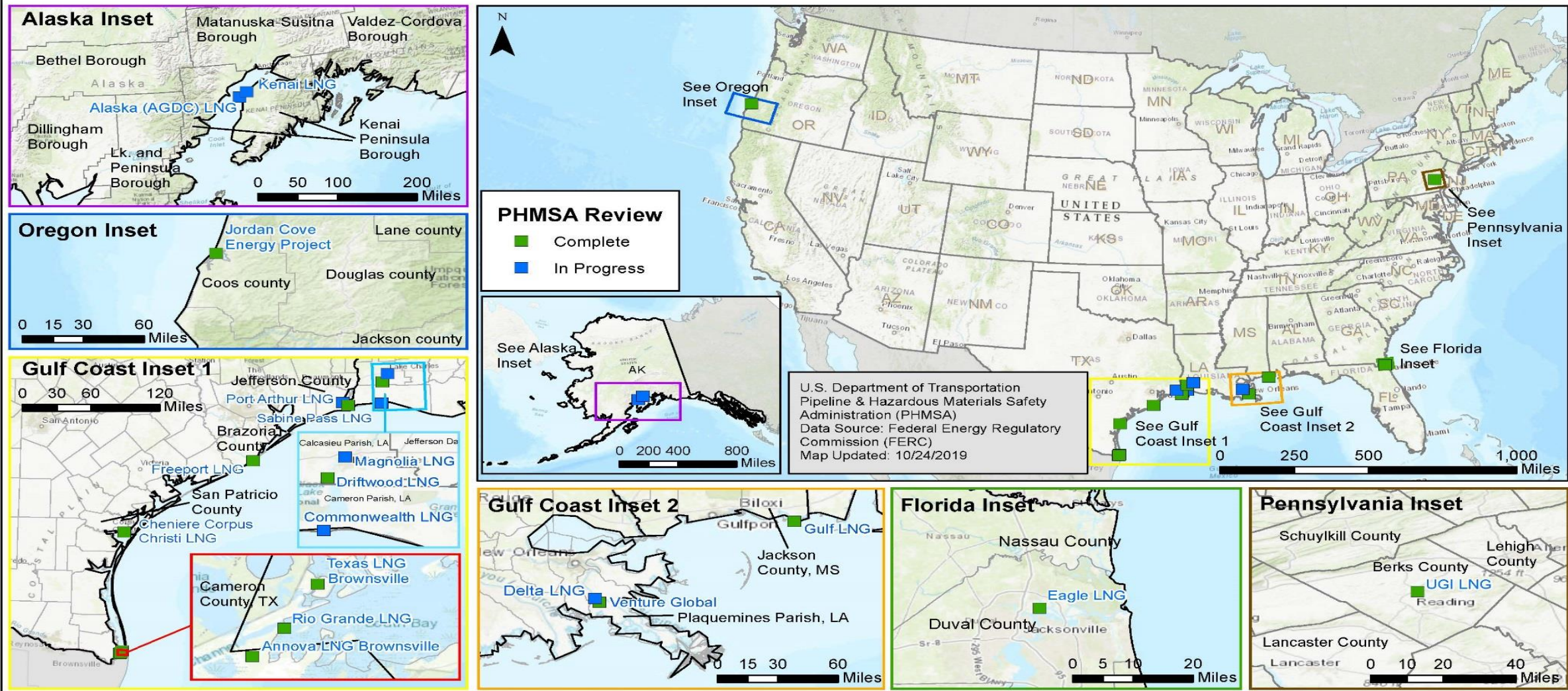
PHMSA's LNG Agenda

- Liquefied Natural Gas NPRM – Part 193 Update.
- LNG-By-Rail NPRM.
- August 31, 2018 FERC-PHMSA MOU Governing Siting Process for Interstate LNG Facilities.
- Executive Order 13868: Promoting Energy Infrastructure and Economic Growth (April 2019).
- PHMSA Issued 13 “Letters of Determination” to FERC regarding compliance with DOT siting and location standards.



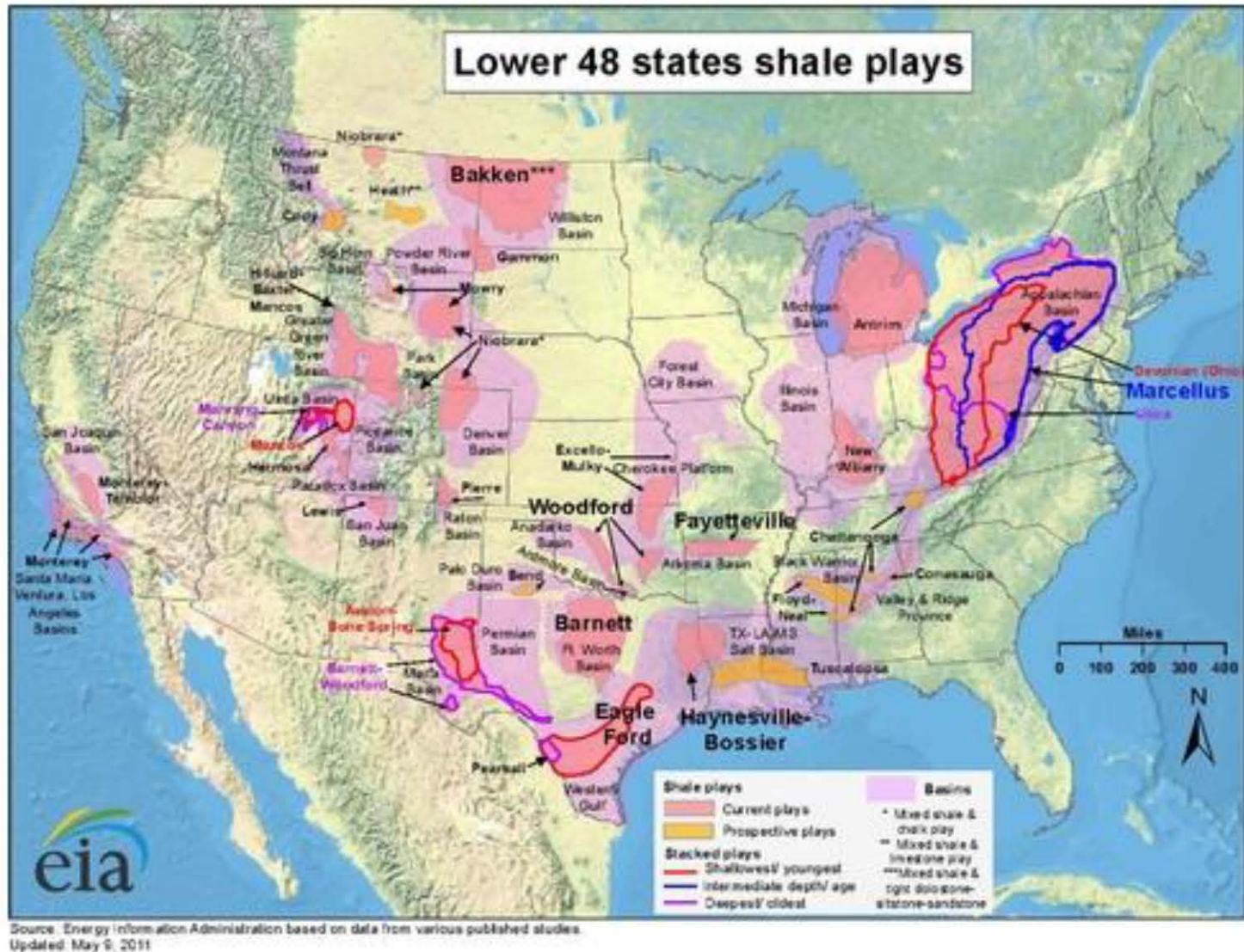


PHMSA Review of FERC Jurisdictional LNG Facilities

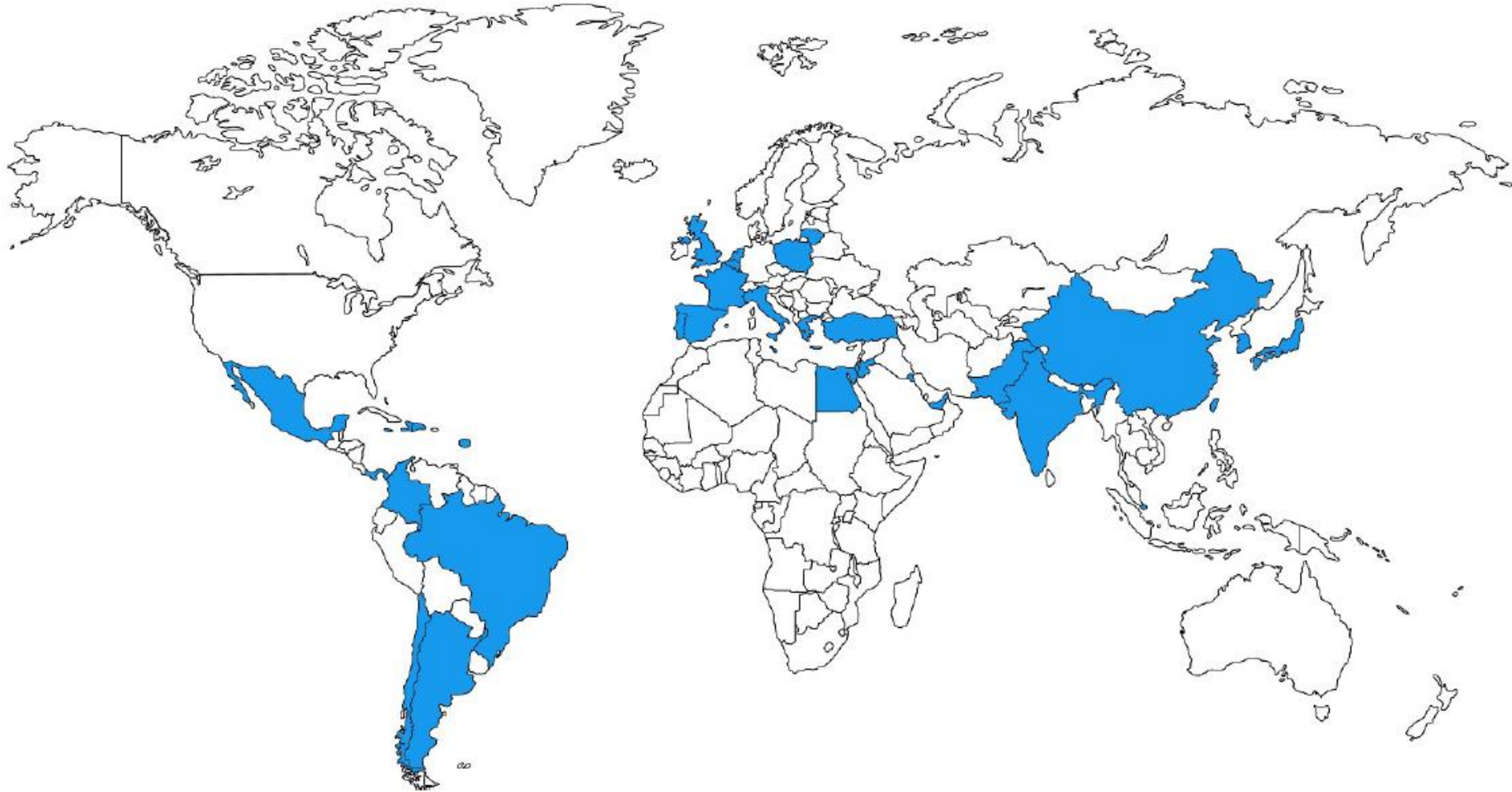


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U.S. LNG Exports to 37 Countries



Reauthorization 2020

Administration Proposal	Congressional Proposals
Appropriations FY 2020-2024	Whistleblower Protection
Overpressure Protection/MOC/OQ for New Construction	Citizen Mandamus
Safety Incentives Program	LNG Center of Excellence
Voluntary Information Sharing	Regulatory Update
Underground Storage Fees	Self-disclosure of Violations
Property Damage Threshold (\$118K)	Community Right-To-Know
LNG Siting Review Fees	Physical and Cyber Security
Pilot Programs	Methane Emissions
Criminal Trespass Standard	
Operating Status: Idle Pipelines	
State Program Requirements	
Pipeline Construction Data Collection	



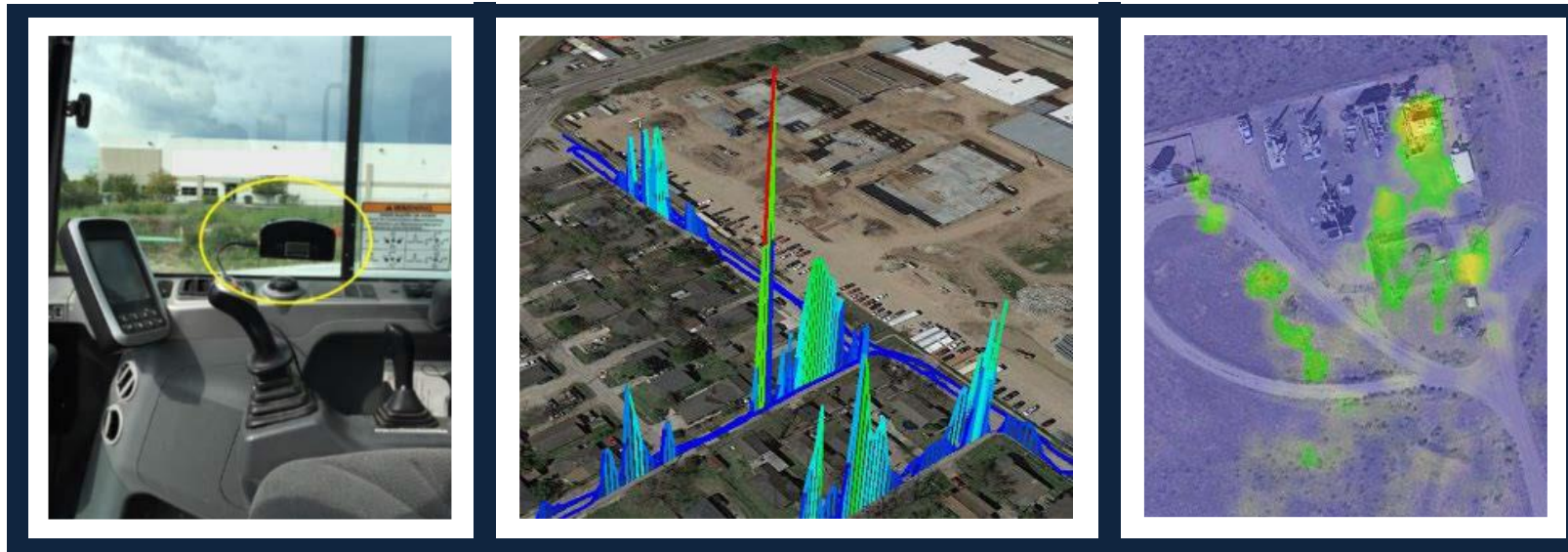
GPAC/LPAC meeting – November 14, 2019

- PHMSA has two Federal Advisory Committees:
 - Technical Pipeline Safety Standards Committee (a/k/a GPAC)
 - Technical Hazardous Liquid Pipeline Safety Committee (a/k/a LPAC)
- Function as peer review committees for all proposed safety standards
 - Technical feasibility
 - Reasonableness
 - Cost Effectiveness
 - Practicality
- “Shall prepare and submit” a Report to the Secretary
- Secretary not bound by Committee Reports
- Meet “at least up to 4 times annually”



PHMSA Awarded \$94 Million in Grants to Promoted Emergency Preparedness, Training & Support, and R&D

- GPS-based Excavation Encroachment Notification
- Natural Gas Pipeline Leak Rate Measurement System
- Rapid Aerial Small Methane Leak Survey



Questions?



U.S. Department of Transportation
**Pipeline and Hazardous Materials
Safety Administration**

To Protect People and the Environment From the Risks of
Hazardous Materials Transportation





National Association of Pipeline Safety Representatives 2020 National Meeting

Paul J. Roberti

Chief Counsel

**The Pipeline and Hazardous Materials Safety
Administration**

September 15, 2020



PHMSA Mission

To protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives.

Additional Goals:

- Prevent incidents by establishing national policy, setting and enforcing standards, educating, and conducting research.
- Prepare the public and first responders to reduce consequences if an incident does occur.
- Effective regulation and enforcement



PHMSA Legal Update

- Background on Office of Chief Counsel
- Federal/State Partnership
- Enforcement Statistics 2019-2020
- New Policies Guiding DOT enforcement Actions
- Enforcement Process Improvement Initiative
- Notable Recent Cases
- Rulemaking Update
- Congressional Pipeline Reauthorization



Office of Chief Counsel

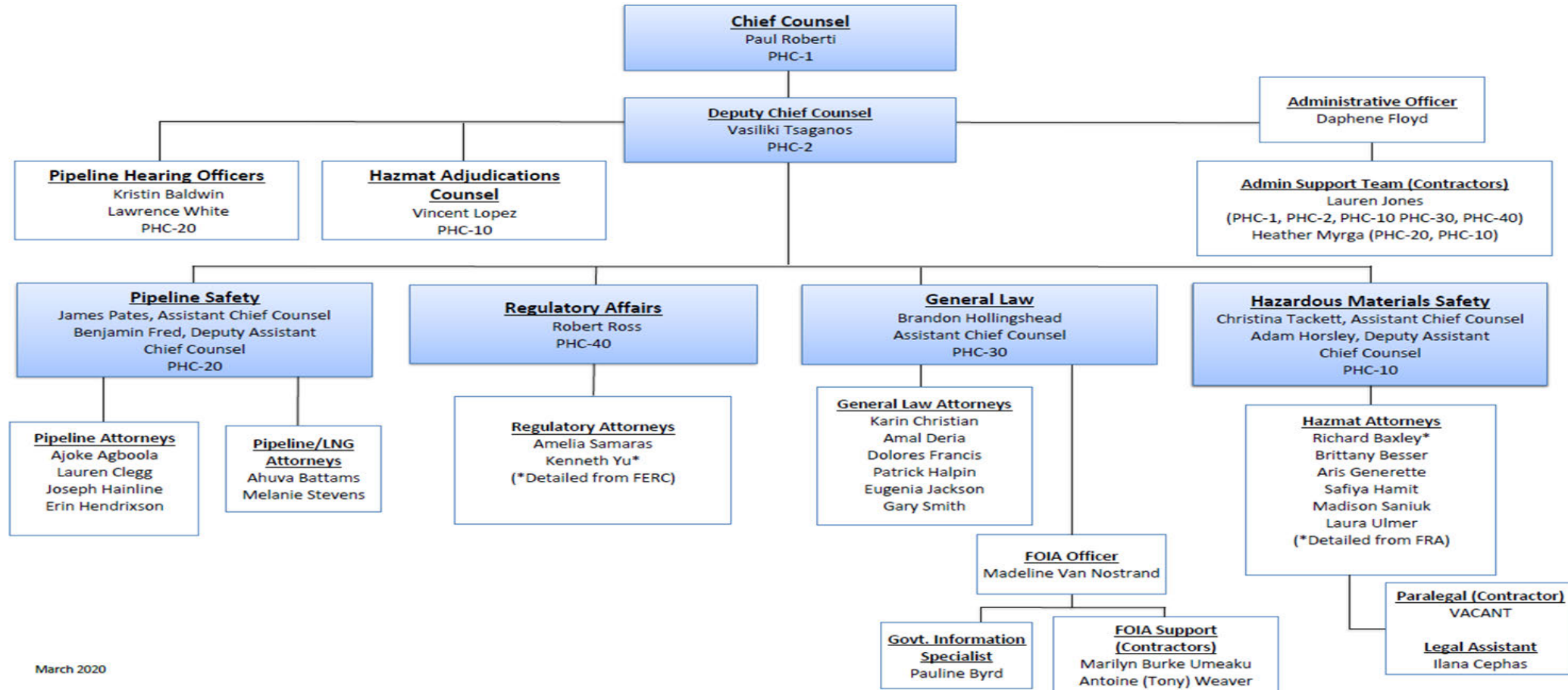
- The Chief Counsel is the principal legal officer of PHMSA
- The Office of Chief Counsel provides a comprehensive program of legal services and representation relating to all aspects of PHMSA's safety program activities and PHMSA administration and management
- Oversees administrative and judicial enforcement for pipeline and HAZMAT regulated entities



Office of Chief Counsel



U.S. Department of Transportation
Pipeline & Hazardous Materials Safety Administration (PHMSA)
Office of Chief Counsel



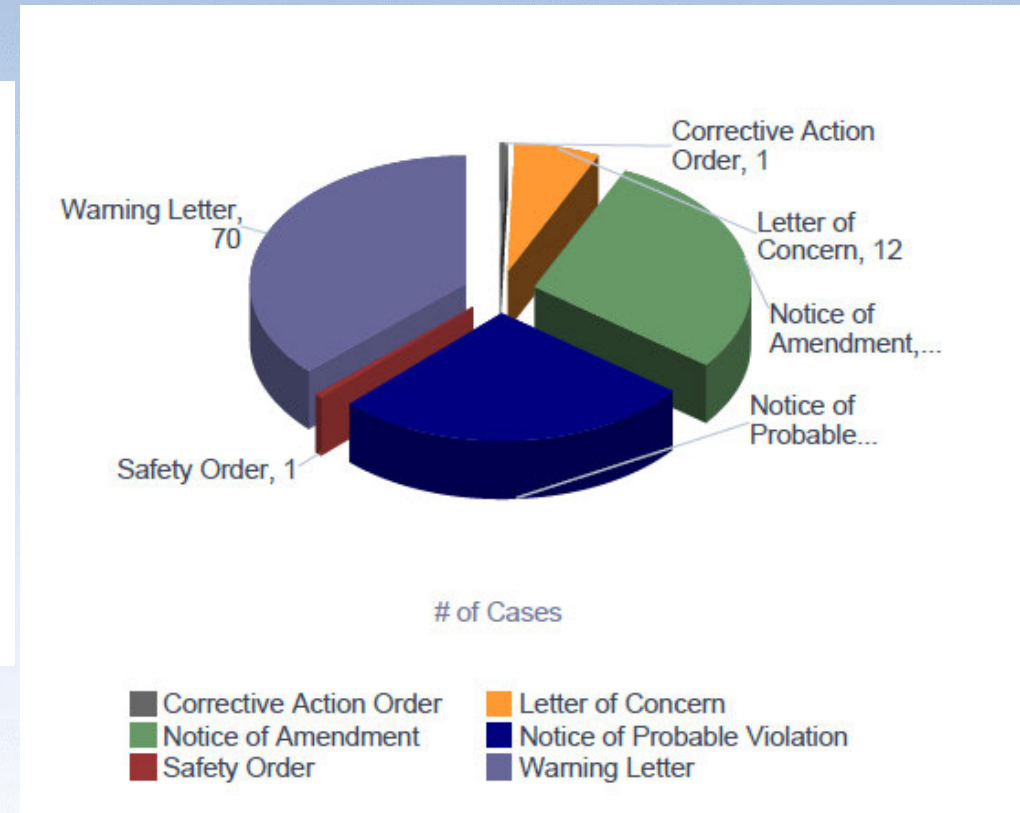
The Federal-State Pipeline Partnership

- PHMSA sets all minimum safety standards for most transmission, distribution, and gathering oil and gas pipelines in U.S.
- PHMSA inspects and enforces federal safety standards for all ***interstate*** pipelines.
- PHMSA certifies states that want to regulate and enforce federal standards for ***intrastate*** pipelines within their borders (only 15 states certified).
- Certified states may adopt “additional or more stringent” standards for intrastate lines.



Enforcement Statistics for 2019-2020

Case Status	Total Number of Cases						Total Number of Cases
	Corrective Action Order	Letter of Concern	Notice of Amendment	Notice of Probable Violation	Safety Order	Warning Letter	
CLOSED		12	45	22		70	149
OPEN	1		9	29	1		40
Grand Total	1	12	54	51	1	70	189



From September 1, 2019- September 11, 2020



DOT Administrative Rulemaking, Guidance, and Enforcement Procedures

- Dec. 27, 2019 (84 FR 71714)- DOT published procedural requirements for DOT enforcement actions, rulemaking, and guidance practices
- October 9, 2019 E.O. on Promoting the Rule of Law Through Transparency and Fairness in Civil Administrative Enforcement and Adjudication
- Now promulgated in federal regulation at 49 CFR Part 5



Procedural Requirements for Enforcement Actions

- Ensure due process
- Prompt disclosure compliance issues
- No broad or unduly expansive interpretations
- Legally sufficient basis for the action
- Disclosure of materially exculpatory evidence
- Penalty calculation transparency
- Limitation on use of guidance documents
- Other Objectives: Ex parte communications;
ADR; Fair notice; Avoiding bias



Agency Protocol for Use of Guidance

- Guidance examples:
 - Rulemaking: Preamble only (not regulatory text)
 - Advisory Bulletins
 - Frequently Asked Questions
 - Enforcement Procedures
- Must be posted on PHMSA website.
- Guidance documents cannot create binding requirements that do not already exist in statute or regulation.



Definition of Guidance: 49 CFR § 5.25 General

Any statement of agency **policy or interpretation** concerning a statute, regulation, or technical matter that is intended to have general applicability and future effect, but **which is not intended to have the force or effect of law in its own right.**



Limitations on Use of Guidance in Enforcement

- Guidance documents cannot be the basis for proving violations.
- Guidance explains how PHMSA interprets statute or regulations.
- Guidance explains PHMSA's understanding of how a statute or regulation applies to particular circumstances.
- PHMSA may cite guidance to convey this understanding in enforcement actions.



Enforcement Process – Improving Efficiency

- More efficient timelines from completion of inspections to issuance of Final Orders.
- Requests for Extensions to Respond to Notice (49 CFR 190.208) must include justification of good cause.
- Automatically provide the entire case file (Violation Report and Civil Penalty worksheet) to the operator along with the NOPV to avoid delays in responses.
- Streamlined process for Uncontested Cases where there is no challenge to the penalty or compliance actions
- Targeted deadlines for completion of agency tasks (i.e., Region Recommendations and Final Orders).
- Scheduling Order at the conclusion of hearings to set dates for Post Hearing Responses.

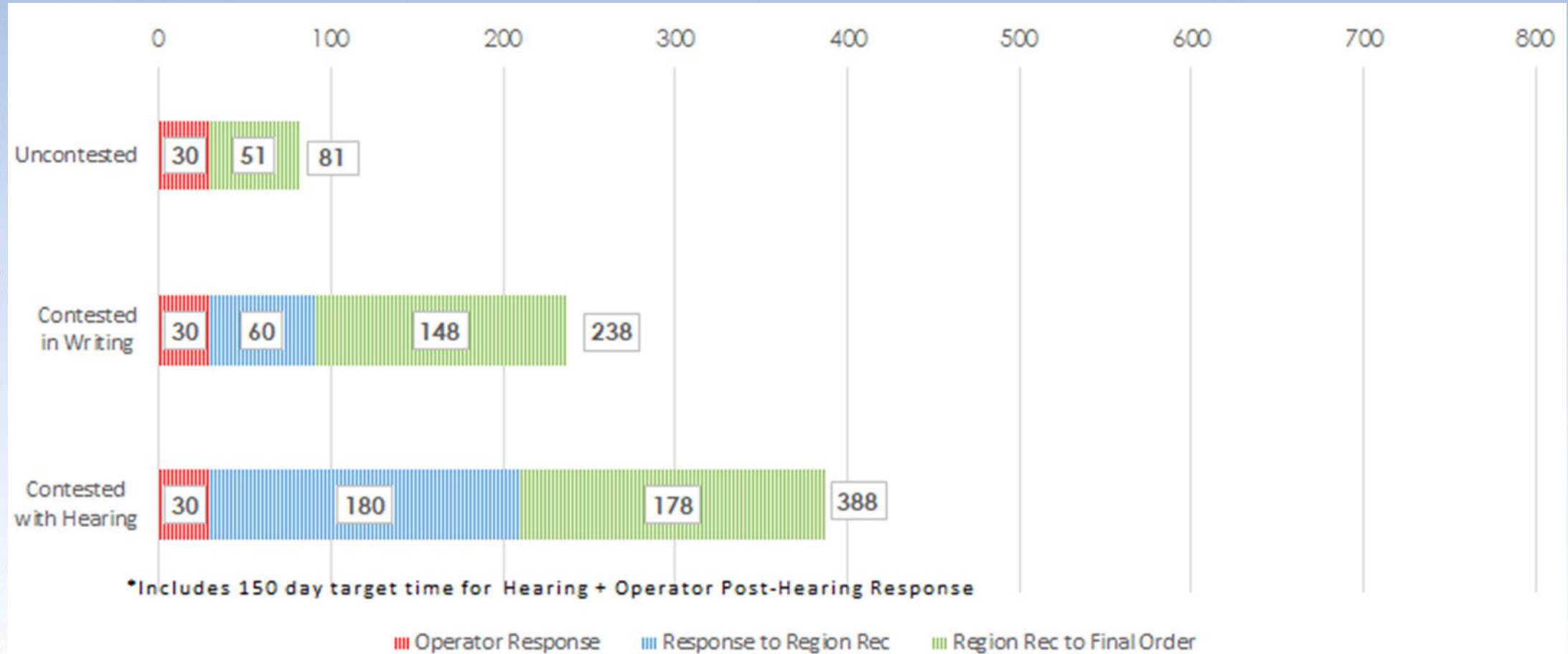


Legal Sufficiency of NOPVs

- Coordination between Inspectors and Office of Chief Counsel
- Examination of legal sufficiency of claims
- Review and documentation of evidence
- Region Attorney reviews all drafts before issuance
- Ensure compliance with 49 CFR Part 5

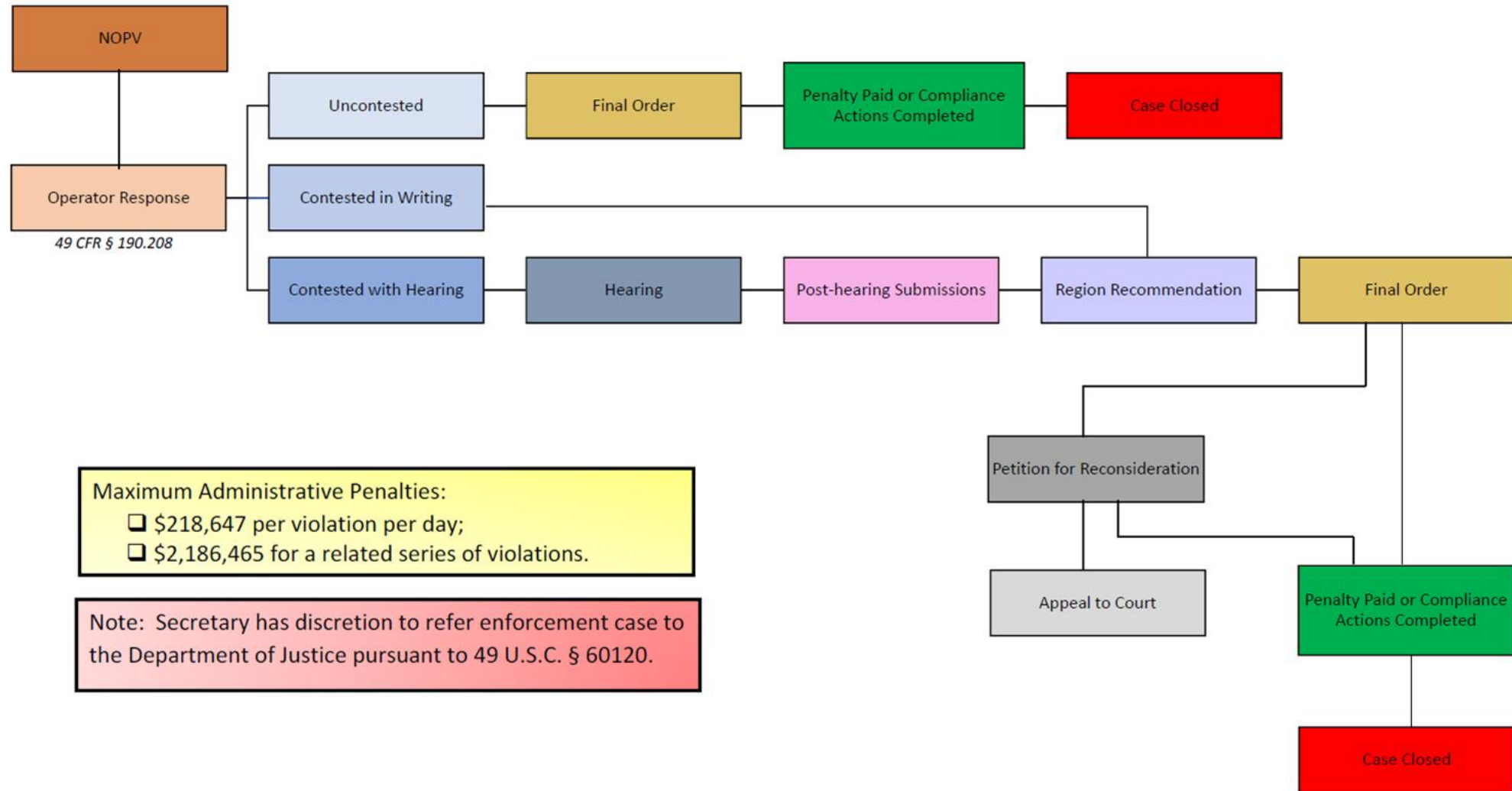


Case Track: Timelines



PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION

PIPELINE ENFORCEMENT PROCESS



Maximum Administrative Penalties:

- ❑ \$218,647 per violation per day;
- ❑ \$2,186,465 for a related series of violations.

Note: Secretary has discretion to refer enforcement case to the Department of Justice pursuant to 49 U.S.C. § 60120.



Tracking System to Evaluate Case Status



Proposed	Awaiting Order	Assessed	Withdrawn/Reduced	Collected
\$3,590,121	\$1,492,215	\$1,867,206	\$230,700	\$2,044,106



DOJ Referral of Plains All American Pipeline

- On May 19, 2015, Line 901 in Santa Barbara County ruptured, resulting in the release of approximately 2,934 bbls of crude oil, entering an unprotected culvert and reaching Refugio State Beach.
- Largest coastal oil spill in California since 1969
- PHMSA issued CAO, launched investigation into cause of failure, and issued Failure Investigation Report in 2016.
- Referral of 27 PHMSA violations to DOJ in collaboration with EPA, NOAA, USCG and State of California
- Settlement for \$24M in fines and \$23M NRD assessment
- Consent Decree pending approval in USDC in Southern California – Hearing date: October 26, 2020



Rulemaking Update

- Pipeline Rulemaking Actions in the Past Year
 - Gas Reg Reform NPRM (June 2020)
 - Hazardous Liquids Reg Reform NPRM (April 2020)
 - Underground Storage Final Rule (Feb. 2020)
 - Valve Repair NPRM (Feb. 2020)
 - Gas Transmission Safety Final Rule (Oct. 2019)
- Coming Attractions in Pipeline Rulemaking
 - Finalization of pending rulemakings
 - Part 193 updating
 - Class Location NPRM



Litigation Update

3 Significant Litigation Wins:

Union Pacific Railroad Co. v. PHMSA (D.C. Circuit). On March 17, 2020, the U.S. Court of Appeals for the District of Columbia Circuit denied the Petition for Review filed by Union Pacific Railroad challenging certain provisions of a 2019 PHMSA final rule addressing oil spill response plans and information sharing for high-flammable trains. UP argued that PHMSA's final rule violated the FAST Act provision that requires PHMSA to establish security and confidentiality protections to prevent the release to unauthorized persons of information provided by Class I railroads. The Court rejected UP's arguments, holding that the protections chosen by the agency were in fact a type of security and confidentiality protection aimed at protecting against inadvertent public disclosure of information and were sufficient to meet the requirements of the Fast Act.

WildEarth Guardians v. Chao, et al. (D. Mont). On April 15, 2020, the U.S. District Court for the District of Montana granted summary judgment to PHMSA in a lawsuit brought by WildEarth Guardians, which alleged that PHMSA had failed to cause the annual examination of pipelines on federal lands as required by the Mineral Leasing Act ("MLA"). The Court held that because PHMSA has taken action to comply with the Mineral Leasing Act and WildEarth Guardians cannot assert a "failure to act" claim, and must instead challenge PHMSA's action – the regulations – as arbitrary and capricious.

National Wildlife Federation v. DOT (6th Circuit). On June 5, 2020, the Sixth Circuit Court of Appeals issued a decision holding that NEPA and the Endangered Species Act do not apply to PHMSA's review and approval of Oil Spill Response Plans because the Clean Water Act requires PHMSA to approve OSRPs that meet the statutory criteria. The Court rejected NWF's view that PHMSA has sufficient "discretion" merely because the statutory criteria are not mechanical and require the exercise of judgment. PHMSA must still comply with the portion of the district court decision that found that PHMSA had not adequately explained its approval decision under the Clean Water Act and remanded back to PHMSA.



Litigation Update

2 Significant Settlements:

U.S. and State of California v. Plains All American Pipeline, et al (U.S. District Court for the Middle District of California). DOJ filed a complete settlement package with the district court on August 19, 2020, and the court set a hearing date for October 26, 2020. The Government anticipates that the court will approve the settlement following that hearing.

Hilcorp Alaska, LLC v PHMSA (D.C. Cir.) —Hilcorp filed a Petition for Review challenging PHMSA's Cook Inlet Inventory Report, which was published in October 2018. Hilcorp challenged PHMSA's offshore classification of the waters of the Cook Inlet, which is discussed in the report and serves as the regulatory basis for PHMSA oversight over Hilcorp's Cook Inlet assets. On May 18, 2020, Hilcorp and PHMSA executed a consent agreement to resolve the dispute. The agreement requires Hilcorp to stipulate to PHMSA's classification and associated regulatory oversight of 22 pipeline segments owned and operated by Hilcorp in the waters of the Cook Inlet.



Pipeline Reauthorization 2020

- Senate bill passed by unanimous consent on August 6, 2020
- Major topics:
 - Reauthorization of funding
 - Gas distribution standards (IM, O&M, Records, etc.)
 - Pipeline status: addressing “idled” pipelines
 - Leak detection and repair of gas gathering, transmission and distribution lines
- Senate bill was sent to the House on August 14, 2020; no action has been taken yet.
- House has its own bill, but PHMSA has not seen any movement/changes since November 2019.



Pipeline Reauthorization 2020

Administration Proposals	Senate Proposals
Appropriations FY 2020-2024	Advancement of new pipeline safety technologies and approaches; studies
Overpressure protection/MOC/OQ for new construction	Regulatory updates
Safety Incentives Program	LNG Center for Excellence
Voluntary information sharing	Enforcement proceedings
Underground storage fees	Self-disclosure of violations
Property damage threshold (\$118k)	LNG siting review fees
LNG siting review fees	Leak detection and repair of gas gathering, transmission, and distribution lines
Pilot programs	Operating status: Idle pipelines
Criminal trespass standard	Whistleblower protection
Operating status: Idle pipelines	Transportation Technology Center
State Program requirements	Gas Distribution standards: Integrity Management, O&M, Emergency Response Plans, records management, SMS, etc.
Pipeline construction data collection	Prioritization of certain rulemakings



QUESTIONS?



Natural Gas Service Preservation and Expansion: Time, Money and Innovation?

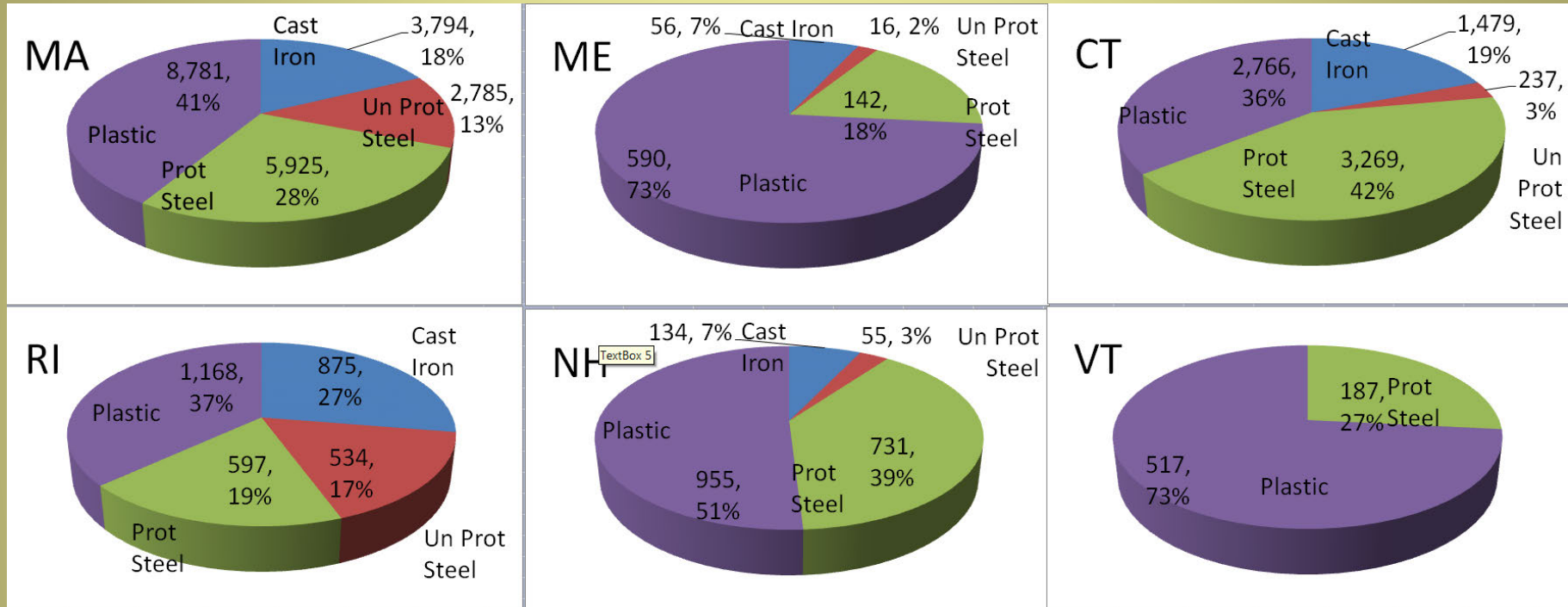
A large black pipeline runs diagonally across the frame, supported by wooden posts. The ground is covered in snow, and the sky is a clear, pale blue. The pipeline recedes into the distance, creating a sense of depth.

**NECPUC 66th Annual Symposium
Mystic Marriott, Connecticut
June 11, 2013**



New England Pipeline Safety Statistics

Amount of Leak Prone Pipe (Mains) in New England



MA has more than 6,500 miles of leak prone main (31%)

CT has more than 1,700 miles of leak prone main (22%)

RI has more than 1,400 miles of leak prone main (44%)

NH has more than 180 miles of leak prone main (10%)


ME has more than 70 miles of leak prone main (9%)

**2012
DATA**

Courtesy of Randy Knepper, NHPUC

Latest Assessment Reveals Progress in New England

Overall Infrastructure is Increasing



	2009	2012 Increase/Decrease	
% Increase in Dist Pipelines New England (Miles)	58,972	60,281	2.22%
% Increase in Gas Mains New England (Miles)	35,015	35,593	1.65%
% Increase in Gas Services New England (Miles)	23,957	24,689	3.05%


Aged Infrastructure is Decreasing



% Decrease in Cast Iron Gas Mains New England (Miles)	6763	6338	-6.28%
% Decrease in Bare Steel & Unprotected Steel Mains (Miles)	4252	3626	-14.72%
% Decrease in Bare Steel & Unprotected Steel Services (Miles)	5107	4516	-11.56%


Leak Prone Pipe Statistics in New England – April 2013

Biggest Decreases in Aged Infrastructure Mains



CT	1,855	1,716	-7.52%
MA	7,301	6,579	-9.89%
RI	1,576	1,409	-10.60%
NH	218	189	-13.35%
ME	65	72	10.92%
VT	0	0	0%

Biggest Decreases in Aged Infrastructure Services



CT	1,008	872	-13.54%
MA	3,178	2,865	-9.85%
RI	808	673	-16.68%
NH	125	118	-5.92%
ME	9	7	-17.78%
VT	0	0	0%

High Risk Infrastructure

Eastern U.S. Region – 2007

	Miles of Main				
	Unprotected Steel	Cast/Wrought Iron	Total Miles leak prone pipe	% of Total Miles prone	Total Main Mileage
RHODE ISLAND Totals	711	908	1,619	52.3%	3,095
WASHINGTON DC Totals	102	451	553	46.4%	1,191
MASSACHUSETTS Totals	3,635	4,165	7,801	37.9%	20,574
WEST VIRGINIA Totals	3,409	14	3,424	35.9%	9,531
NEW YORK Totals	9,321	5,088	14,409	31.0%	46,464
PENNSYLVANIA Totals	10,526	1,901	12,427	26.8%	46,449
NEW JERSEY Totals	3,010	5,603	8,613	26.3%	32,755
CONNECTICUT Totals	283	1,640	1,923	25.6%	7,517
MAINE Totals	6	89	95	18.4%	516
MARYLAND Totals	602	1,467	2,068	15.2%	13,646
NEW HAMPSHIRE Totals	120	309	428	13.8%	3,096
VIRGINIA Totals	1,050	676	1,726	8.8%	19,692
DELAWARE Totals	67	124	191	7.4%	2,585
	28,394	16,911	45,305		182,251

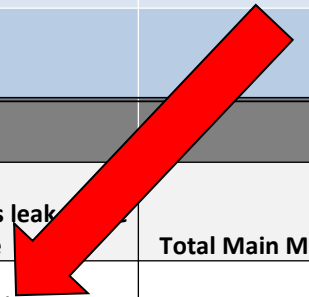
This just in . . . 2012 Stats

2012 Gas Distribution Annual Report Mileage and Leaks

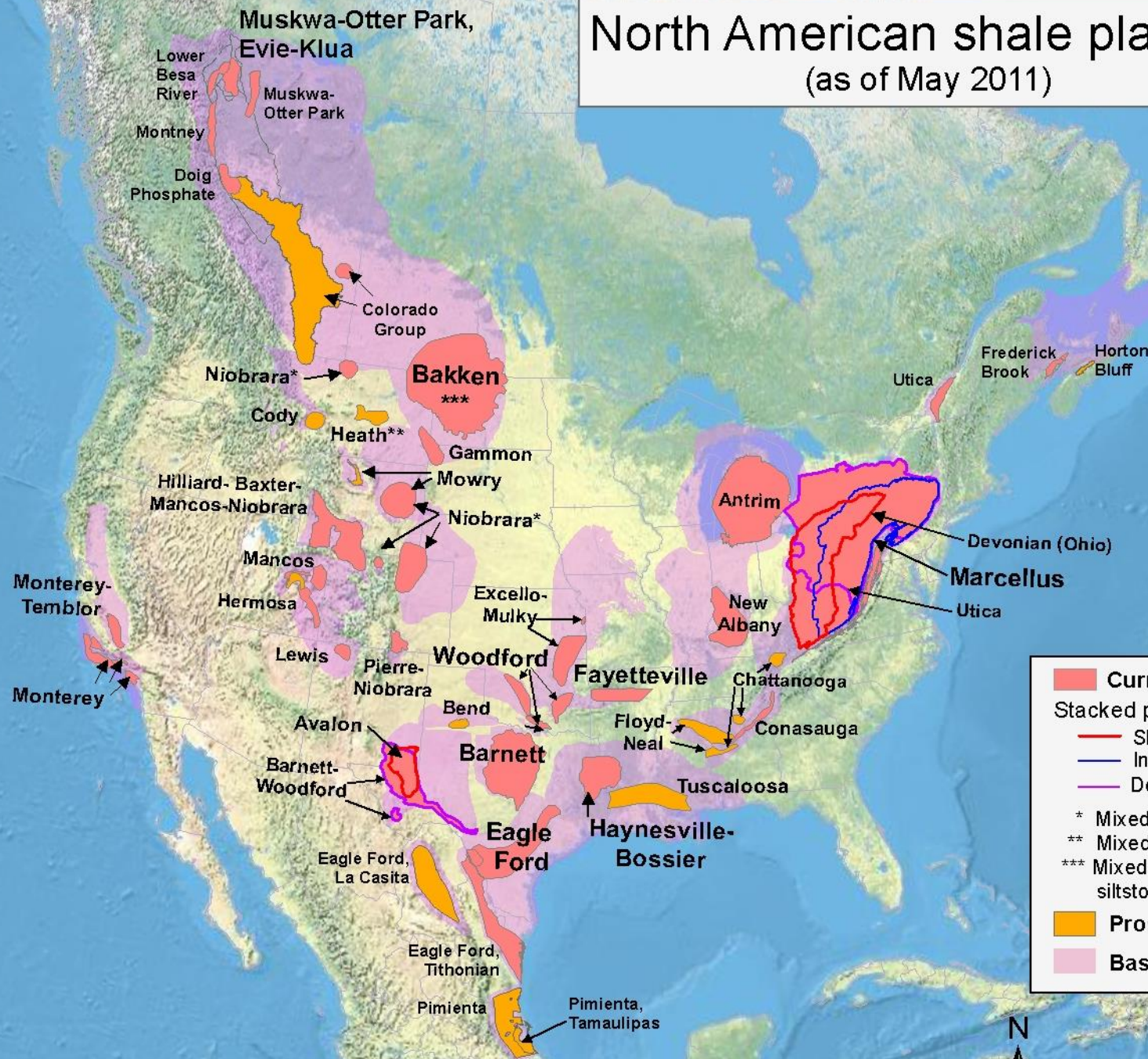
Data as of 4/26/2013

2012 Gas Distribution Annual report is preliminary data

	Miles of Main				
PHMSA F 7100.1-1 / REPORT YEAR 2012	Unprotected Steel	Cast/Wrought Iron	Total Miles leak prone pipe	% of Total Miles leak prone pipe	Total Main Mileage
Rhode Island	534	859	1,393	43.9%	3,174
District of Columbia	95	419	514	42.9%	1,197
Massachusetts	2,785	3,792	6,577	30.9%	21,285
West Virginia	3,009	14	3,022	28.3%	10,674
New York	7,885	4,417	12,301	25.7%	47,880
Pennsylvania	8,972	3,221	12,193	25.6%	47,561
Connecticut	236	1,467	1,703	22.0%	7,751
New Jersey	2,403	5,044	7,447	22.0%	33,919
Maryland	449	1,399	1,847	12.8%	14,477
New Hampshire	55	134	189	10.1%	1,875
Maine	16	56	72	9.0%	803
Virginia	817	406	1,223	5.9%	20,847
Delaware	39	91	130	4.5%	2,872
PHMSA EASTERN REGION TOTALS	27,294	21,318	48,612		214,316



North American shale plays (as of May 2011)

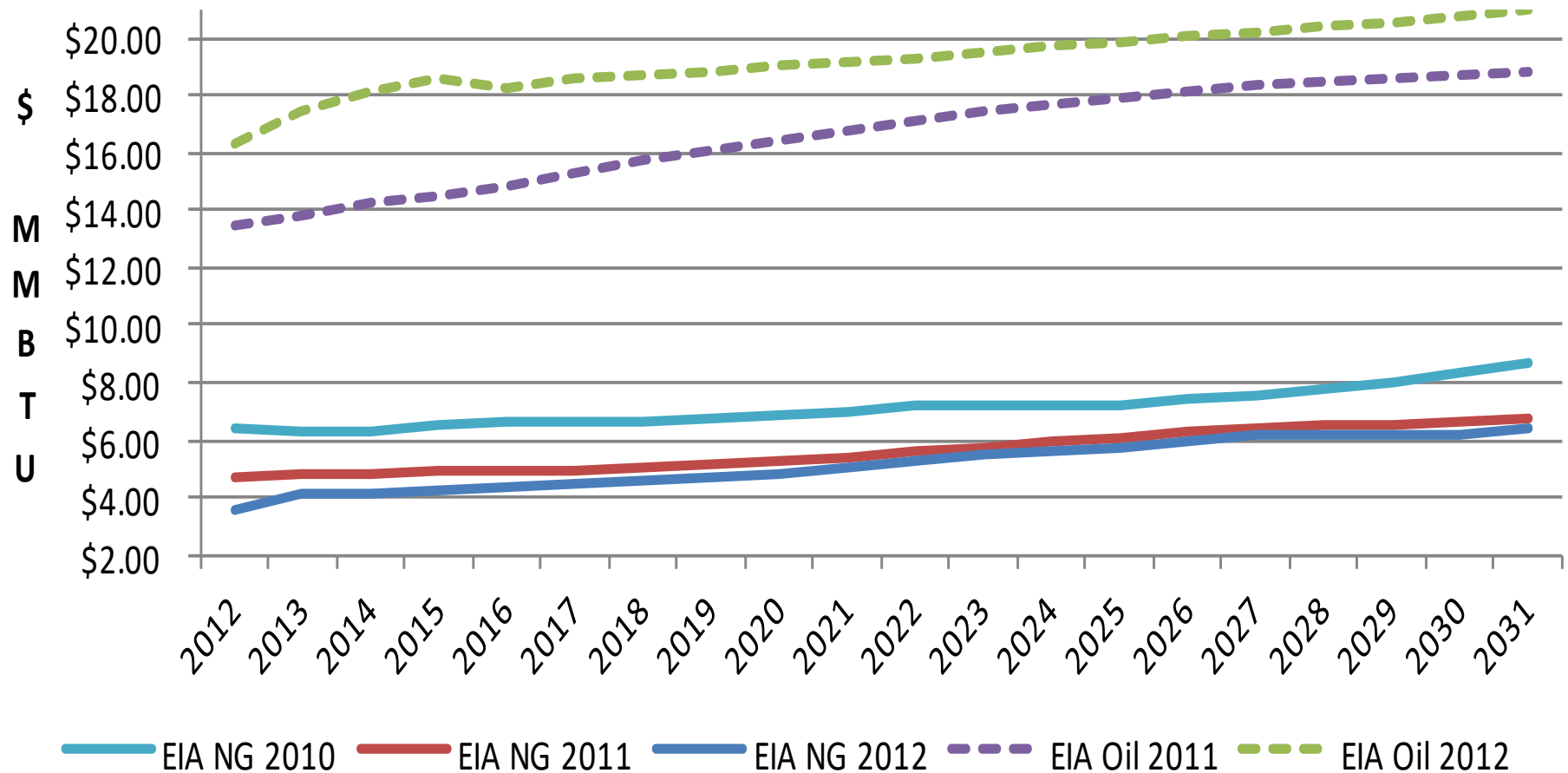


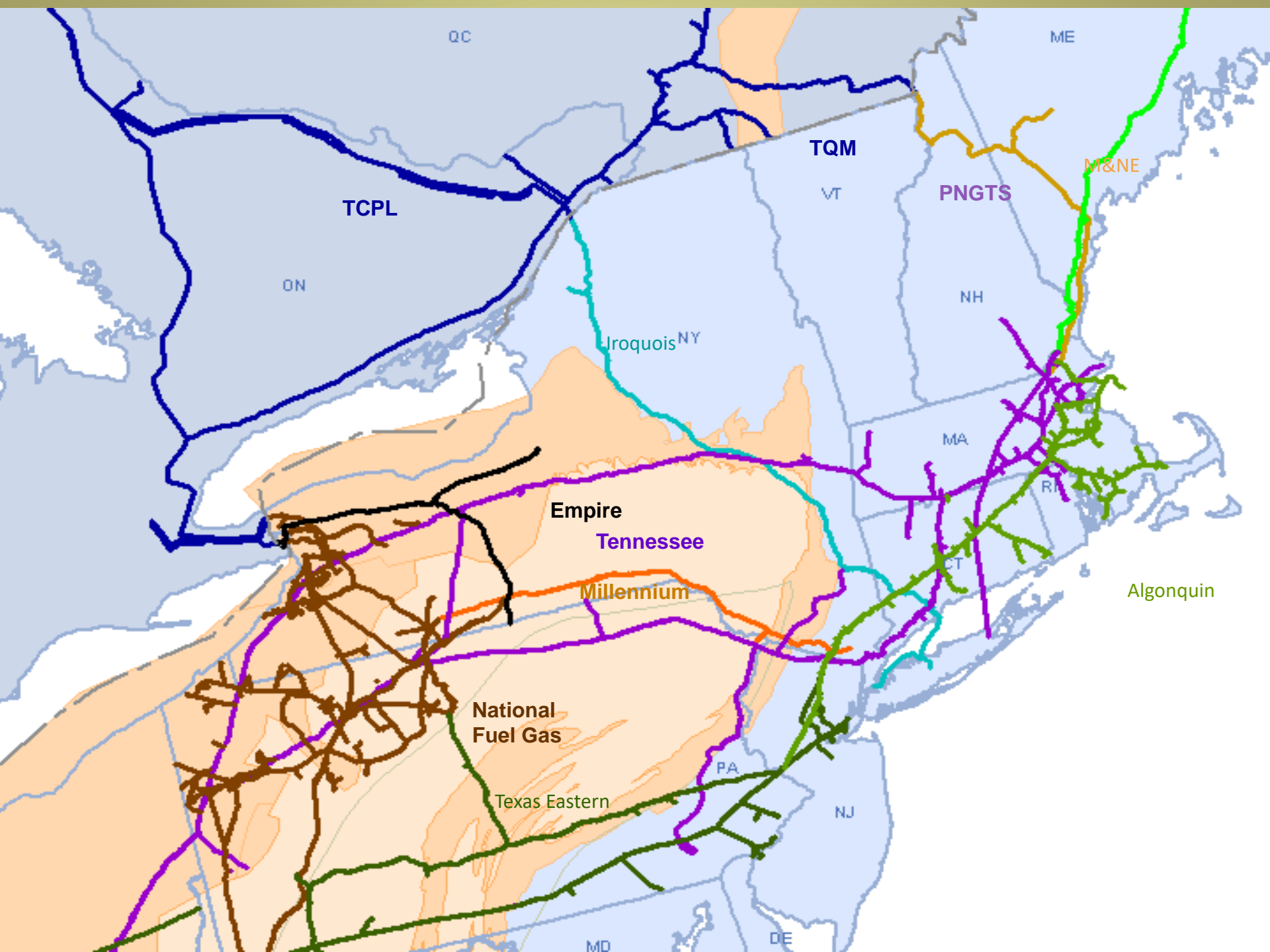
Miles

POTENTIAL GAS COMMITTEE REPORTS SIGNIFICANT INCREASE IN MAGNITUDE OF U.S. NATURAL GAS RESOURCE BASE (April 9, 2013)

<u>Resource Category</u>	<u>Mean Values, Tcf</u>		<u>Change</u>
	<u>2012</u>	<u>2010</u>	<u>Tcf (%)</u>
Traditional Gas Resources:			
Probable resources (current fields)	708.5	536.6	
Possible resources (new fields)	952.3	687.7	
Speculative resources (frontier)	558.7	518.3	
Total Traditional Gas Resources (not additive)*	2,225.6	1,739.2	+486.4 (28.0%)
Coalbed Gas Resources:			
Probable resources	14.2	13.4	
Possible resources	48.3	48.1	
Speculative resources	95.8	96.2	
Total Coalbed Gas Resources (not additive)*	158.2	158.6	-0.4 (-0.2%)
Grand Total Potential Resources (additive)**	2,383.9	1,897.8	+486.1 (25.6%)
Proved dry-gas reserves (DOE/EIA)	<u>304.6</u> †	<u>304.6</u>	
U.S. Future Gas Supply	2,688.5	2,202.4	+486.1 (22.1%)

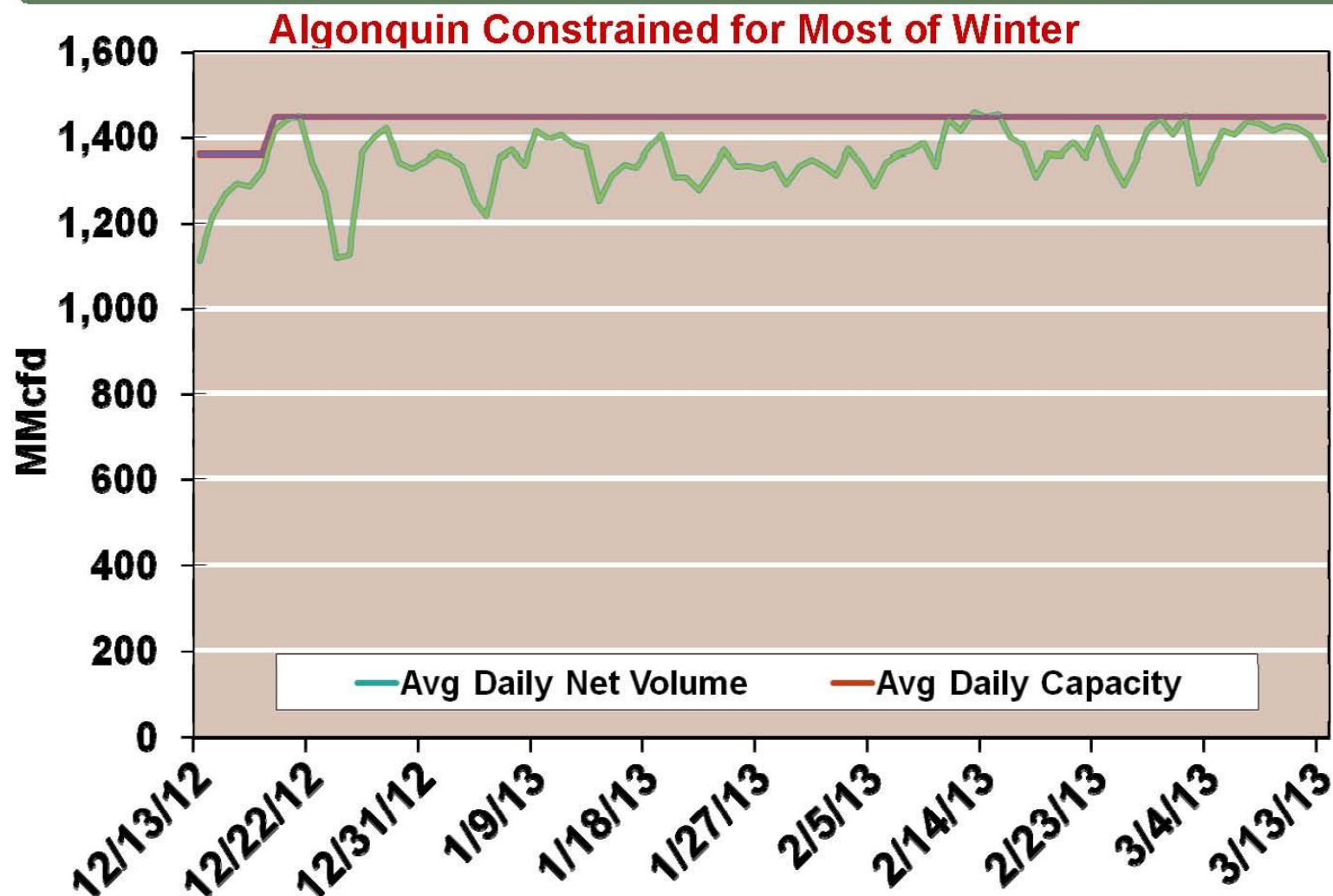
Change in Long Term Fuel Commodity Price Forecasts, Crude Oil vs. Henry Hub Natural Gas (\$ 2010)





“Can’t get here from there”

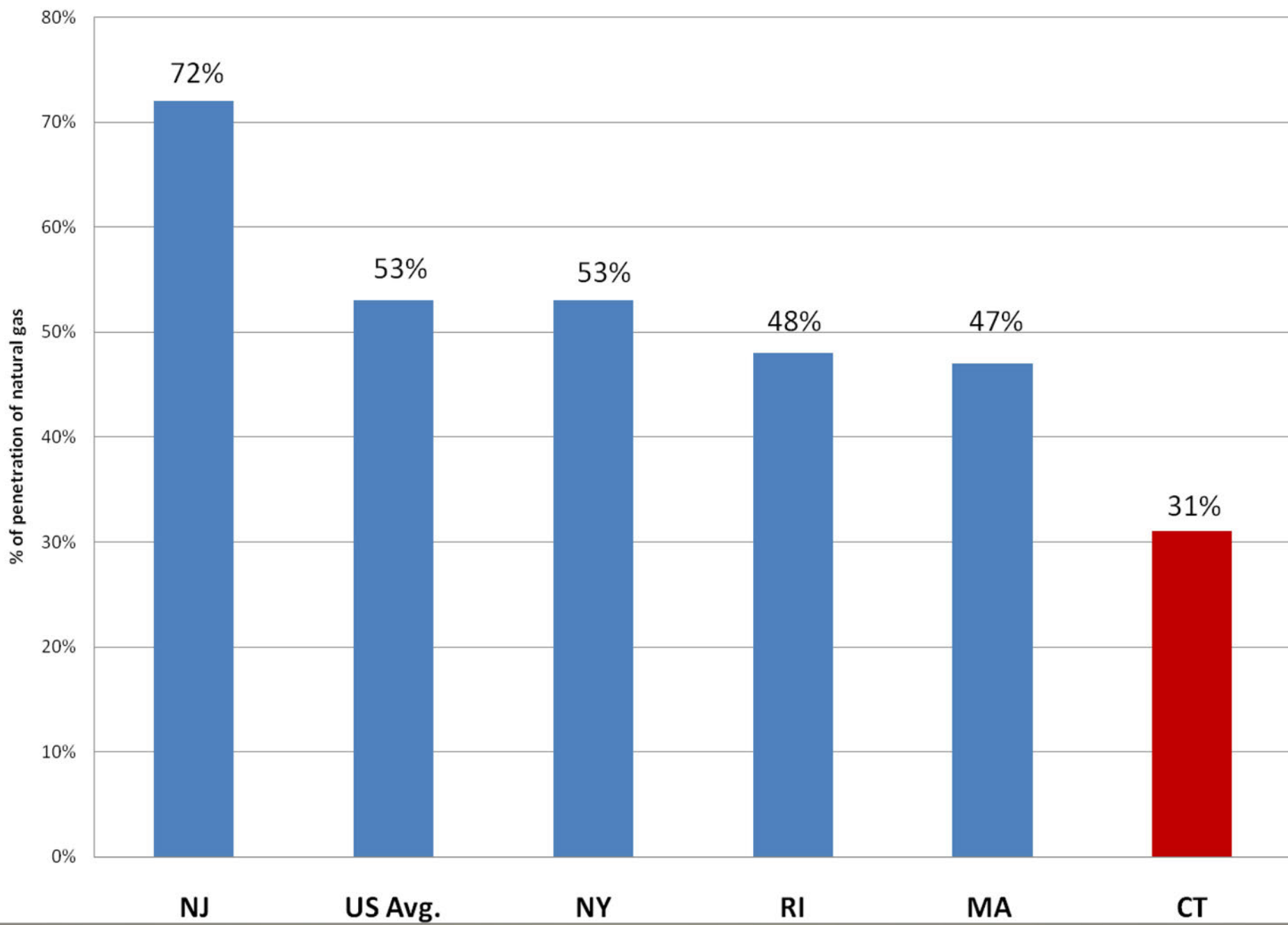


National : Algonquin FlowsFederal Energy Regulatory Commission • Market Oversight • www.ferc.gov/oversight

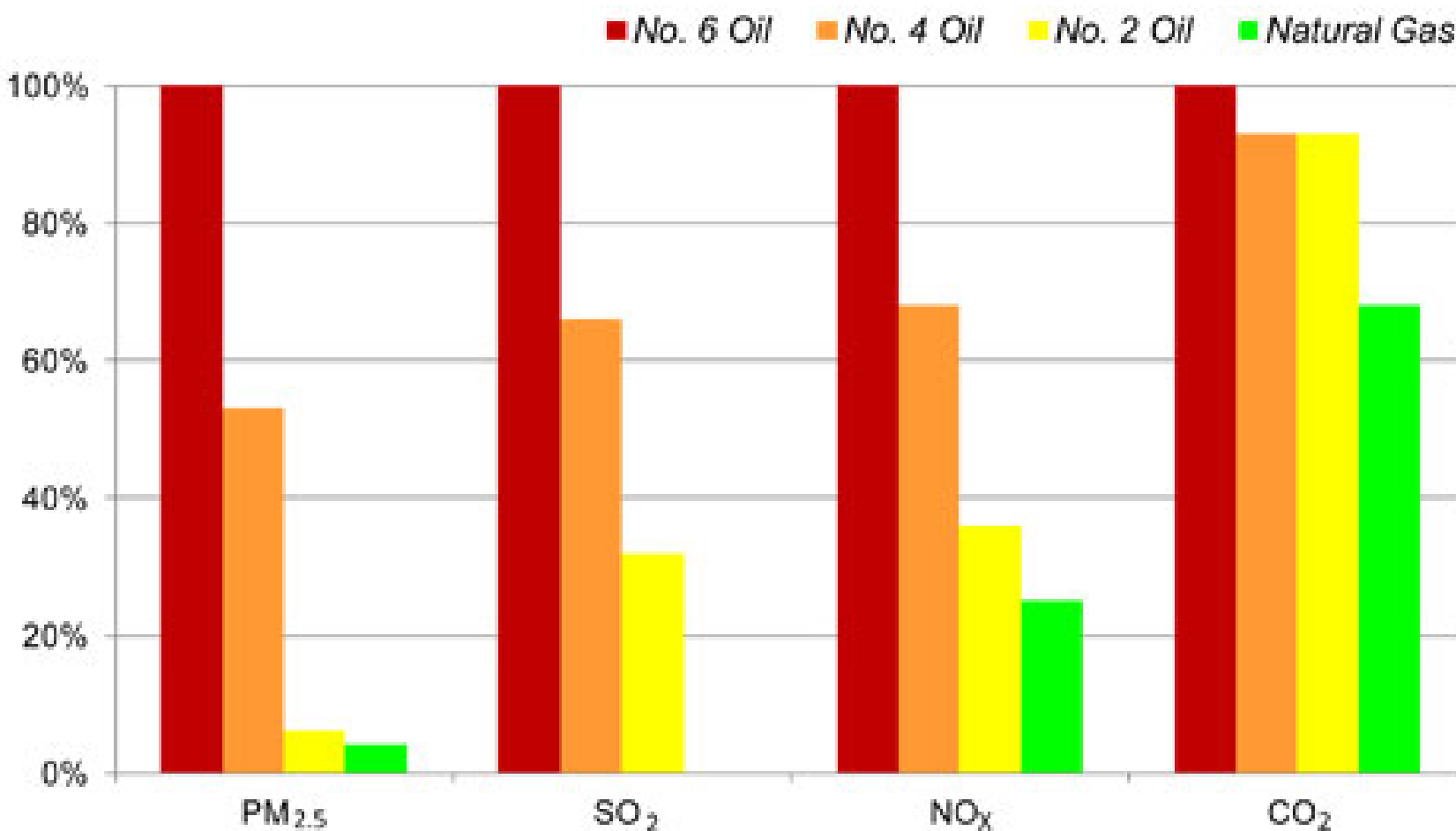
Oil Vs. Natural Gas



Natural Gas Heating Penetration



Emissions Profile of Natural Gas Compared to Heating Oil



Source: Environmental Defense Fund

Reading, MA 01867

Dear Customer,

Thank you for your recent inquiry regarding converting to clean, energy efficient, natural gas. We have had an exceptional response to our most recent ads and apologize for the delay in reaching back out to you.

Since gas is not immediately located in front of your home, we had to research the distance between your home and the nearest gas main. Our review determined that installing a gas service to your home will require approximately 750 feet of main and require a contribution of \$45,000.00 by you for this extension. This contribution is separate from the costs of the gas heating conversion.

If you are still interested in converting to natural gas heating or have any questions, please email Jim Madsen at james.madsen@us.ngrid.com. Thank you for your interest.

Sincerely,



Celeste Schneider,
Director, Residential Marketing

Compressed Natural Gas



NEW MEXICO STATE UNIVERSITY
CENTER FOR PUBLIC UTILITIES
Current Issues Conference
SANTA FE, NEW MEXICO
APRIL 8, 2019

Good Morning. It's such a pleasure for me to be here with you today. It's an opportunity to break away from Washington, DC headquarters and provide an update on the latest developments at the Pipeline and Hazardous Materials Safety Administration.

I think this was always one of my favorite conference venues, not only because I once served as Chairman of the Advisory Council, but also given the high caliber of attendees; to be with my former commissioner colleagues and friends; in beautiful Santa Fe among the striking natural scenery; clear blue skies and the wonderful smell of mesquite in the air – all make for the perfect setting to discuss the important, current issues facing the energy industry.

I now have more than a year under my belt at PHMSA, but as most of you know, I've been shoulder-deep in the world of power, energy, and public utilities for a lot longer. Those worlds are rapidly changing these days in so many different ways, which I'd like to talk about this morning.

First, I'd like to acknowledge the work that all of you in this room do – which is absolutely essential to maintaining the robust energy supplies that drive our economy and way of life. What you do is also critical to PHMSA's safety mission, which is “to protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives.”

Without the work of state Public Service Commissions, executives of regulated utility industries, and all others who contribute to our collective safety mission, an agency like PHMSA with only about 530 employees could never hope to meet the challenges posed by the vast network of 2.7 million miles of regulated pipelines and the ubiquitous transit of 1.2 million hazardous materials shipments across this country every passing day.

And those challenges just seem to keep on increasing – because the strong economic picture and energy abundance we are witnessing, create a powerful combination to bring investment in energy infrastructure and economic growth.

Perhaps with the exception of my home town region in New England, more pipelines are being built to bring oil and gas resources from production to demand centers, placing greater demands on PHMSA and the industry to ensure that the design, construction and operation of those facilities are done safely and comply with federal standards.

Technology and innovation are at heart of these developments. For the Department of Transportation and its nine modal administrations (including PHMSA), innovation is one of the pillars underpinning our mission. Of course, safety is the highest priority, but innovation, along with infrastructure and accountability, represent the other three pillars.

Let me start with **safety**. 99.9997 percent of hazardous materials make it to their intended destinations safely. But even at that rate, we experienced 285 significant incidents in 2018, which led to 8 fatalities in the pipeline sector. 90 percent of these were related to distribution systems, which is not surprising since 80 percent of the nation's pipelines are distribution, and thus regulated by the States.

For those who have met our Administrator, Skip Elliott, you know his vision is zero incidents. Getting to zero incidents is not easy – and it relies not just on good operators deeply committed to a culture of safety, but it also requires leaning on the other three pillars – **technology and innovation; infrastructure; and accountability**.

Technology brought us the shale gas revolution which will make the United States the largest producer of oil and gas in the world, with new and expanding production techniques. The growth in production is fueling the development of liquefied natural gas export facilities, and is partly driven by the reforms we achieved with the signing of a new Memorandum of Understanding with the Federal Energy Regulatory Commission that provides for a more logical assignment of roles and responsibilities between the two agencies during the licensing process for new LNG terminals. The new approach is helping to streamline the review process, and not only brings efficiencies, but also introduces much needed regulatory certainty to applicants navigating the process. These efforts are bolstering America's status as a net exporter of LNG to more than 34 countries around the globe. And this number will continue to grow.

Our work factors directly into the Administration's most important foreign policy strategic objectives by allowing America's natural gas to be liquefied and exported to nations around the world who desperately need a more diversified and secure set of energy resources.

Our efforts are tipping the geo-political balance in favor of Eastern European nations who are trying to decrease their current dependence on imported natural gas from Russian pipelines. For Caribbean island nations, it will mean access to clean burning natural gas to power electric generation, as opposed to relying on distillate fuels from Venezuela.

The numbers involved are truly astounding. A single LNG export facility can deliver an economic impact of \$10 billion or more per year, and strong demand from the Asia-Pacific region looks to likely drive those numbers even higher over time.

New technologies promise to accelerate change even more, such as autonomous vehicles, drones, and magnetic levitation hyperloop trains. It paints a dramatic picture of change and opportunity, and it is coming at us fast.

At PHMSA and across DOT, we are making strong efforts to refine our vision by incorporating new technologies into regulation, like the recent plastics rule that will bring superior pipeline products all the while reducing construction costs.

We are combing through all the regulations to update and remove outdated ones that have not kept pace with technological advancements. But we will make no move unless we are convinced by clear and convincing data that our efforts will not compromise safety – the first and foremost pillar underpinning our mission.

But none of it can happen without the second pillar – **infrastructure and investment**. Investment in basic infrastructure that is less susceptible to the pace of technology, must occur – like roads and bridges – and of course pipelines, which may have been manufactured from materials that are now deemed high risk.

You all know what I'm talking about – cast iron and bare steel distribution systems. Great progress has been made – cast iron infrastructure has declined by almost half in the past decade, and 20 or more States have eliminated it all together.

That cause, crystallized by the tragic incidents in San Bruno, CA (2010), Allentown, PA (2011) and East Harlem, NY (2012), ultimately brought me to Washington DC, with a slight (2 year) detour south of the border from here – Mexico. These accidents make it clear that investment must be systematic – with operators gathering essential data and making compelling presentations to economic regulators on the one hand; and regulators making the courageous decisions to increase utility rates to recover those costs, on the other hand.

That's the heart of the regulatory compact that still remains the envy of the world – it brings regulatory certainty, confidence to the financial community, and ultimately guarantees affordable, reliable utility services to the American public. Maintaining the highest level of safety – and getting as close as possible to a “zero-incident” vision – is a small additional price to pay.

That brings me to last pillar – **Accountability**.

Much of the current regulatory construct depends upon the industry to continuously assess the integrity of their pipeline systems; to identify risk; and ultimately to prioritize investments that guarantee operation of safe and secure systems. The same is true for the power sector.

The safety regulatory construct under federal law provides great flexibility to the industry. But let me say this: With great flexibility comes great responsibility. Today's technologies of inline inspection capabilities are providing operators with better tools to evaluate integrity – but the enforcement cases crossing my desk demonstrate that those technologies still have a long way to go. They are not perfect, which is why PHMSA spends millions of dollars each year in research and development initiatives with universities.

Integrity management protocols are not a generic binder to be housed on a shelf. They are a living document that chronicles the life of the asset until it is either retired or replaced. Operators have to be held accountable for what they do – or don't do – with integrity management.

There's simply no alternative, since for the nation's energy infrastructure to grow and meet our domestic and global strategic needs, the public will demand the highest level of safety and protection of the environment, as we know from reading about the growing opposition to pipeline projects across the country.

The Nexus between Safety and Security

I want to close on a subject that was recently the topic of a technical conference at FERC – the security of our nation’s energy delivery infrastructure. PHMSA’s mission may be safety, but you can never really separate safety from security. I think the TSA Administrator, David Pekoske, said it best at FERC two weeks ago – “safety and security are two sides of the same coin.”

Security has two components: Physical and cyber threats characterized by the actions of bad actors; with the second component being reliability as measured by supply and delivery capabilities, and of course planning for system contingencies.

Earlier this year, the Director of National Intelligence released the Worldwide Threat Assessment, and what was notable was the growing emphasis on identified threats from China. China now has the capability to launch cyber-attacks that could cause disruptive effects on critical infrastructure—“*such as disruption of a natural gas pipeline for days to weeks*—in the United States.”

Aside from this risk, on the reliability side, there were a number of recent incidents on pipeline systems in Minnesota, Michigan and my home state of Rhode Island where more than 6,000 customers lost gas service on a cold January day just a few months ago.

Those incidents are drawing attention to the fact that system resiliency is being stretched thin in some parts of the country. Demand for natural gas is growing both for heating and power generation; utilization on some systems is maxed out; and in some cases, there were few or no contingencies for maintaining gas supply to customers.

There’s simply no reason for not having adequate pipeline capacity to meet the forecasted demands on the system. That goes equally for the need to plan for operational contingencies in the same manner we do for the electric transmission system. And there’s no excuse for not connecting new customers who desire natural gas service in States like New York and Massachusetts, where local utilities have been forced to enact moratoriums on new connections.

But when you marry the conventional reliability risk to the physical and cyber security components, we undoubtedly find ourselves in a very precarious position, particularly in light of the clear and growing interdependency between the gas and electric sectors. Given the current threat assessment, we clearly need to plan for

what we are going to do in the event systems go down due to the malevolent acts of third parties, something that goes far beyond our current efforts of establishing information sharing platforms.

So, safety and security go hand in hand, and the consequences can be often be the same. You've probably heard me ask this before – what do the San Bruno, CA pipeline tragedy and Midwest Black-Out (2003) have in common? Besides both being avoidable, they both resulted in eight fatalities.

Those tragic incidents could pale in comparison to what could happen if we experienced a well-coordinated cyber-attack on pipeline systems. So, let's be ready; let's continue to work together; and let's make the necessary investments now.

Thank you again for the opportunity to speak today. I'm happy to answer any questions.



Pipeline Safety Updates

Paul Roberti

Chief Counsel

The Pipeline and Hazardous Materials Safety Administration

August 20, 2019



PHMSA Mission

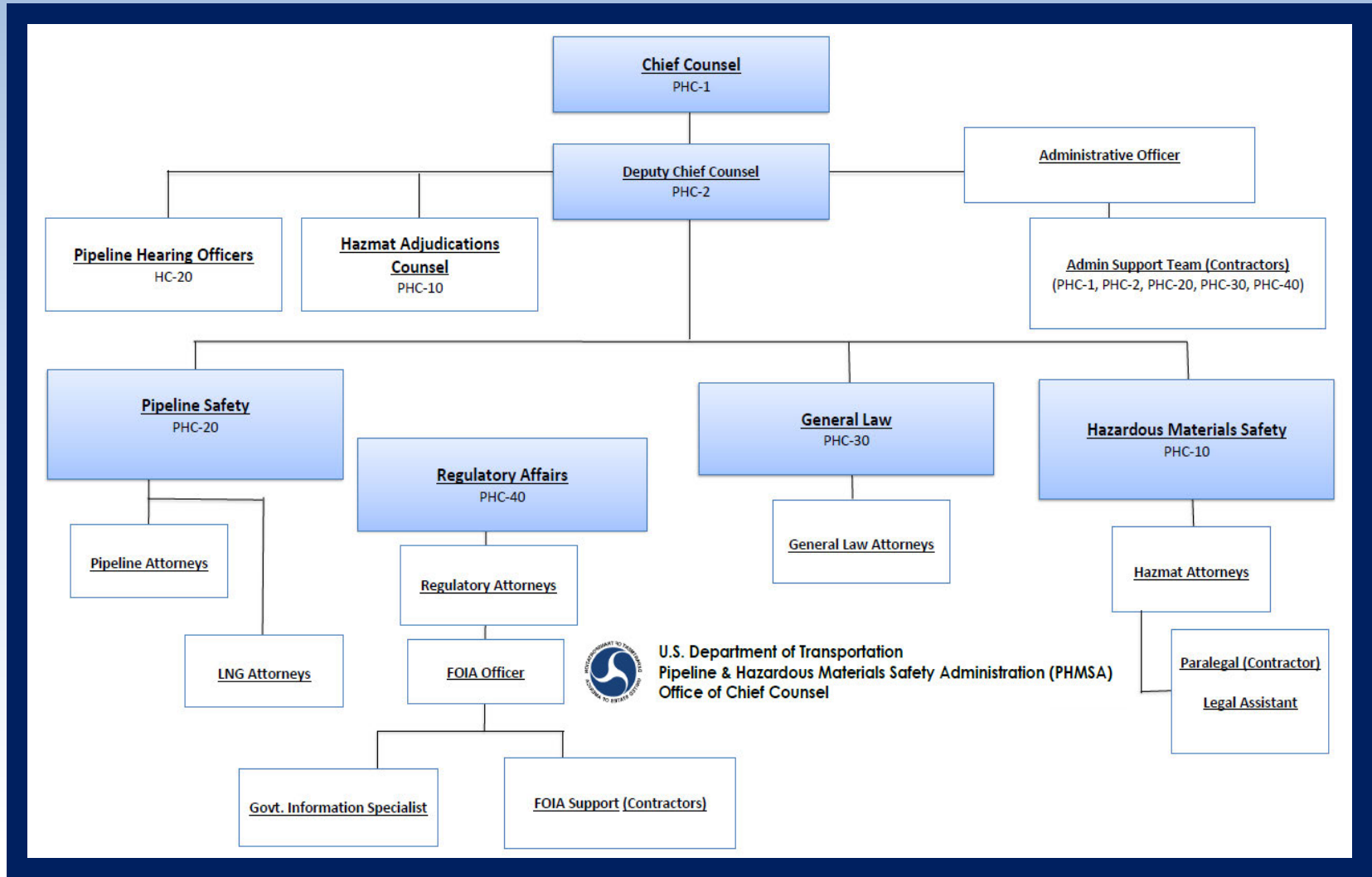
To protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives.

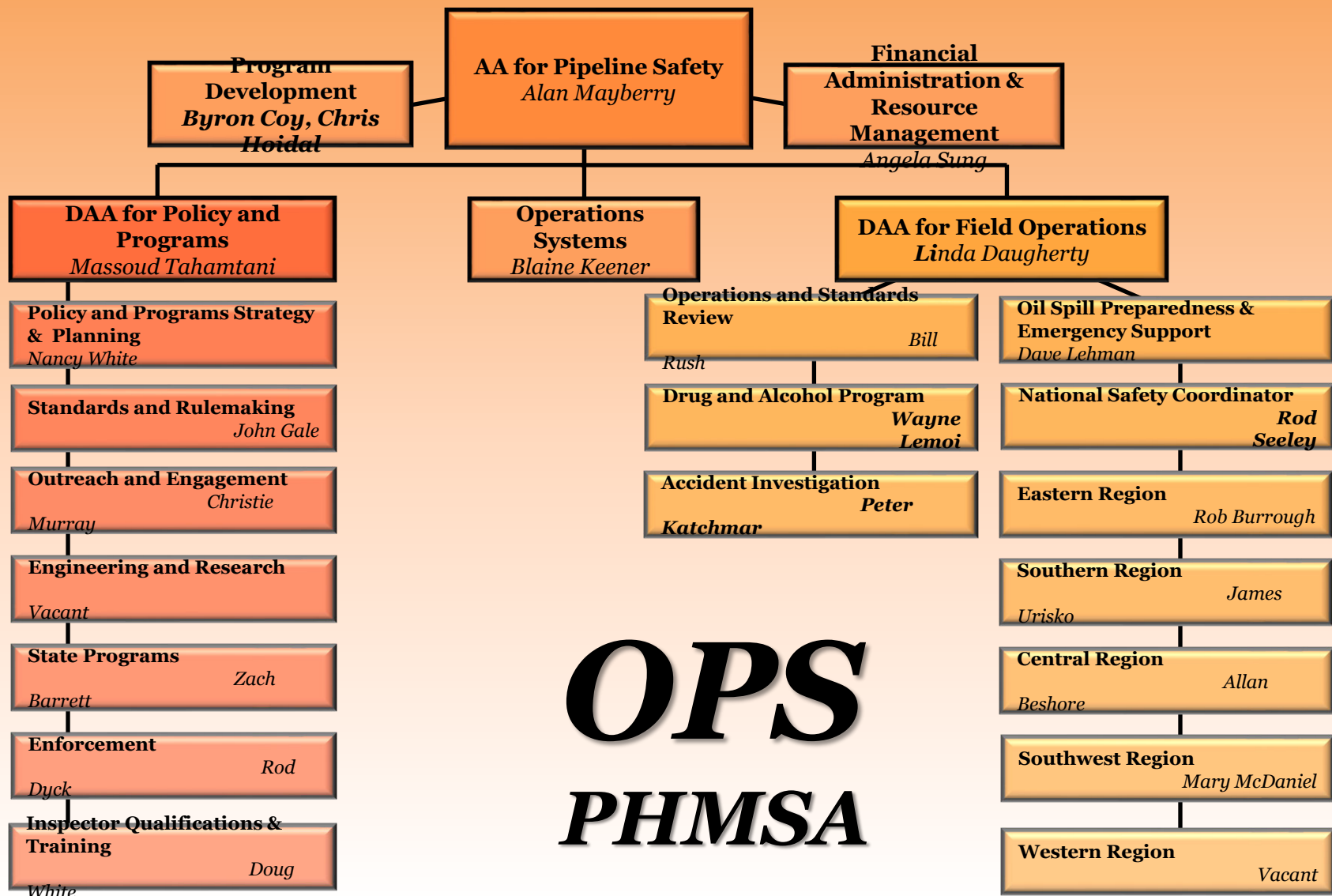
Additional Goals:

- Prevent incidents by establishing national policy, setting and enforcing standards, educating, and conducting research.
- Prepare the public and first responders to mitigate the consequences of any incidents that do occur.



PHMSA Org Chart



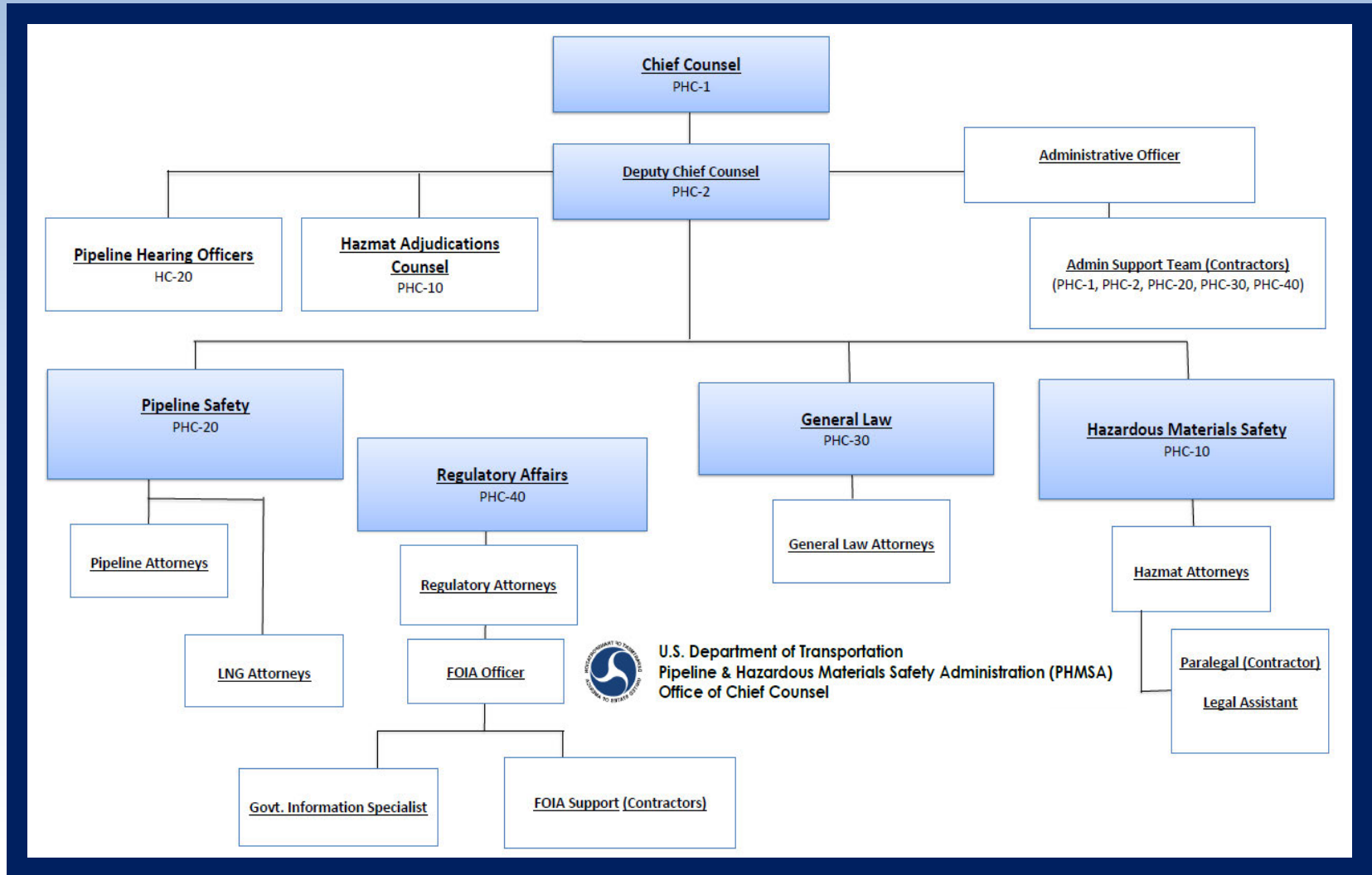


OPS PHMSA

As of April 2019



PHMSA Org Chart



Gas Transmission and Hazardous Liquid Pipelines

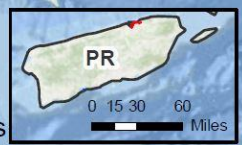
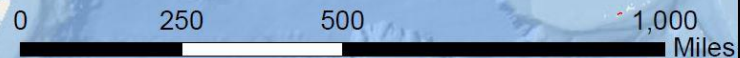
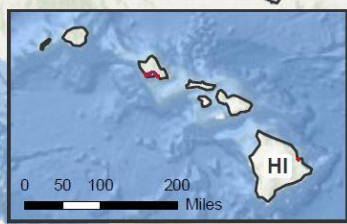
Pipeline data as of 02/22/2018

Map created March 2018
Projection: Albers Equal Area, NAD 83

Statistics

NPMS Pipelines

- Gas Transmission
- Hazardous Liquid



2018 Data Update

Measures counting incidents are updated through CY 2018

Gas performance measures using miles updated through CY 2018

Liquid performance measures using miles updated through CY 2018

-
7



PHMSA Regulated Pipeline Facilities OPS and States

Pipeline Facilities by System Type from CY 2018 Annual Reports			
System Type	Miles	% Miles	# Operators
Hazardous Liquid	218,289 8,231 Tanks	8%	525
Gas Transmission	301,495	11%	1,069
Gas Gathering	17,878	< 1%	370
Gas Distribution	2,238,468	81%	1,355

Total Miles	2,776,130
--------------------	------------------

Liquefied Natural Gas	157 Plants, 230 Tanks, 87 Operators Plants - 26 Interstate and 131 Intrastate
Underground Natural Gas Storage	403 Facilities, 457 Reservoirs 17,422 Wells, 126 Operators Facilities - 222 Interstate and 181 Intrastate

data as-of 7-2-2019



Categories of Incident Reports

Serious – fatality or injury requiring in-patient hospitalization, but **Fire First** are excluded.

Fire First are gas distribution incidents with a cause of “Other Outside Force Damage” and sub-cause of “Nearby Industrial, Man-made, or Other Fire/Explosion”

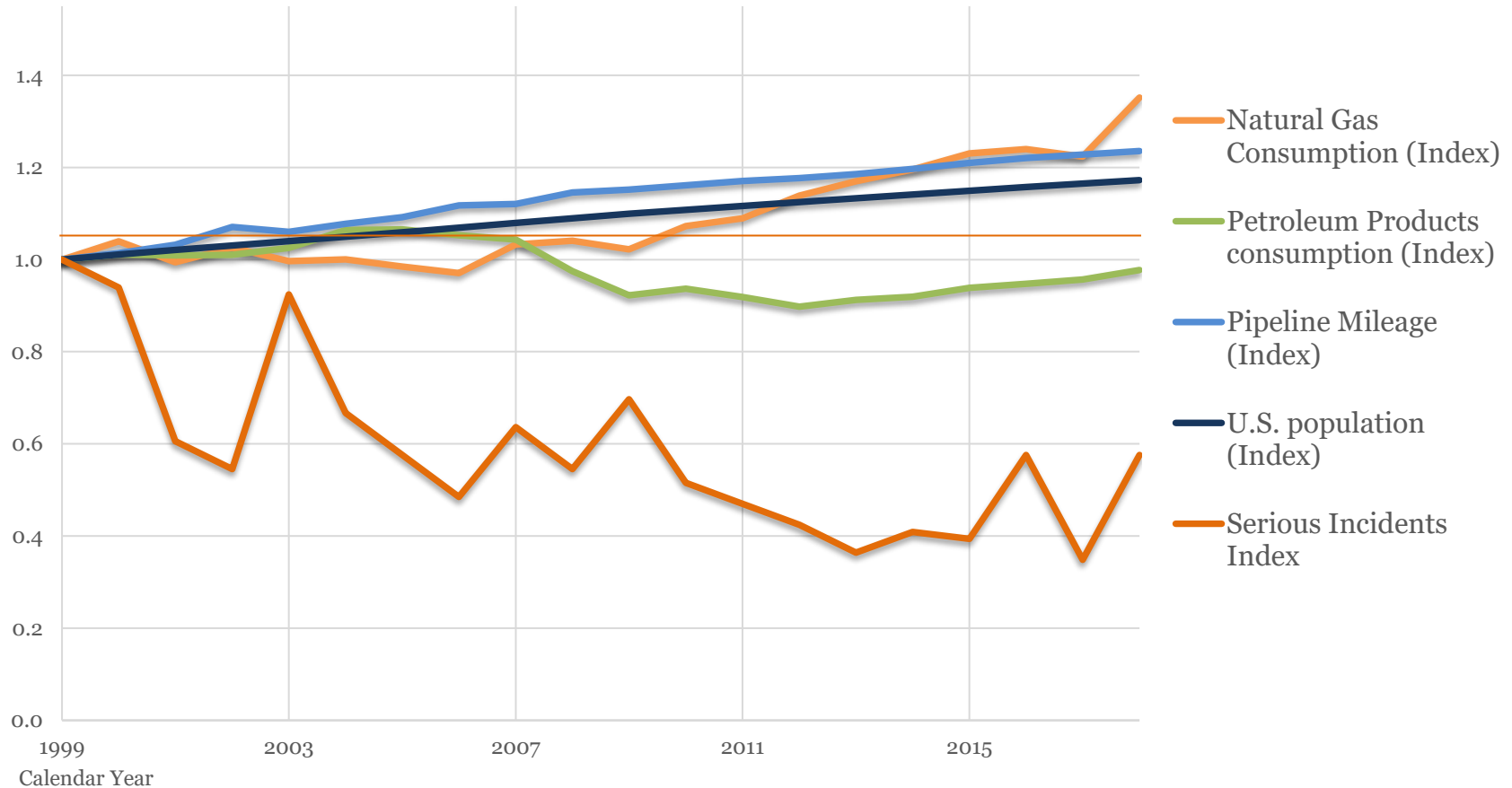
Significant include any of the following, but **Fire First** are excluded:

1. Fatality or injury requiring in-patient hospitalization
2. \$50,000 or more in total costs, measured in 1984 dollars
3. Highly volatile liquid (HVL) releases of 5 barrels or more
4. Non-HVL liquid releases of 50 barrels or more
5. Liquid releases resulting in an unintentional fire or explosion



Pipeline Serious Incidents with Context Measures (1999-2018)

Index
(1999 = 1)



Data Sources: Energy Information Administration, Census Bureau, PHMSA Annual Report Data, PHMSA Incident Data - as of 06/17/2019

1
0

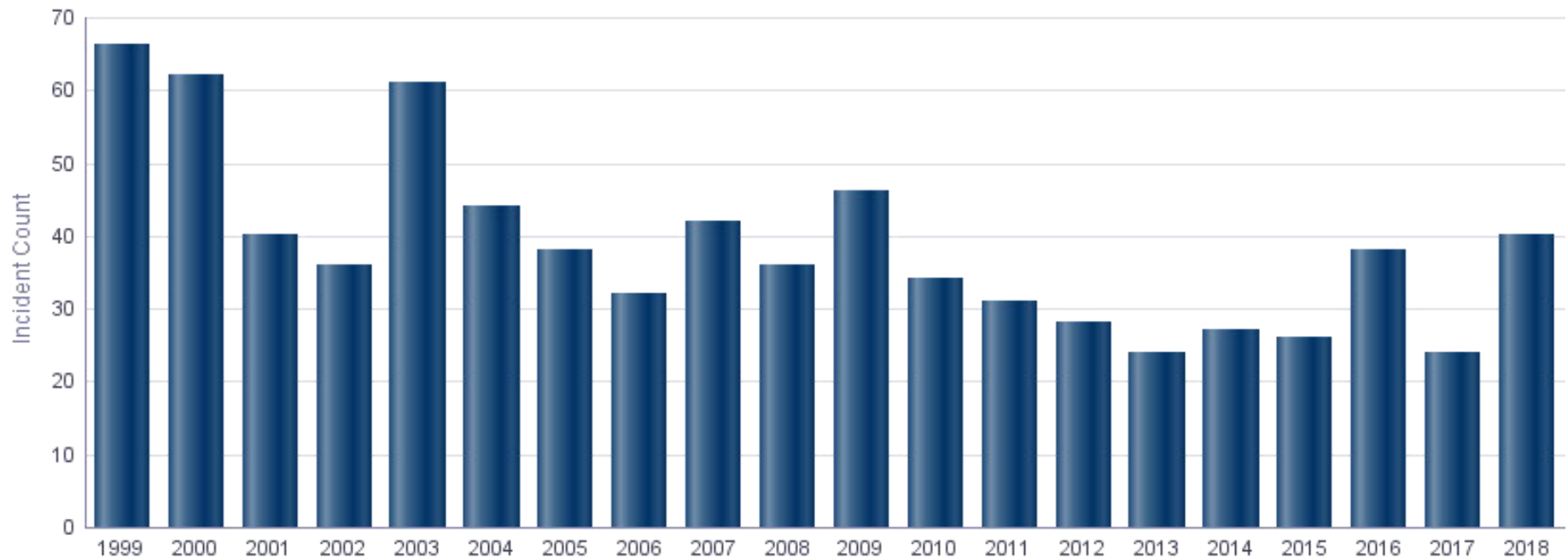


U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

"To protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives."



Serious Incidents



40 in CY 2018 (24 in CY 2017)

90%	Gas Distribution	7.5%	Gas Transmission
2.5%	Hazardous Liquid Storage	0%	LNG, Gas Gathering, Underground NG

data as-of 2-14-2019



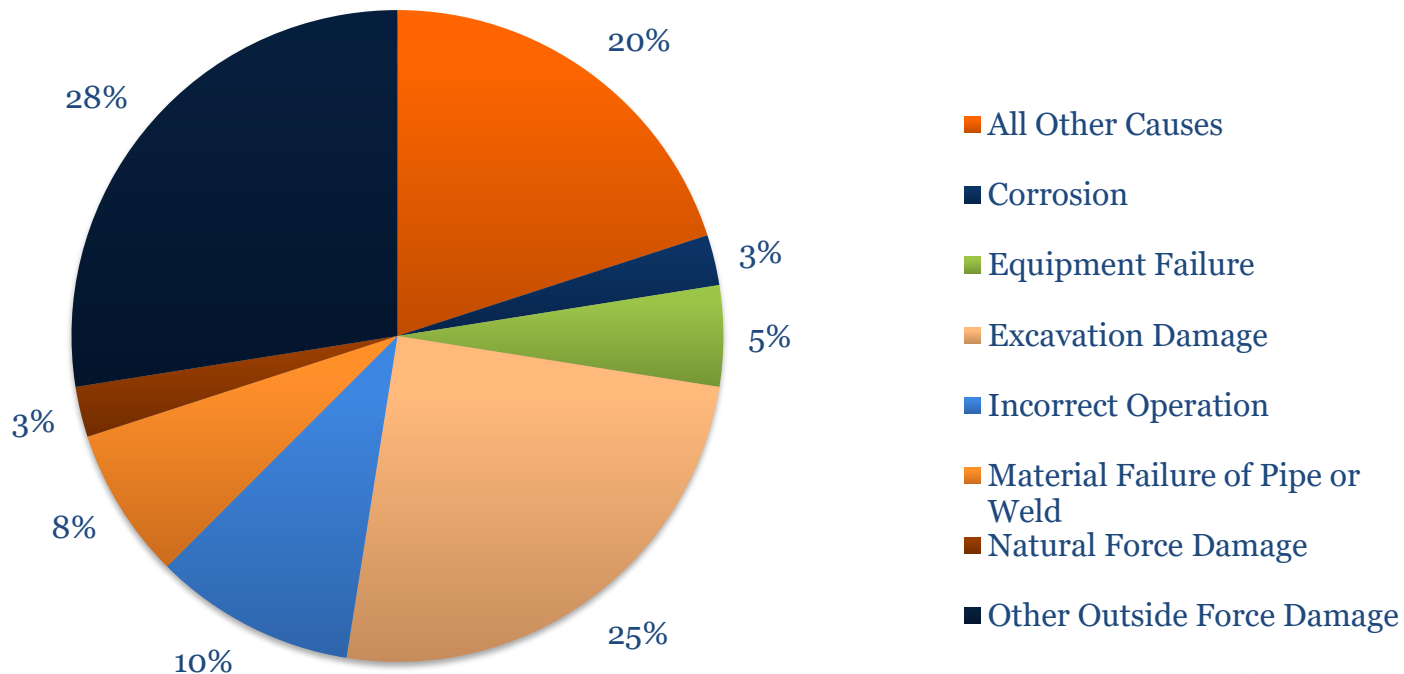
Serious Incidents by Cause CY 2018

Leading Causes:

Other Outside Force Damage (Vehicular Damage)

Excavation Damage (Third Party)

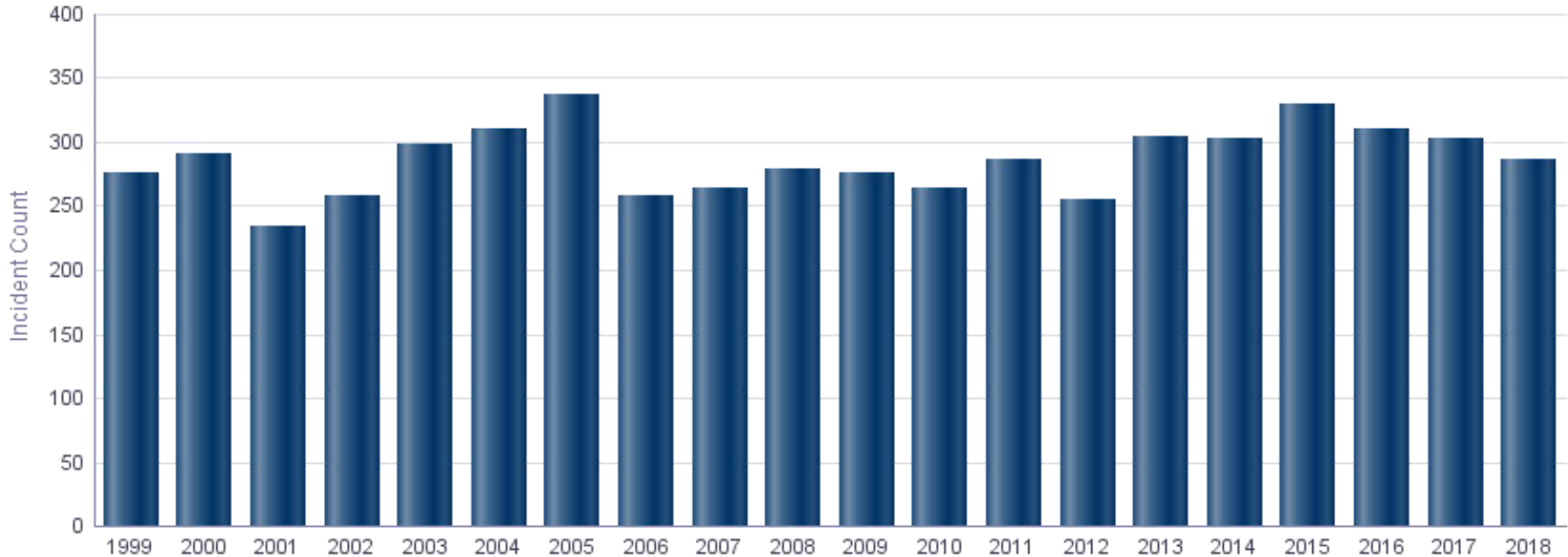
All Other Causes (Under Investigation)



data as-of 3-1-2019



Significant Incidents



285 in CY 2018 (302 in CY 2017)

26% Gas Distribution

21% Gas Transmission

<1% LNG

<1% Gas Gathering

52% Hazardous Liquid

<1% Underground NG Storage

data as-of 2-14-2019



Significant Incidents by Cause CY 2018

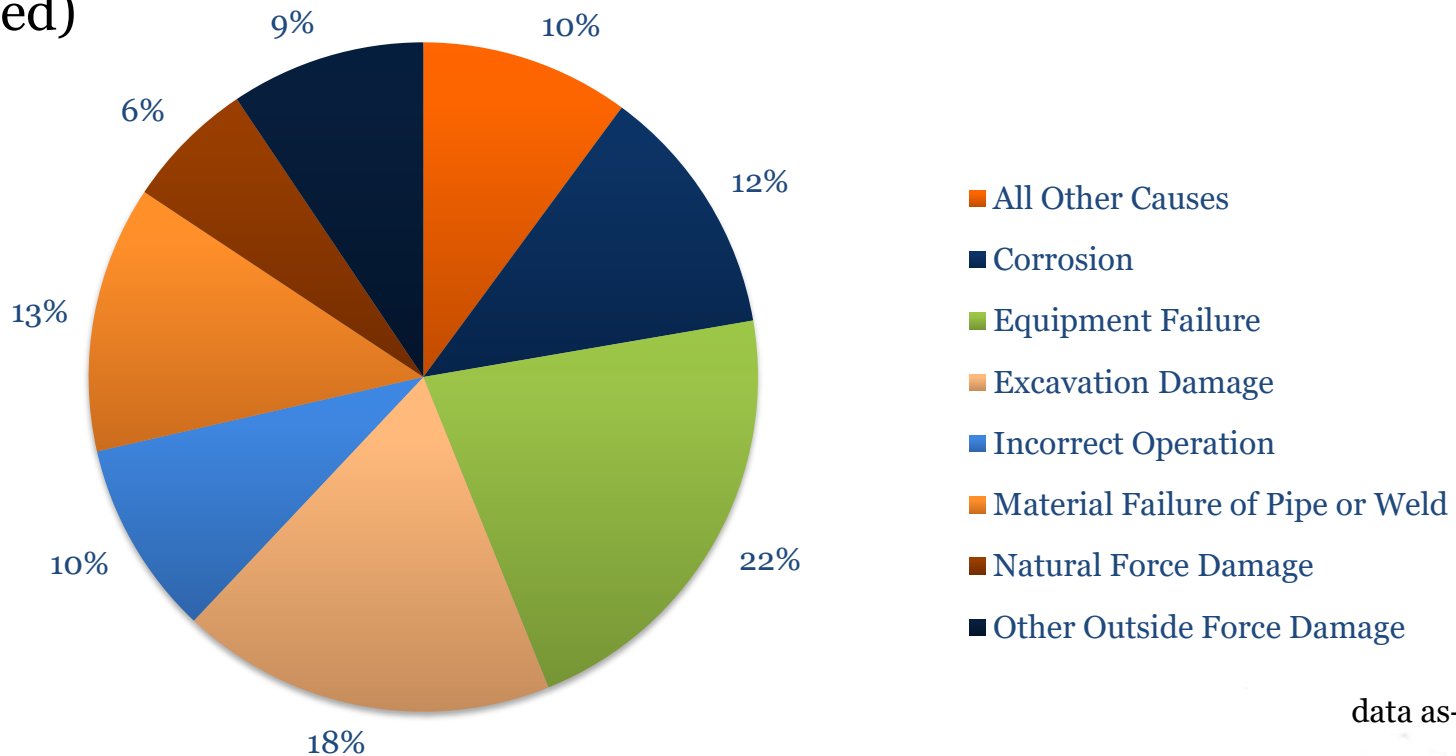
Leading Causes:

Equipment Failure (Control/Relief, Connections)

Excavation Damage (Third Party)

Material Failure of Pipe or Weld (Construction-

Related)

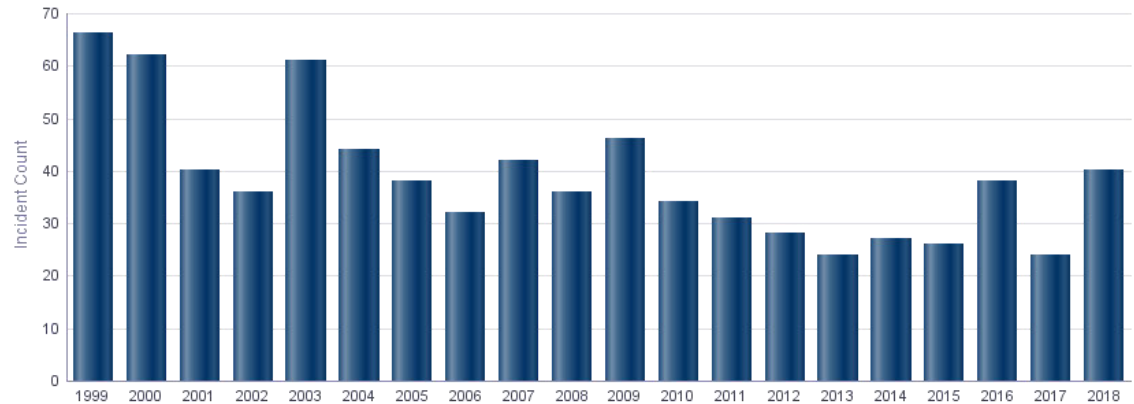


data as-of 3-1-2019

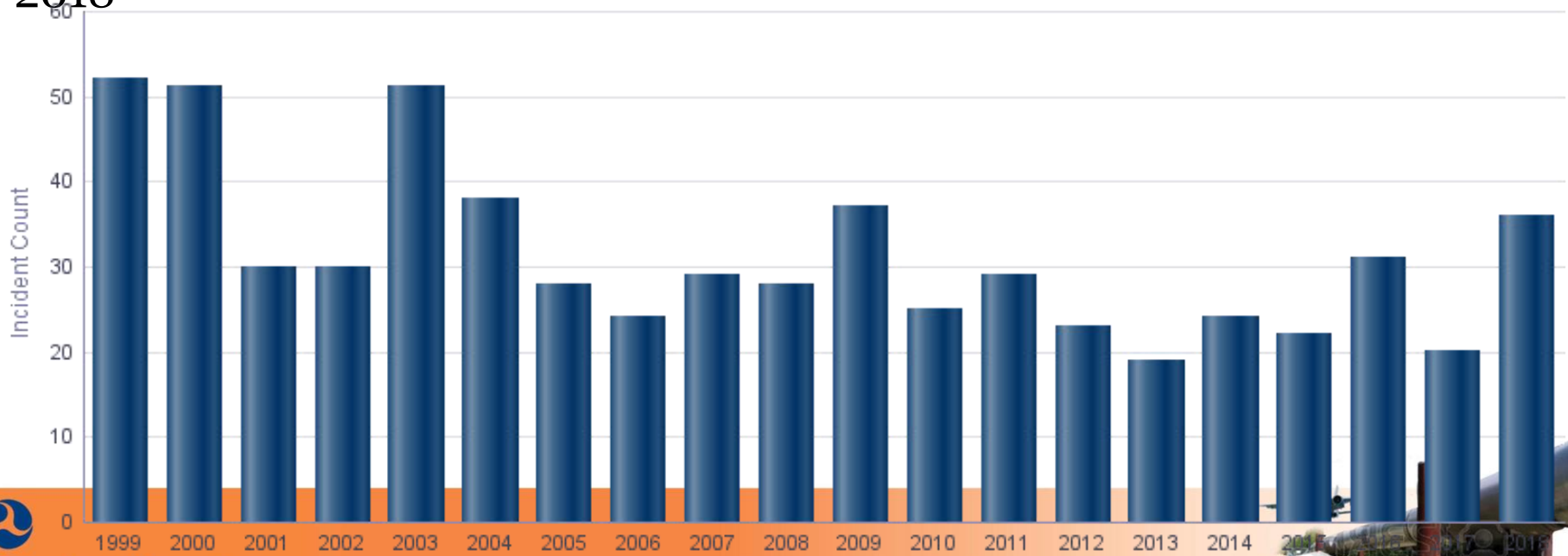


Gas Distribution Serious Incidents

**All System
Types
Increased in
2018**



**Gas Distribution
Increased 44% from 2017 to
2018**



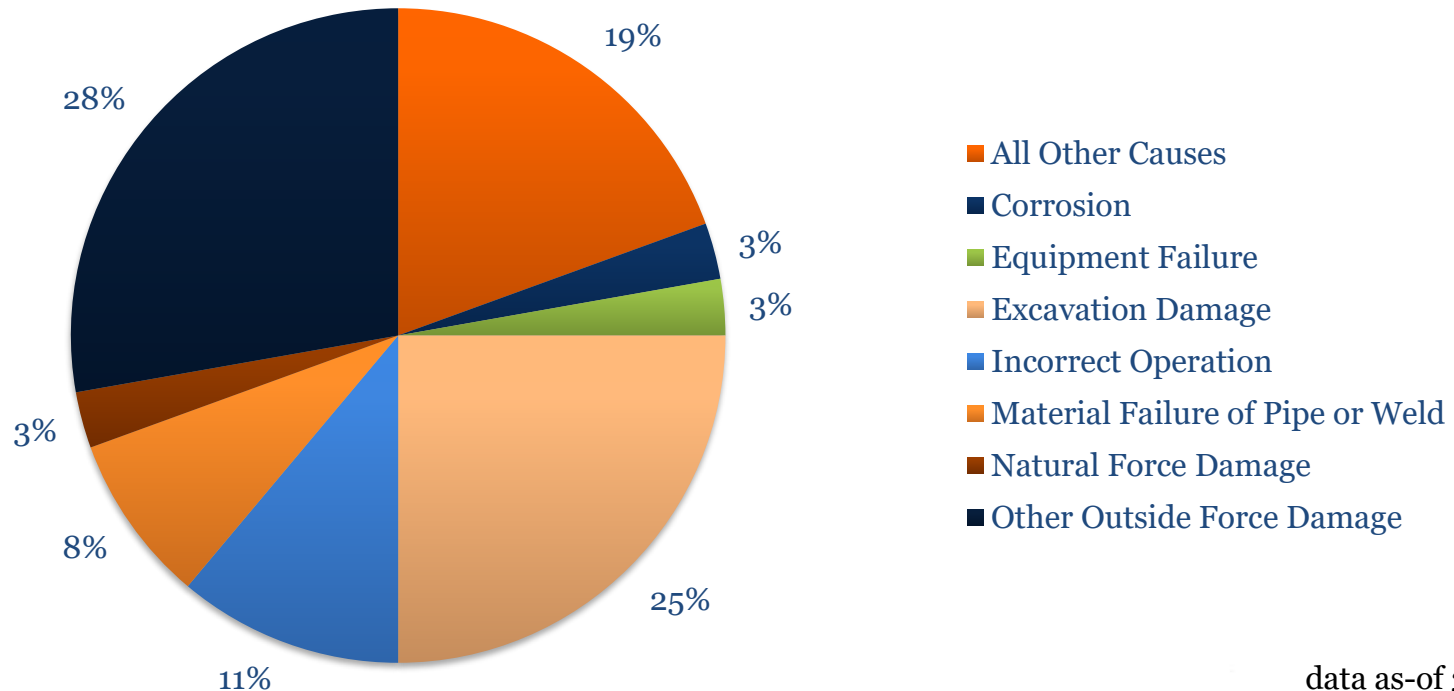
Gas Distribution Serious Incidents CY 2018

Leading Causes:

Other Outside Force Damage (Vehicular Damage)

Excavation Damage (Third Party)

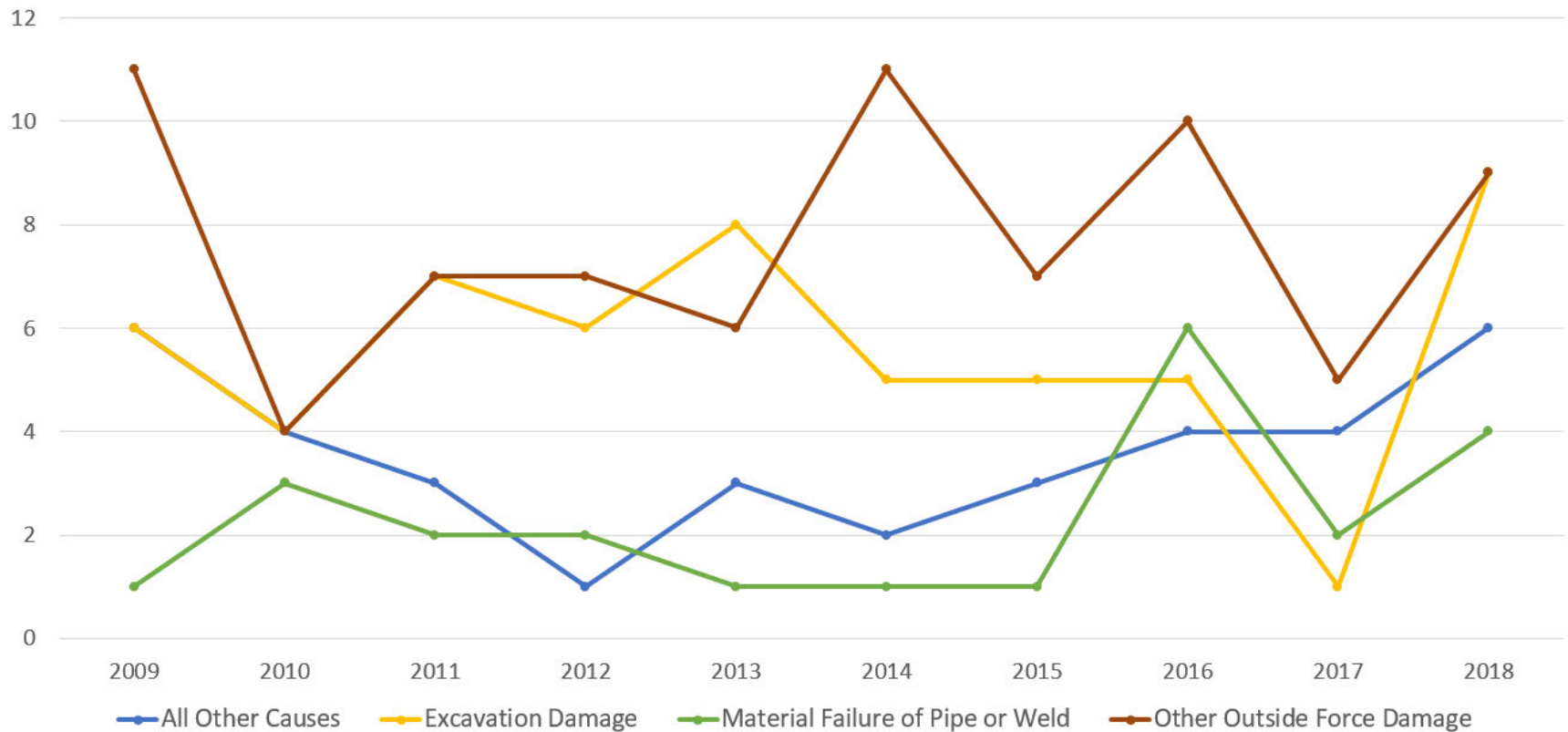
All Other Causes (Under Investigation)



data as-of 3-1-2019



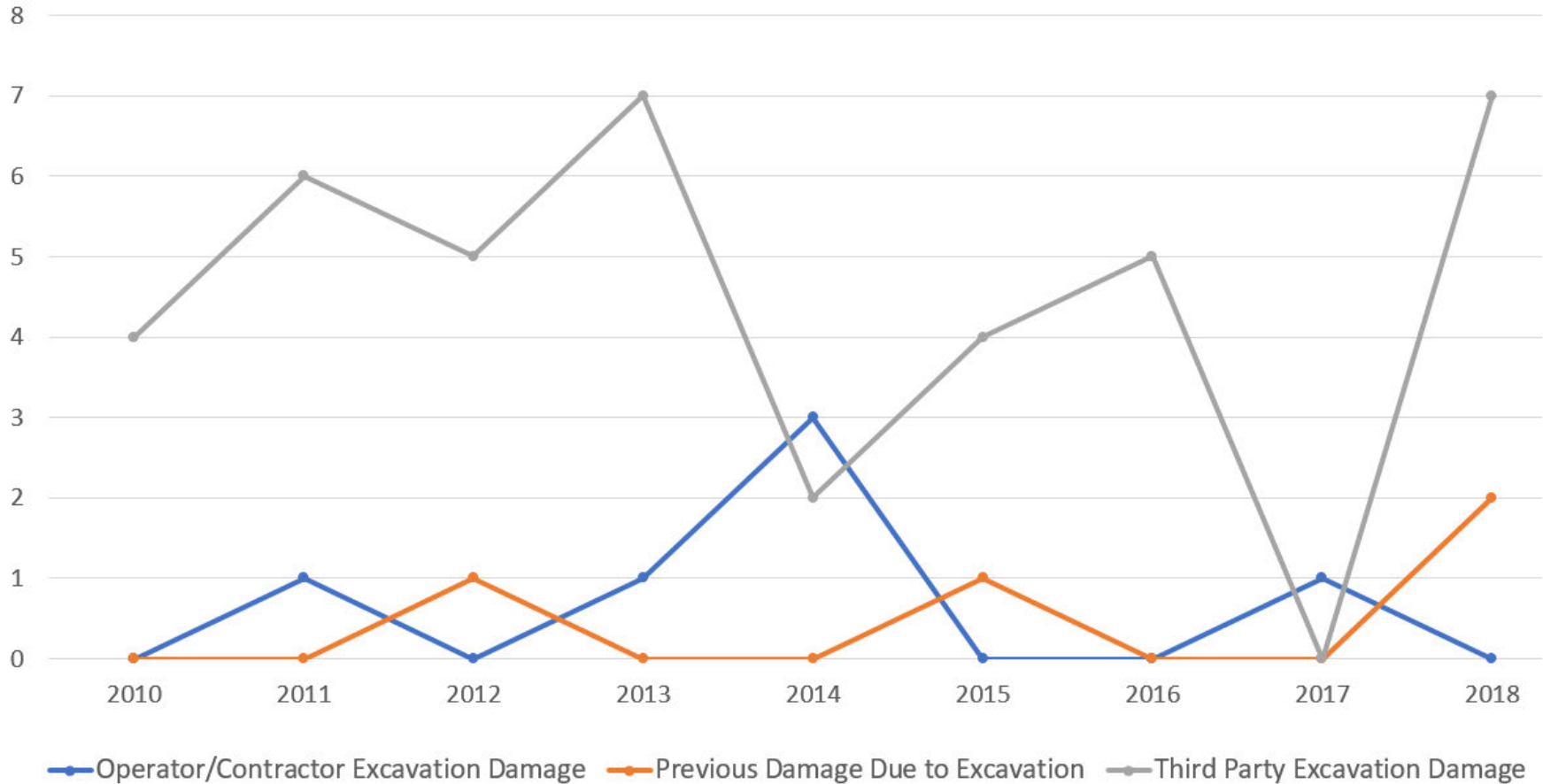
Gas Distribution Serious Incidents Four Leading Causes 2009-2018



data as-of 4-1-
2019



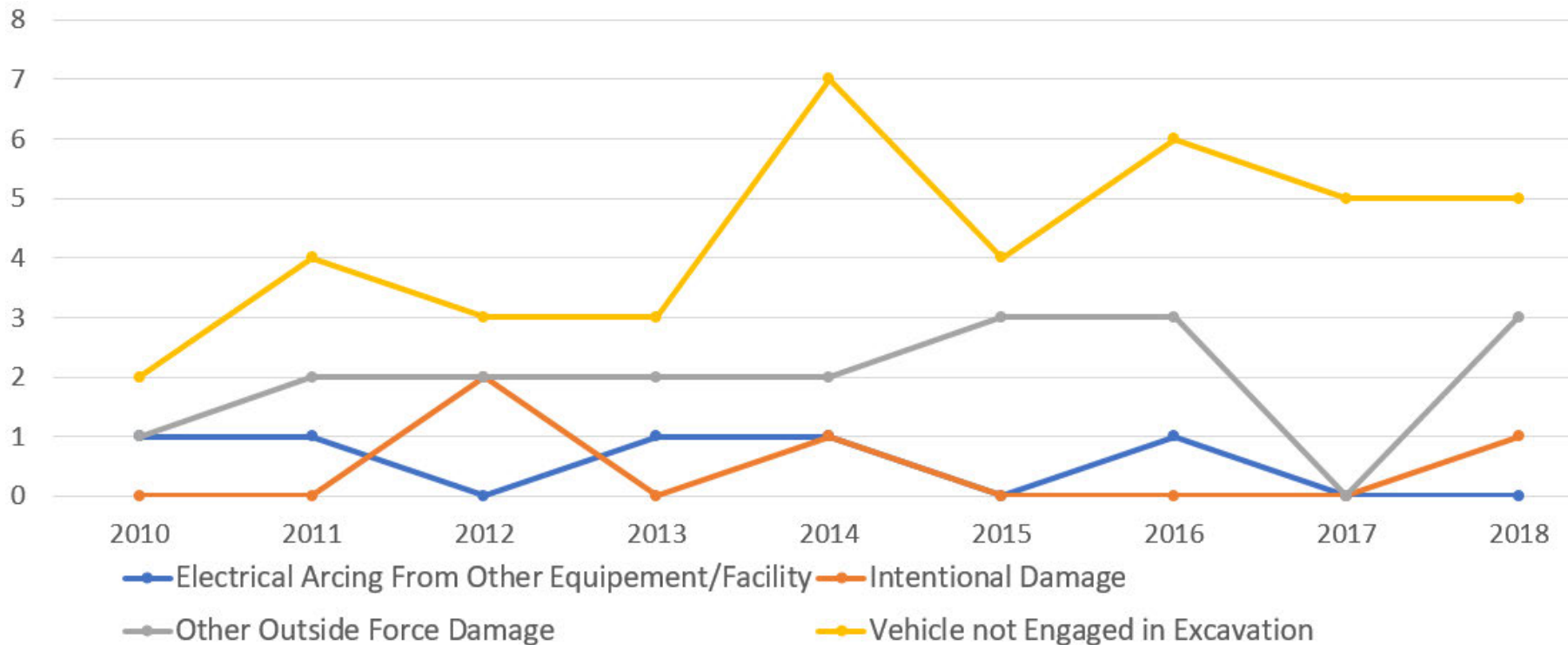
Gas Distribution Serious Incidents Excavation Damage by sub-Cause 2010-2018



data as-of 4-1-2019



Gas Distribution Serious Incidents Other Outside Force Damage by sub-Cause 2010-2018

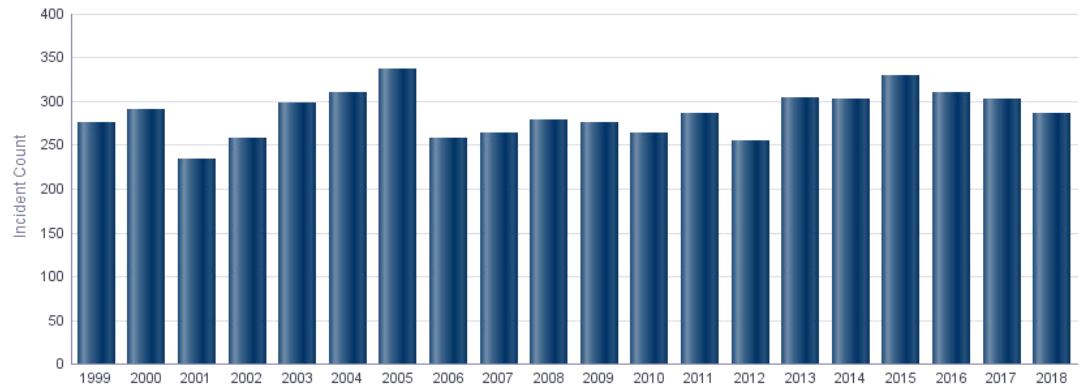


data as-of 4-1-2019

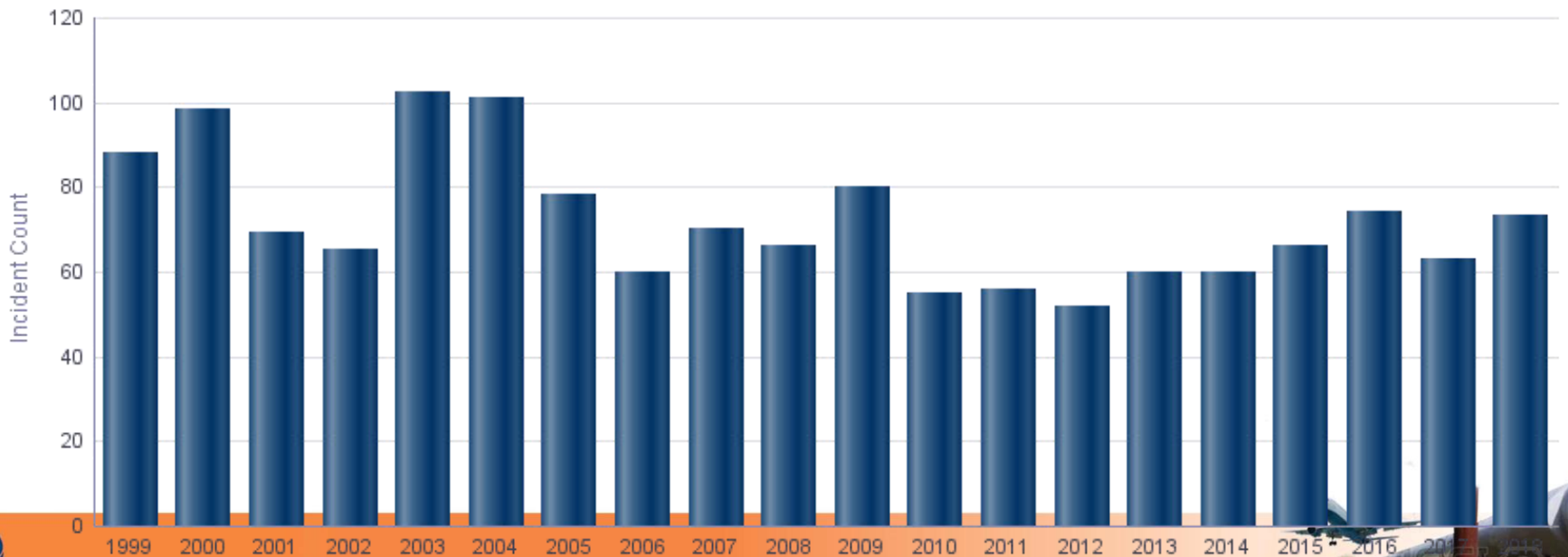


Gas Distribution Significant Incidents

**All System Types
Decreased in 2018**



**Gas Distribution
Increased 16% from 2017 to 2018**



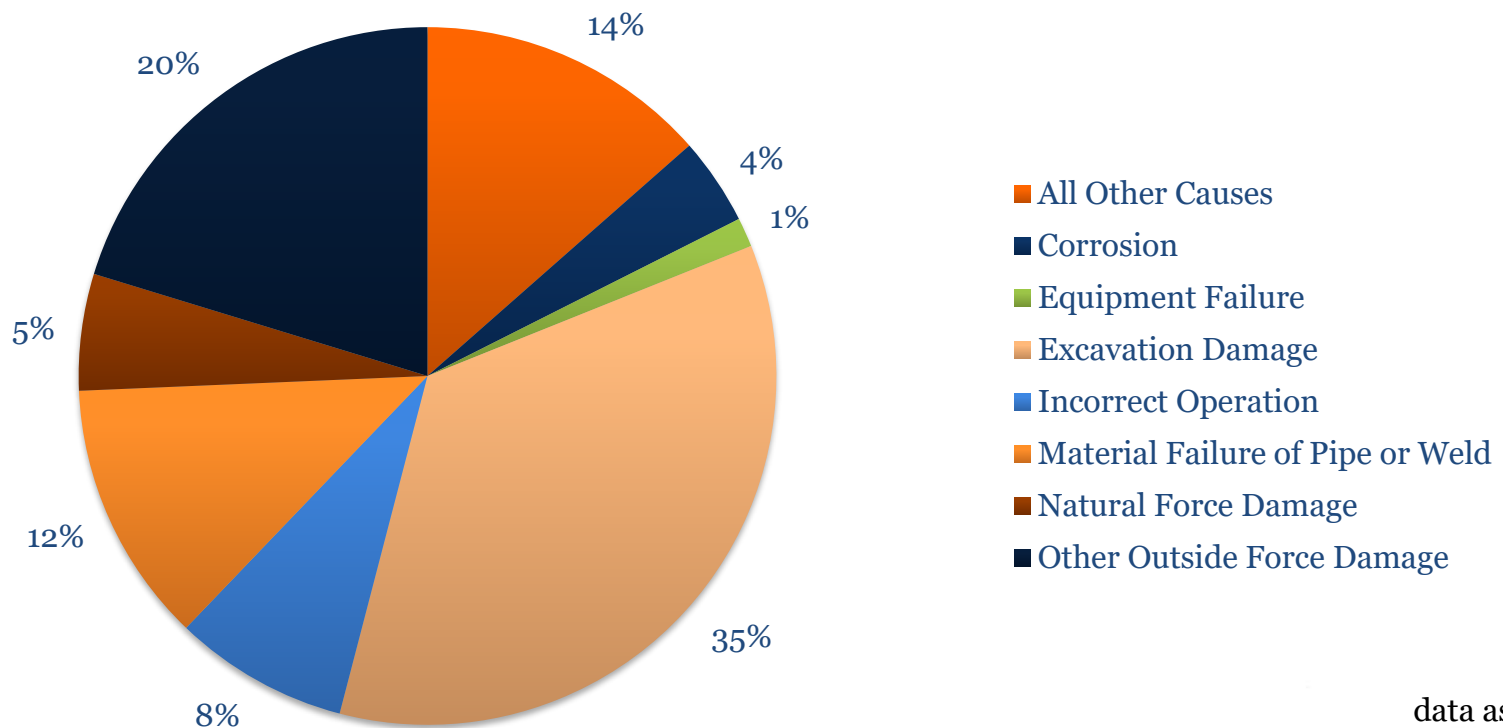
Gas Distribution Significant Incidents CY 2018

Leading Causes:

Excavation Damage (Third Party)

Other Outside Force Damage (Vehicular Damage and Other)

All Other Causes (Under Investigation)



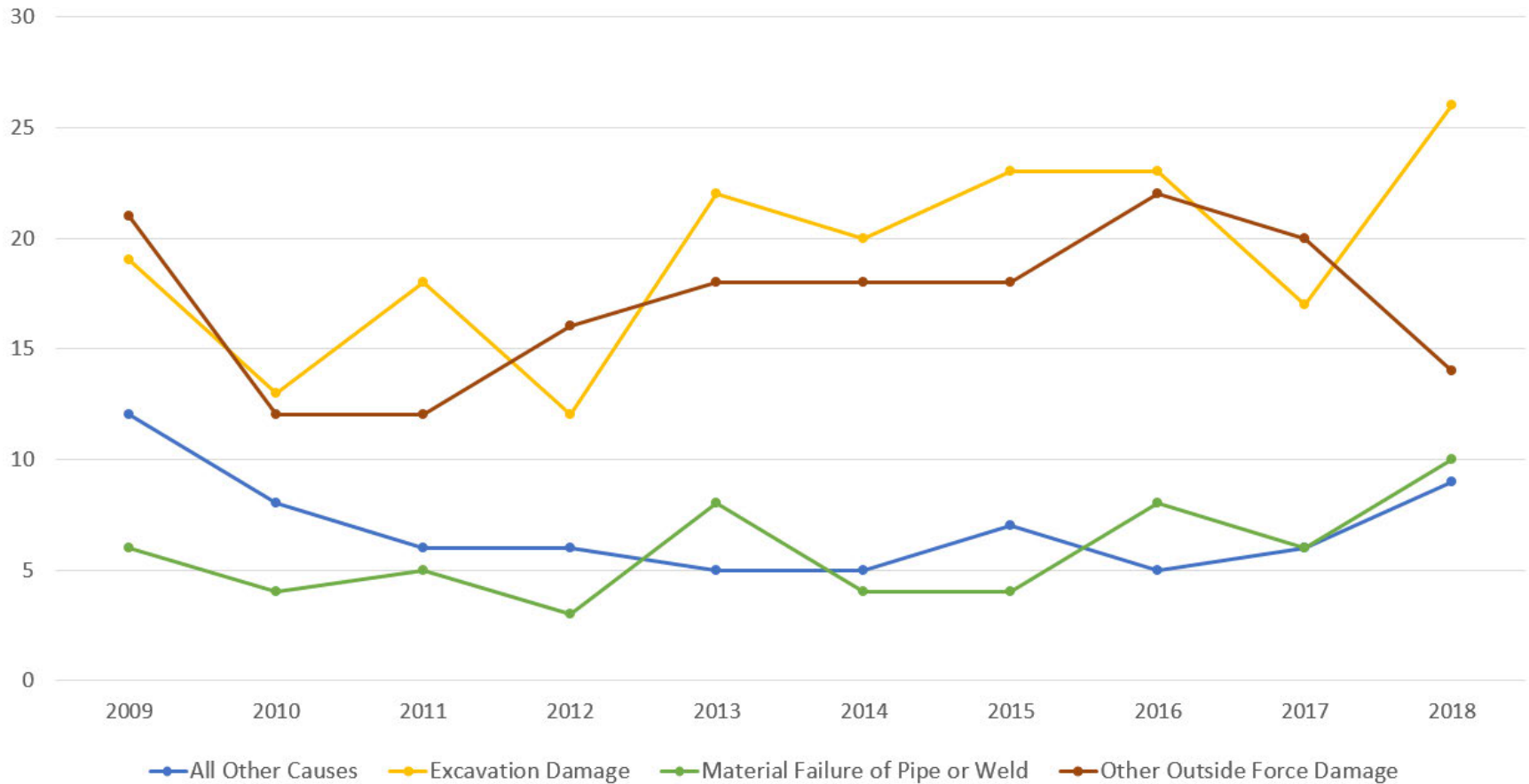
data as-of 3-1-2019



Gas Distribution Significant Incidents

Four Leading Causes

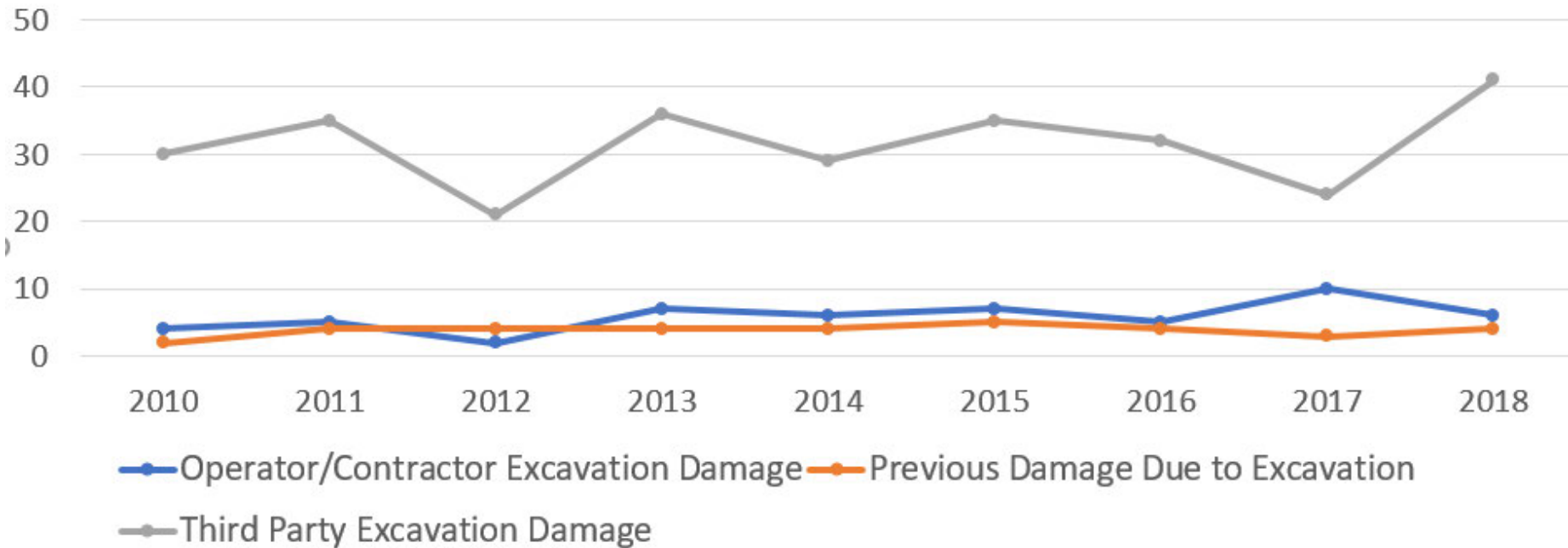
2009-2018



data as-of 4-1-2019



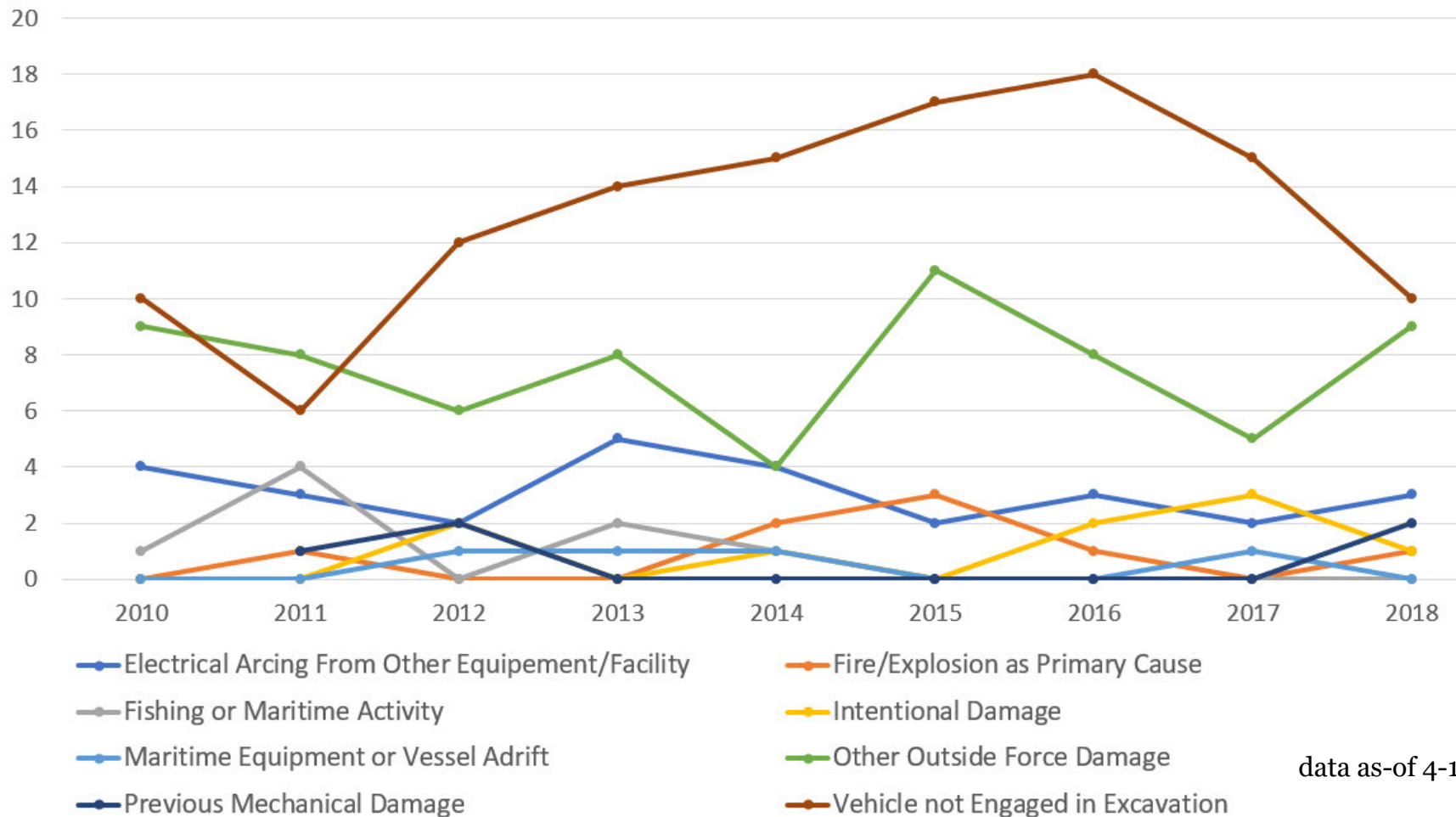
Gas Distribution Significant Incidents Excavation Damage by sub-Cause 2010-2018



data as-of 4-1-2019



Gas Distribution Significant Incidents Other Outside Force Damage by sub-Cause 2010-2018

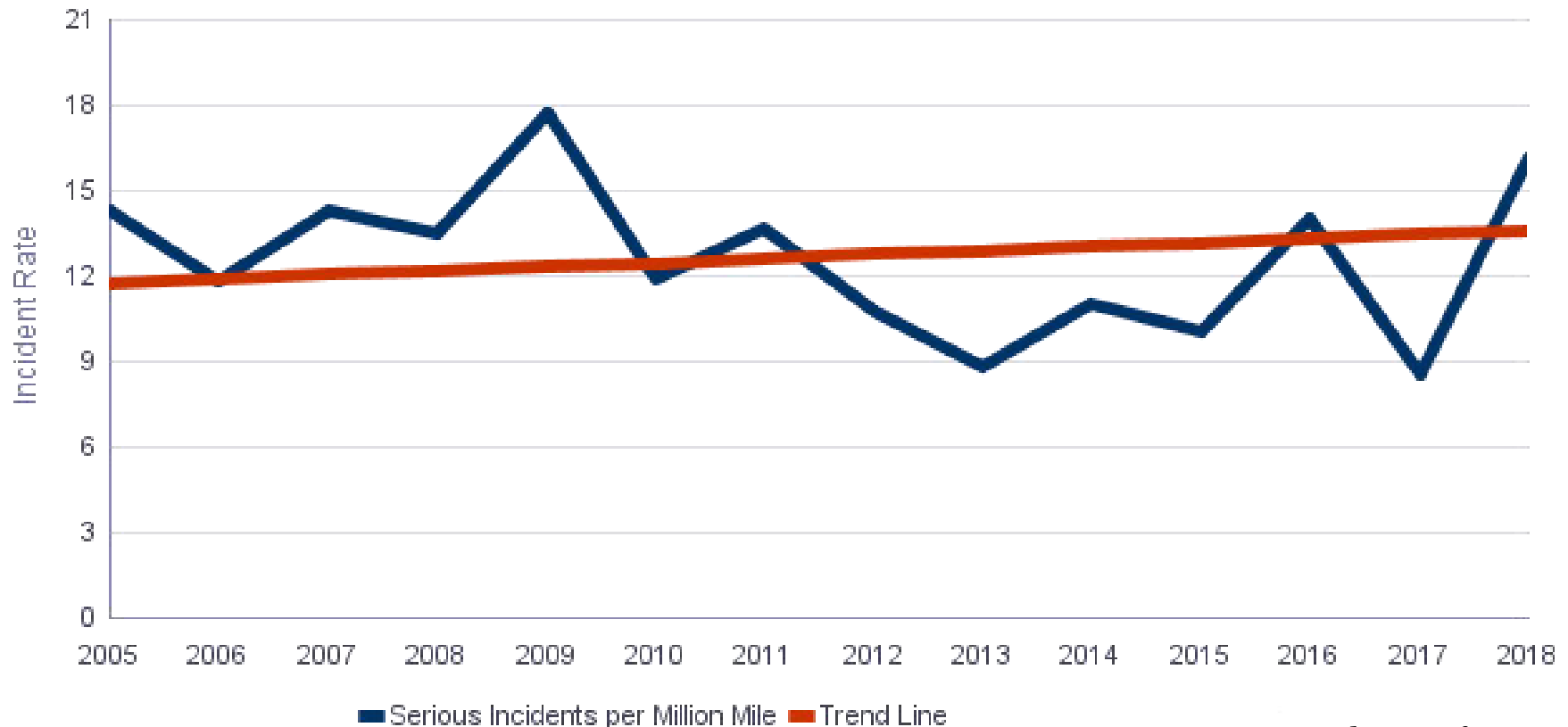


data as-of 4-1-2019



Gas Distribution Serious Incidents per Million Miles 2005-2018

Rate has fluctuated since 2005 with overall increase of 13%



data as-of 3-18-2019

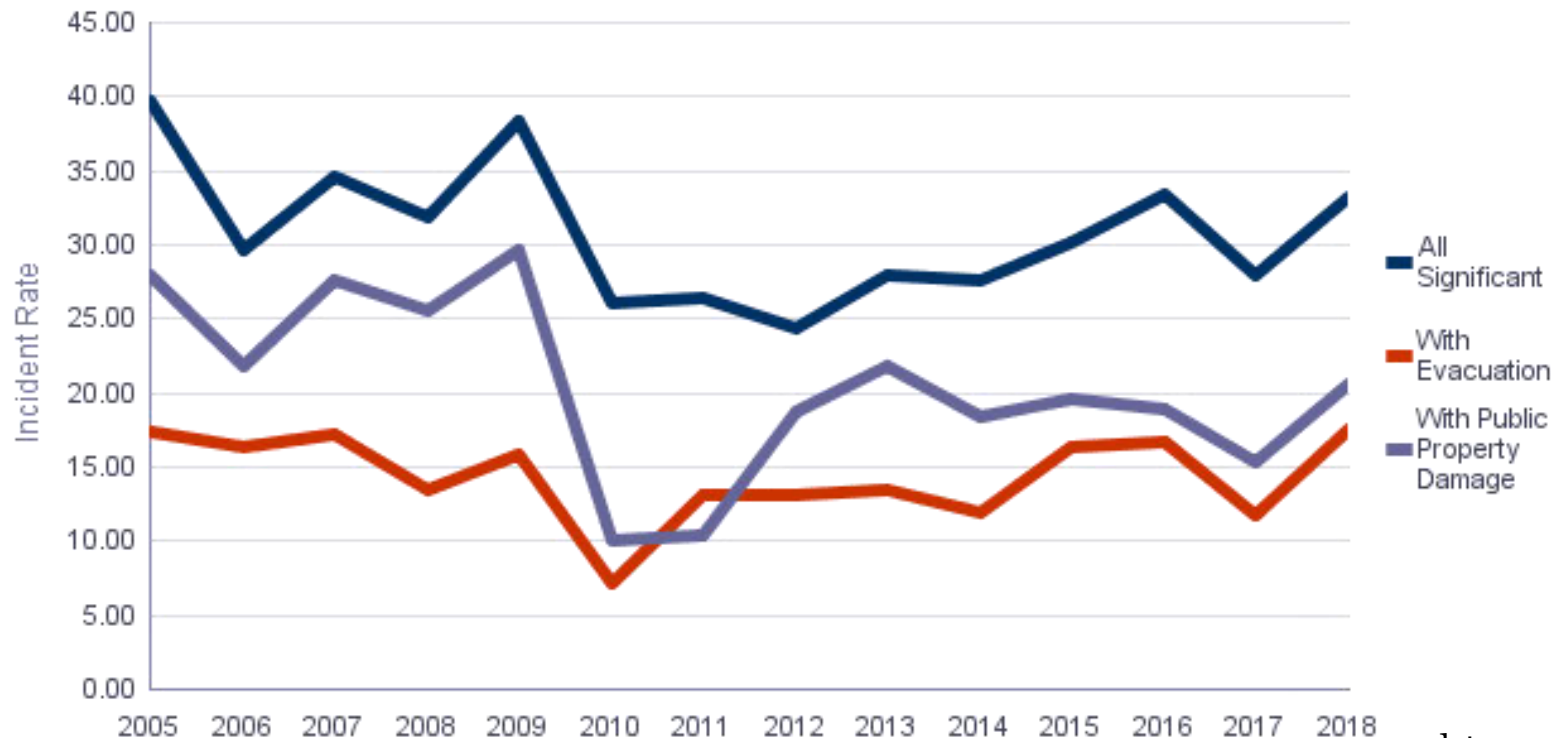


Gas Distribution Significant Incidents per Million Miles 2005-2018

Rate has fluctuated since 2005 - overall decrease since 2005 is 16%

Rate with evacuation has increased 1% since 2005

Rate with public property damage has decreased 26% since 2005



data as-of 3-18-2019

-
2
6



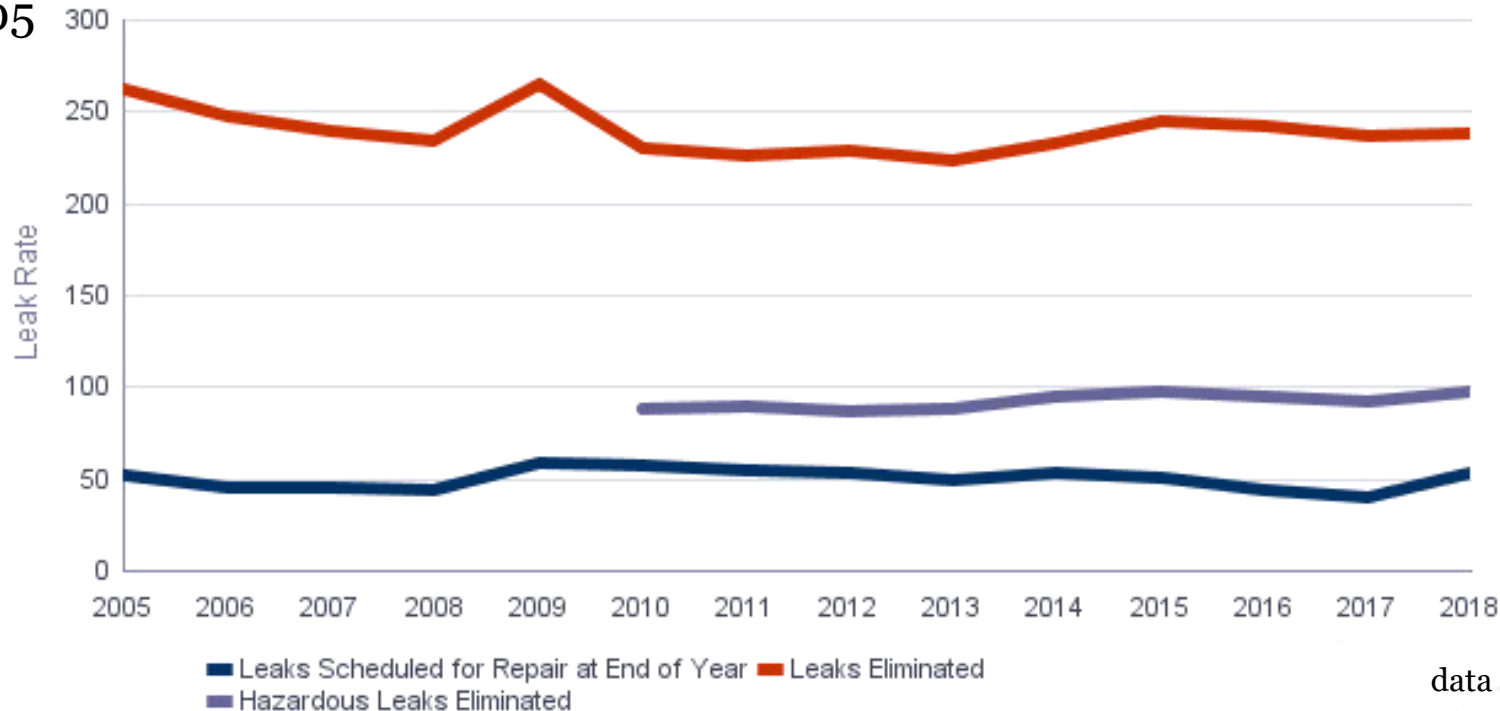
Gas Distribution Leaks per 1,000 Miles 2005-2018

Rate for **Hazardous Leaks Eliminated** has increased 10% since 2010

The effective date for PHMSA's gas distribution integrity management (DIMP) regulations was 2011. PHMSA expects an eventual decrease in the rate as pipeline operators identify integrity threats and implement measures to reduce risk.

Rate for all **Leaks Eliminated** has decreased 10% since 2005

Rate for **Leaks Scheduled for Repair at End of Year** has increased 2% since 2005



data as-of 3-18-2019

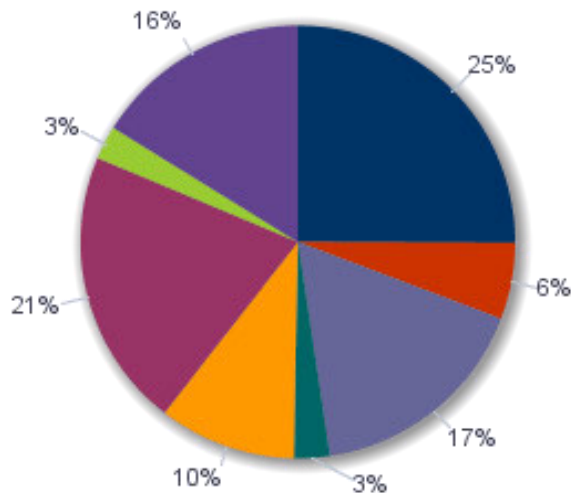


Gas Distribution Leaks Eliminated by Cause 2005-2018

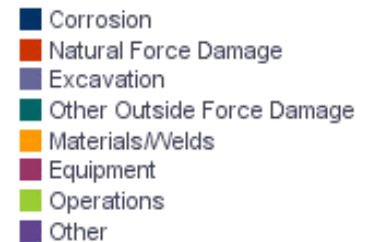
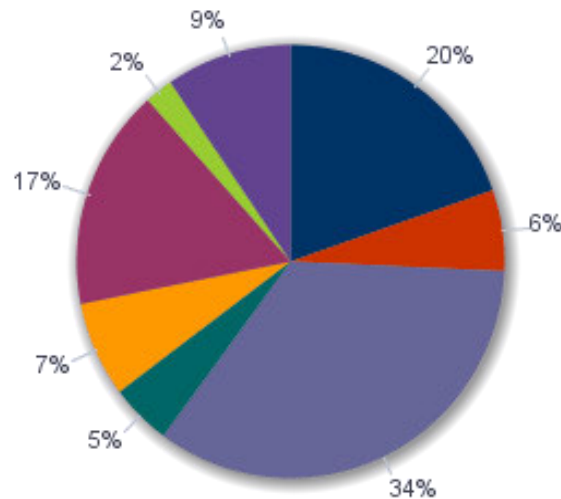
Leading cause of **Hazardous Leaks** is Excavation Damage which accounts for 34% of Hazardous Leaks, but only 17% of Leaks

For more than a decade, PHMSA has been an active participant in national, regional, and State efforts to improve excavation damage prevention.

Leaks Eliminated



Hazardous Leaks Eliminated



data as-of 3-18-2019

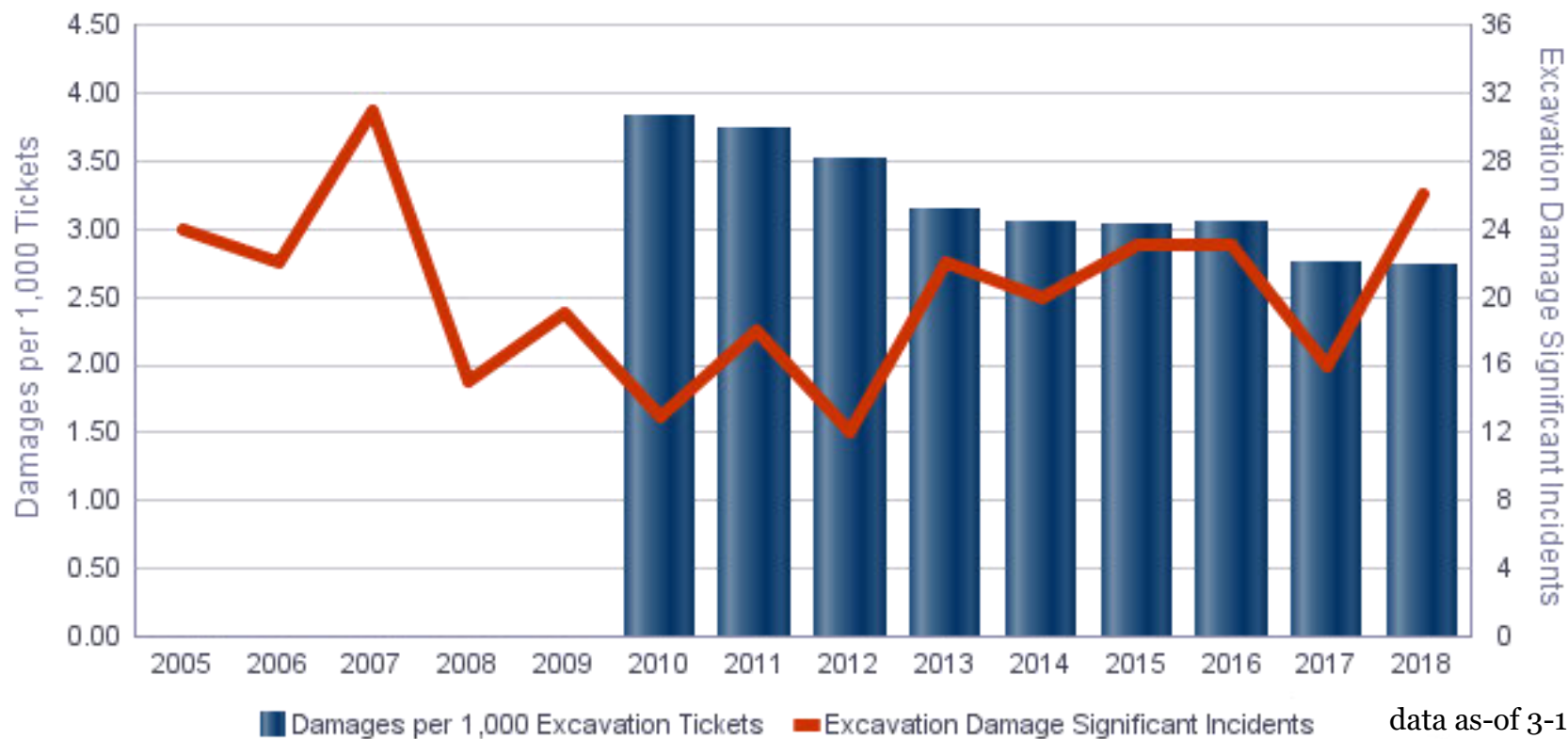
2
8



Gas Distribution Excavation Damage 2005-2018

Number of **Significant Incidents** caused by **Excavation Damage** has fluctuated since 2005 and increased 8% overall

Damages per 1,000 Tickets has decreased 29% since 2010



-
2
9



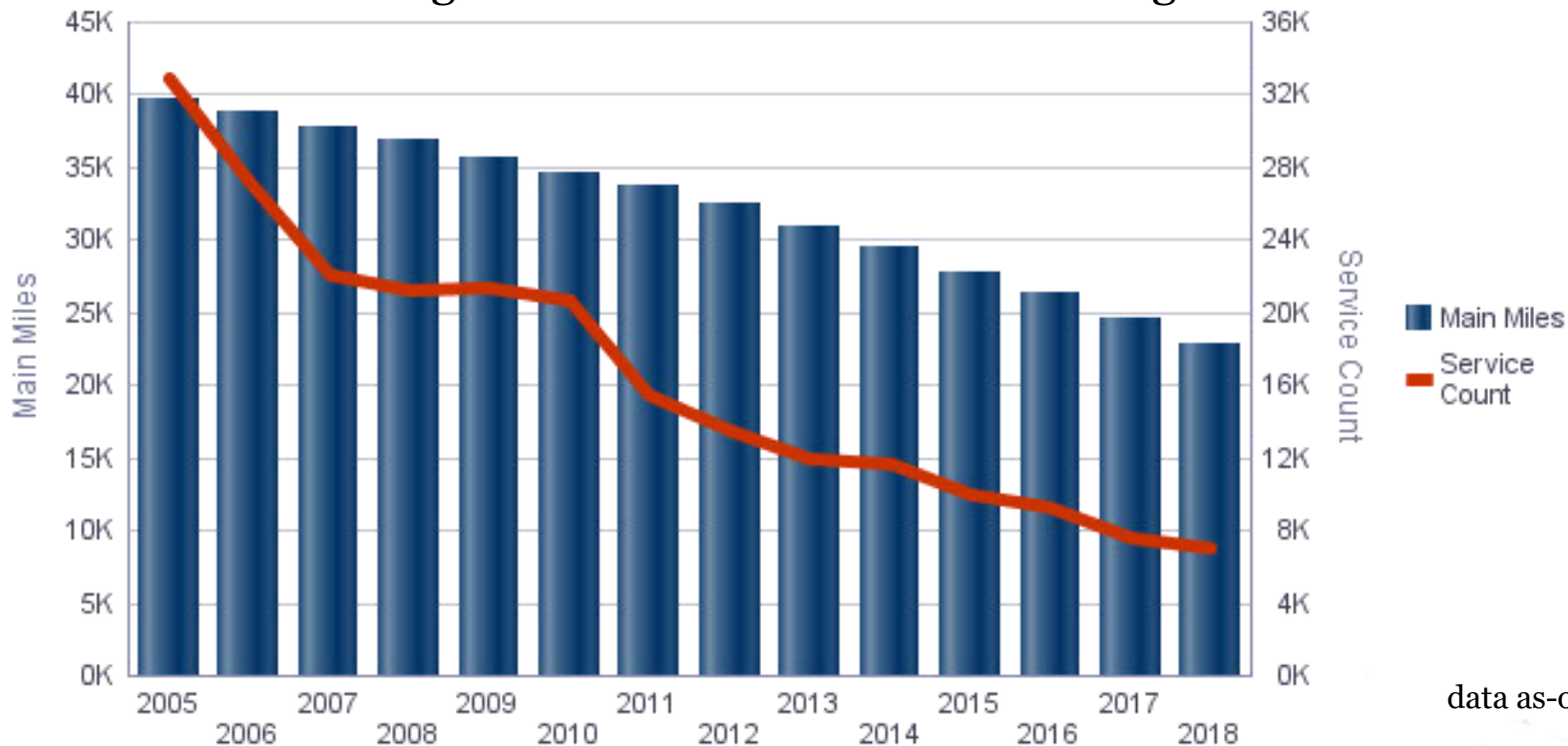
Gas Distribution Cast and Wrought Iron 2005-2018

Cast and Wrought Iron Main Miles have decreased 42% since 2005

Cast Iron mains make up 1% of the total gas distribution main miles

Cast and Wrought Iron Service Count have decreased 79% since 2005

Less than .1% of all gas distribution services are Wrought Iron



data as-of 3-27-2019



Gas Distribution Steel Miles – Bare and Unprotected 2005-2018

Miles of **Bare Steel** has declined steadily since 2005

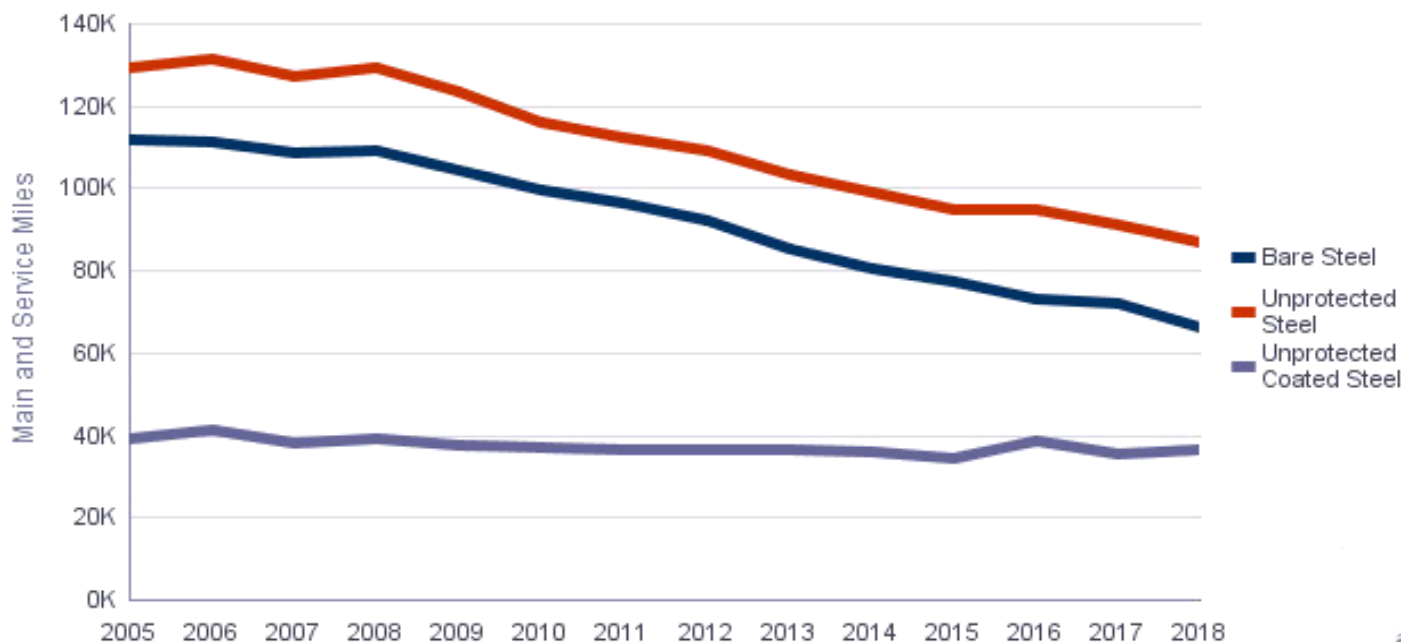
Decrease since 2005 is 40% 3% of gas distribution systems are Bare Steel

Miles of **Unprotected Steel** has declined steadily since 2005

Decrease since 2005 is 33% 4% are Unprotected Steel

Miles of **Unprotected Coated Steel** has declined since 2005

Decrease since 2005 is 7% 3% are Unprotected Coated Steel

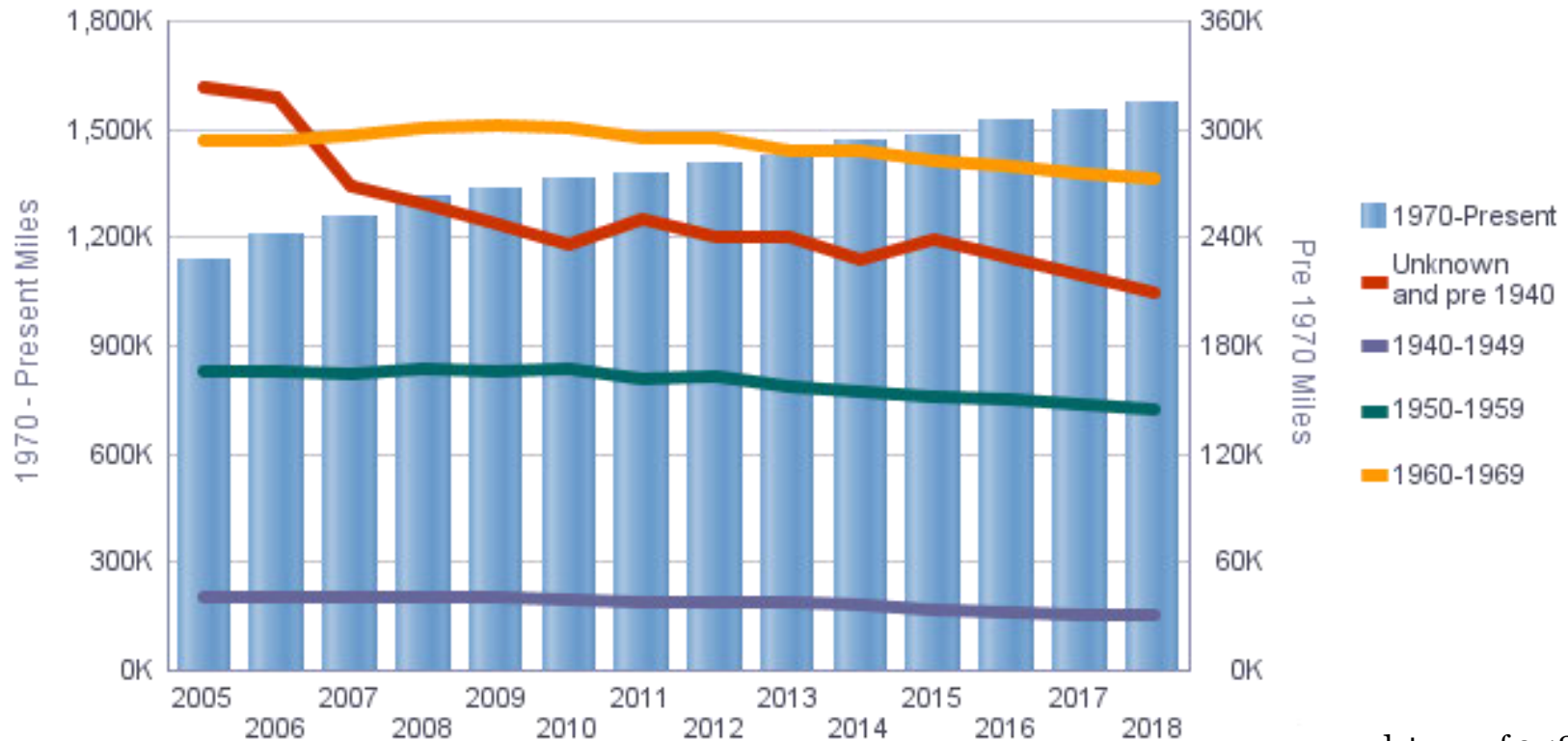


data as-of 3-18-2019



Gas Distribution Miles by Decade Installed 2005-2018

Miles of pipeline system installed **Pre-1970** has declined 20% since 2005
29% of gas distribution systems were installed Pre-1970

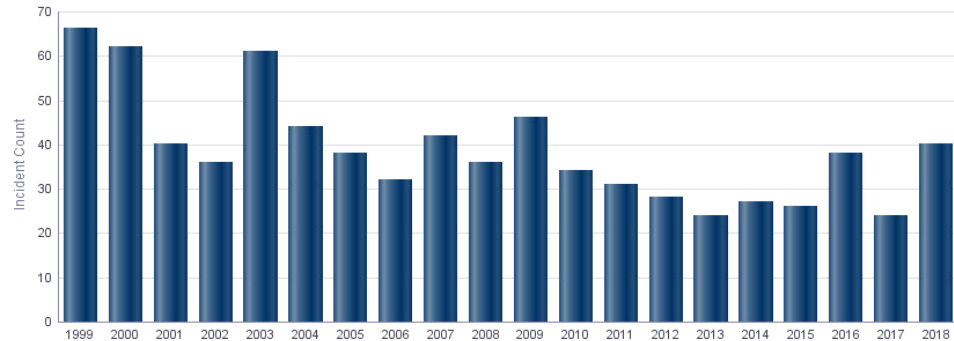


data as-of 3-18-2019

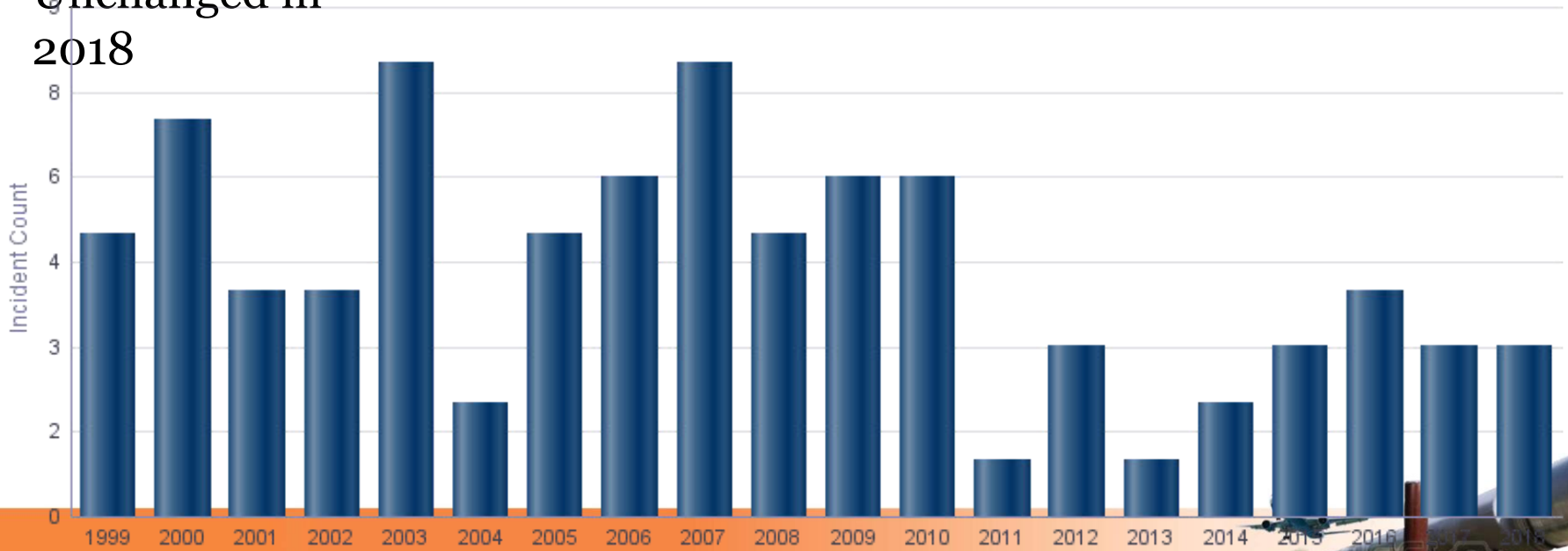


Gas Transmission Serious Incidents

**All System Types
Increased in 2018**

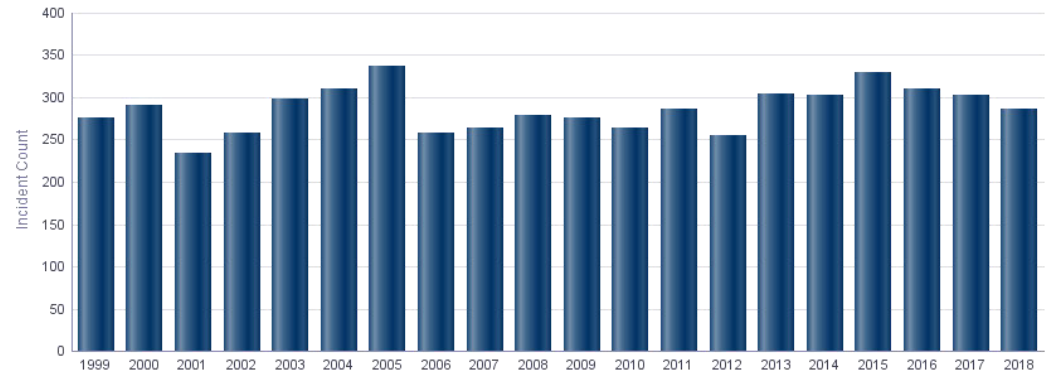


**Gas
Transmission
Unchanged in
2018**



Gas Transmission Significant Incidents

**All System Types
Decreased in 2018**



**Gas Transmission
Decreased 11% from 2017 to 2018**



Gas Transmission Significant Incidents CY 2018

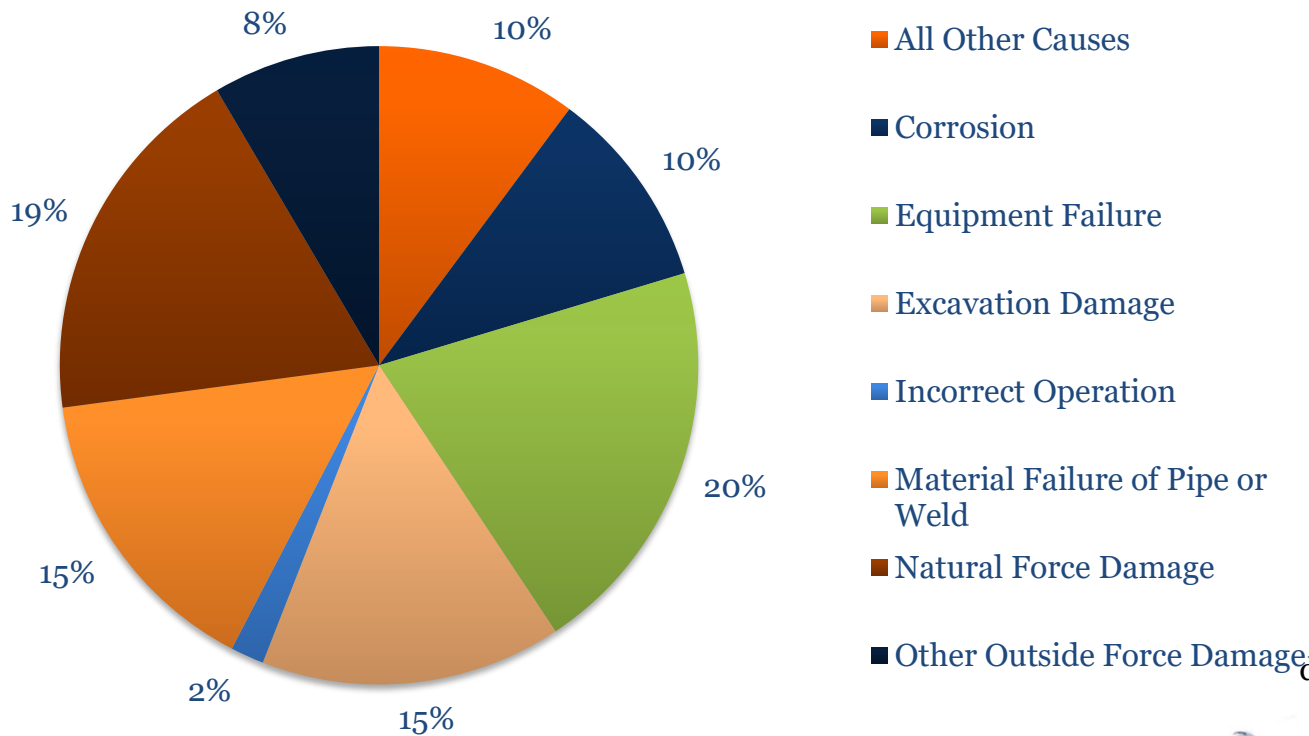
Leading Causes:

Equipment Failure (Control/Relief Malfunction)

Natural Force Damage

Material Failure of Pipe or Weld (Construction-Related)

Excavation Damage (Third Party)



data as-of 3-1-2019

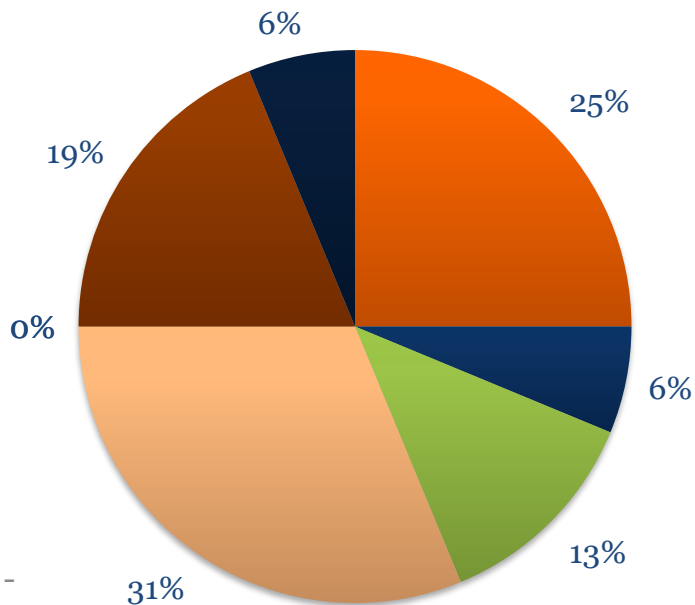


Gas Transmission Significant Incident Cause State vs Fed in 2018

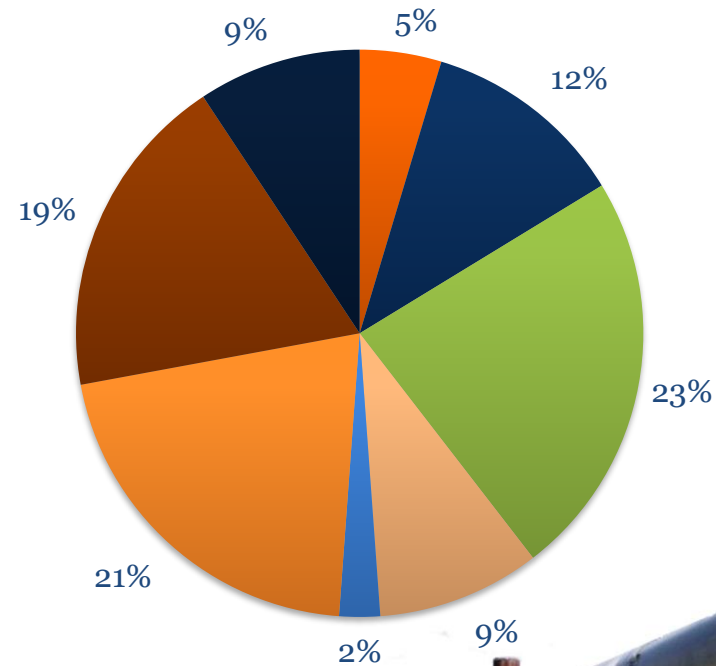
Leading cause for **State-Regulated** is Excavation Damage followed by All Other Causes

Leading cause for **Federal-Regulated** is Equipment Failure followed by Material Failure of Pipe or Weld

State Regulated



Federal-Regulated



- All Other Causes
- Corrosion
- Equipment Failure
- Excavation Damage
- Incorrect Operation
- Material Failure of Pipe or Weld
- Natural Force Damage
- Other Outside Force Damage

data as-of 03-18-2019

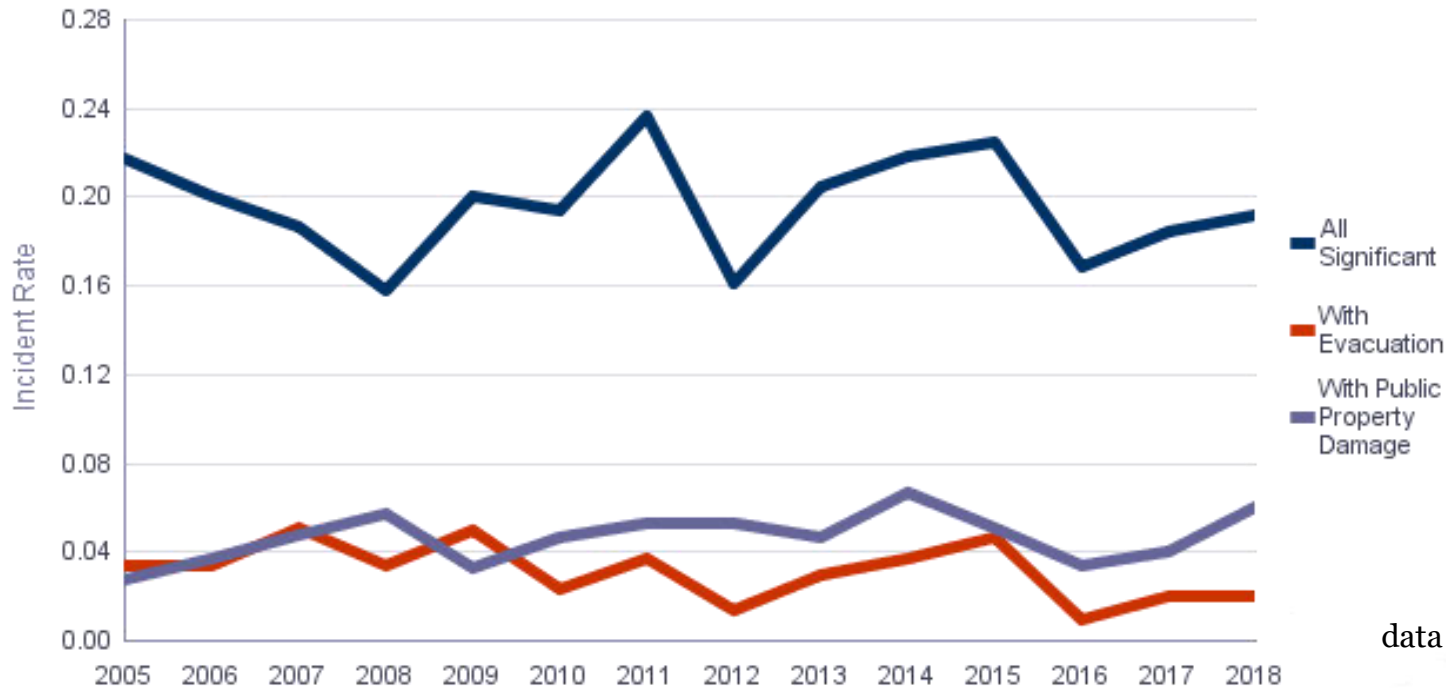


Gas Transmission Onshore Pipeline Significant Incidents per 1,000 Miles 2005 - 2018

Rate has fluctuated since 2005 - overall decrease since 2005 is 14%

Rate with evacuation has decreased 33% since 2005

Rate with public property damage has increased 100% since 2005



data as-of 3-18-2019

37

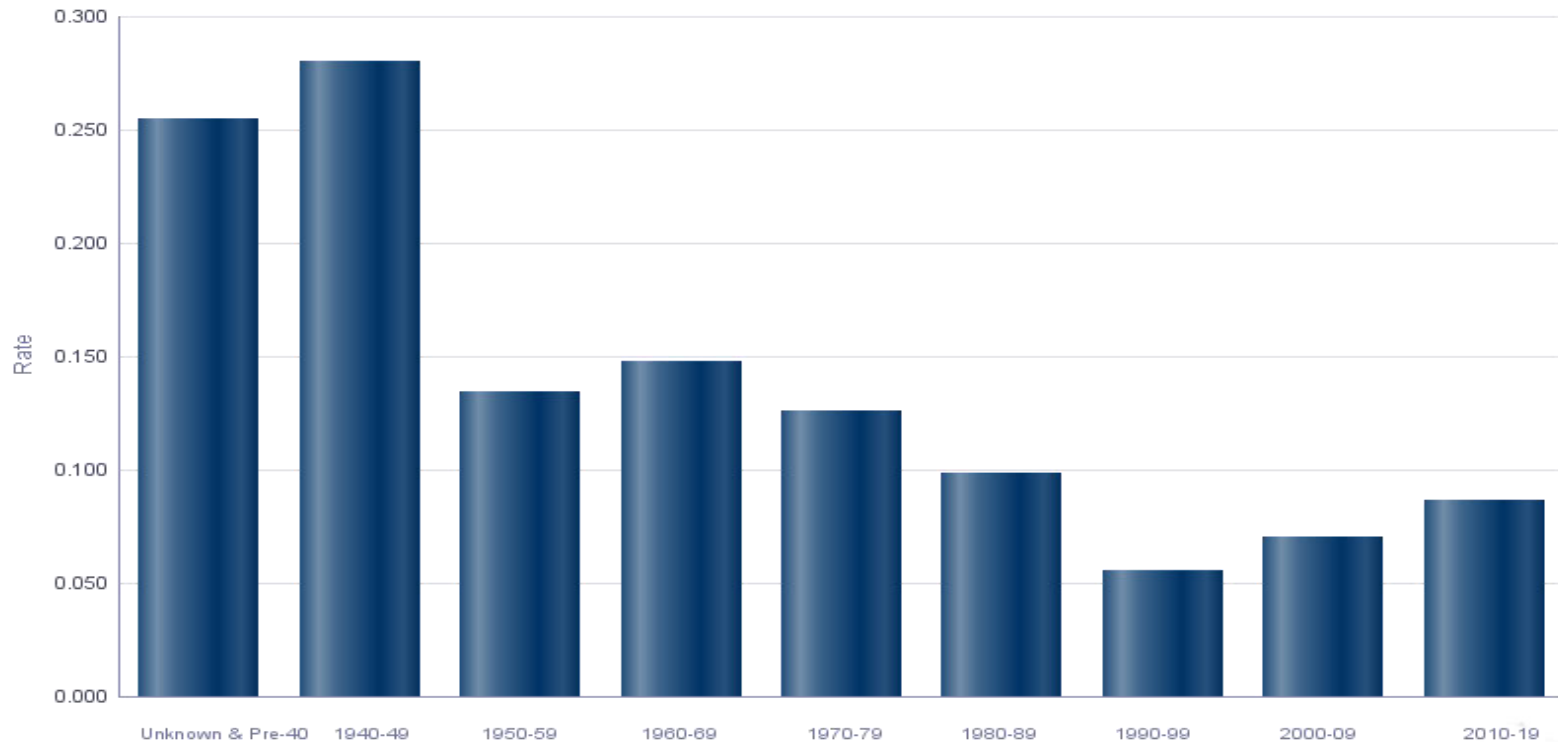


Gas Transmission Onshore Pipeline Significant Incident Rates per Decade 2005 - 2018 - Incidents per 1,000 Miles

“Unknown and Pre-1940” decade leading cause is Corrosion

“1940s” decade leading cause is Material Failure of Pipe or Weld

“2010s” decade leading cause is Equipment Failure

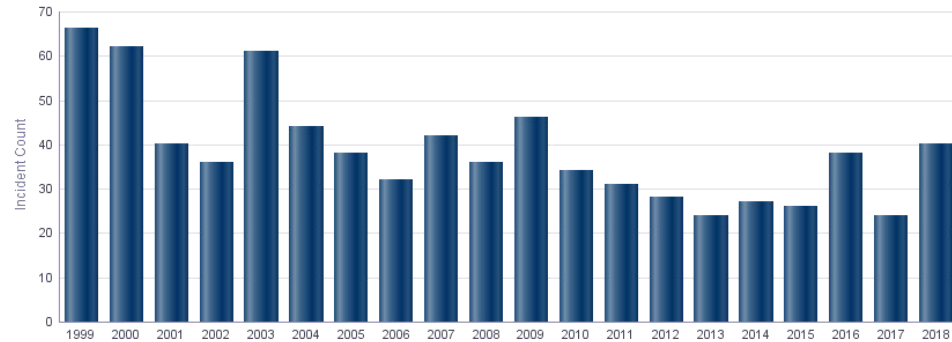


data as-of 3-18-2019

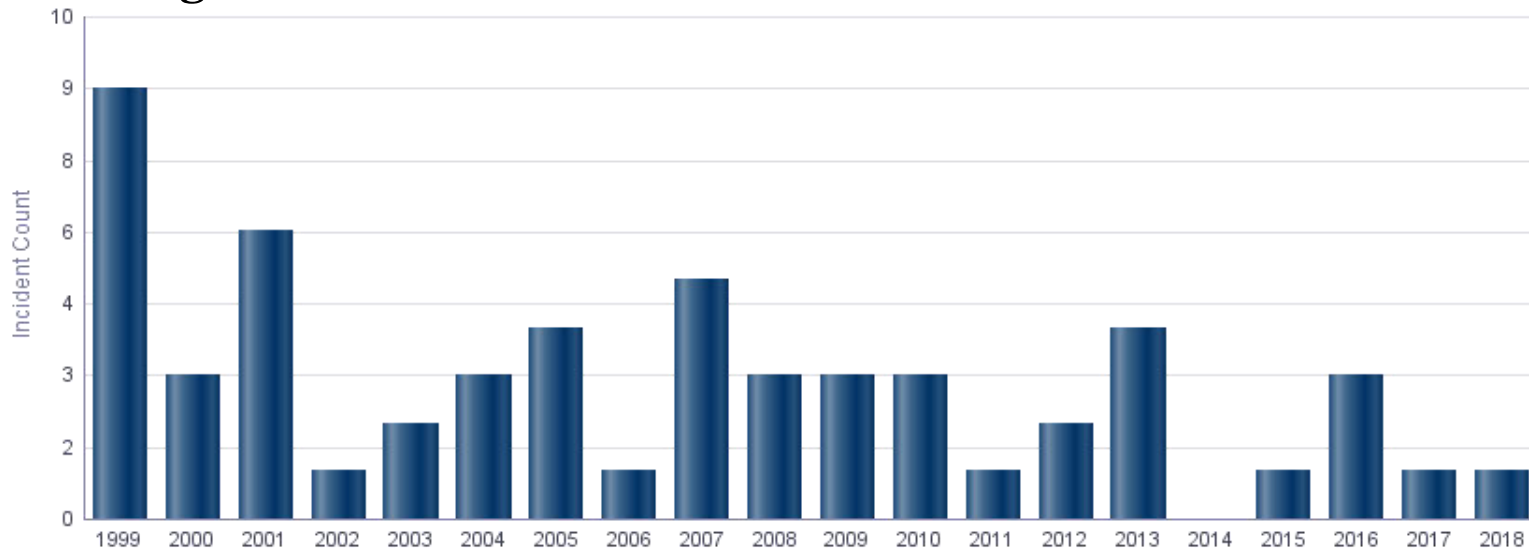


Hazardous Liquid Serious Incidents

**All System
Types**
Increased in 2018



Hazardous Liquid
Unchanged in 2018

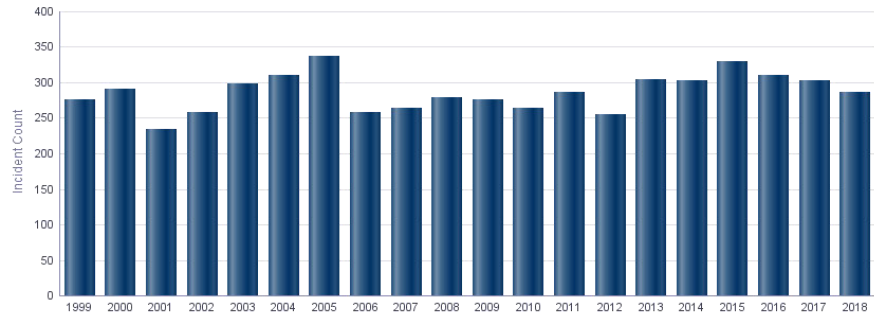


data as-of 2-14-2019



Hazardous Liquid Significant Incidents

**All System Types
Decreased in 2018**



**Hazardous Liquid
Decreased 7% from 2017 to
2018**



Hazardous Liquid Significant Incidents CY 2018

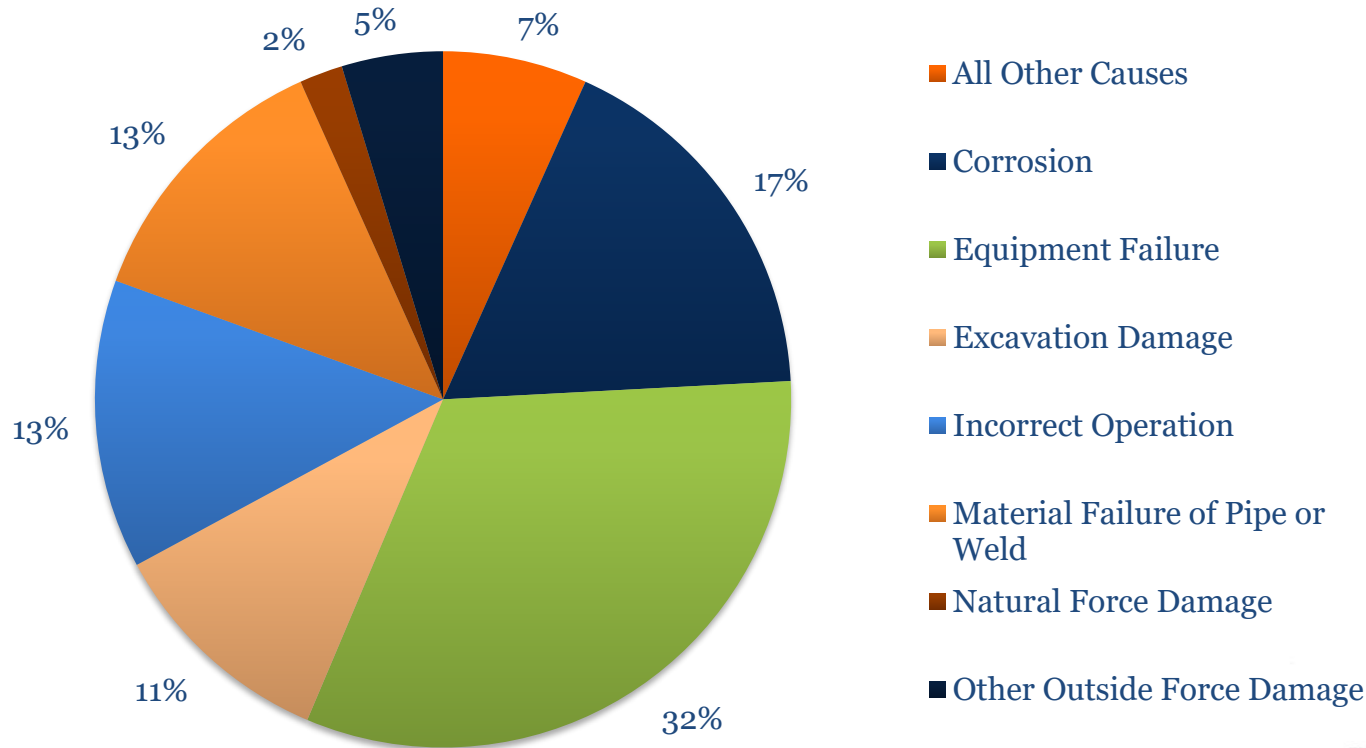
Leading Causes:

Equipment Failure (Connections and Pumps)

Corrosion (External and Internal)

Incorrect Operation

Material Failure of Pipe or Weld (Construction-Related)

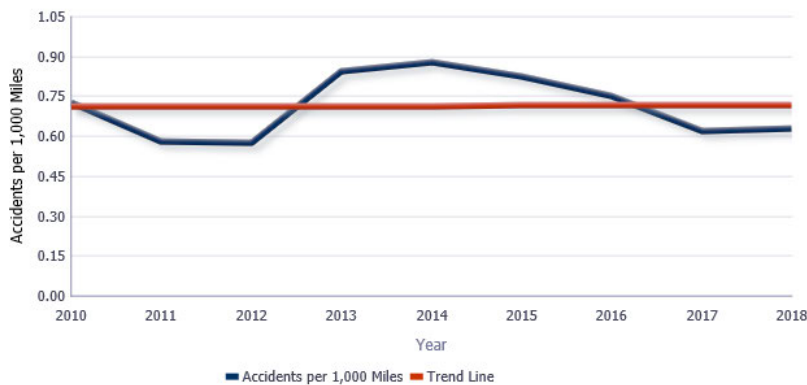


data as-of 3-1-2019

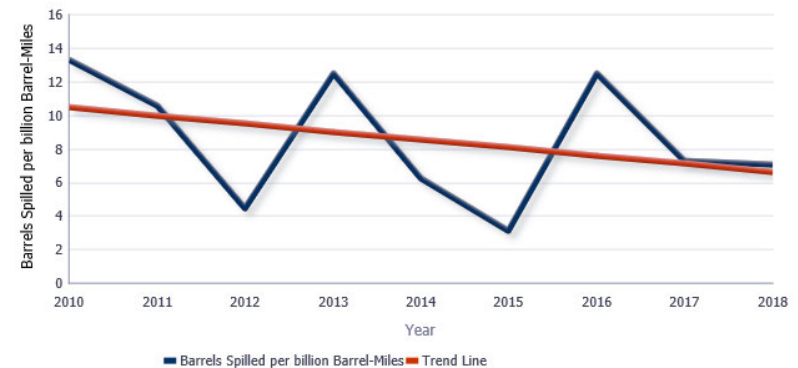


Crude Oil/Refined Petroleum/Biofuel Accidents Impacting People or the Environment 2010 - 2018

The accident per 1,000 mile rate is flat since 2010



The volume spilled rate per billion barrel-miles transported has fluctuated since 2010.



Crude Oil/Refined Petroleum/ Biofuel	2010	2011	2012	2013	2014	2015	2016	2017	2018
Accidents Impacting People or the Environment	87	70	70	105	113	112	104	88	90
Miles	119,446	120,246	121,520	124,454	128,726	135,705	138,186	141,595	142,997
Volume Spilled (barrels)	44,530	37,368	16,860	47,524	25,614	14,787	60,405	36,732	41,449
Barrel-Miles Transported (billion barrel miles)	3,334	3,534	3,739	3,806	4,105	4,767	4,840	5,056	5,861

data as-of 7-2-2019



DOT Significant Memoranda

- **December 20, 2018**
 - Review and clearance of guidance documents
 - Policies and procedures for rulemakings
- **February 15, 2019**
 - Procedural requirements for DOT enforcement actions



Drivers of the Regulatory Agenda

- **Congressional Mandates**
 - PIPES ACT of 2016
 - Underground Storage
 - Small-scale LNG
- **NTSB/GAO/OIG**
- **Executive Orders on Regulatory Reform**
- **Executive Order 13771**
 - Two for one initiative: significant rules only
 - Regulatory budget
- **Executive Order 13777**
 - Establishes regulatory reform officers and regulatory reform task forces
 - Designed to identify regulations that are outdated, unnecessary, or ineffective and that impose costs that exceed benefits

Congress

NTSB

GAO

OIG

EOs



Major OPS Rules - Overview

Title	Last Public Action	Status	Abstract
Hazardous Liquid Pipelines	NPRM: 10/13/2015	PHMSA working with OMB to complete the final rule	This rulemaking amends the Pipeline Safety Regulations to improve protection of the public, property, and the environment by closing regulatory gaps where appropriate, and ensuring that operators are increasing the detection and remediation of unsafe conditions and mitigating the adverse effects of hazardous liquid pipeline failures.
Gas Transmission Rule	NPRM: 4/8/2016	PHMSA working with OMB to complete the final rule	This rulemaking amends the pipeline safety regulations to address the testing and pressure reconfirmation of certain previously untested gas transmission pipelines and certain gas transmission pipelines with inadequate records, require operators incorporate seismicity into their risk analysis and data integration, require the reporting of maximum allowable operating pressure exceedances, allow a 6-month extension of integrity management reassessment intervals with notice, and expand integrity assessments outside of high consequence areas to other populated areas.
Rupture Detection and Valves	None	PHMSA working with OMB to complete the NPRM	PHMSA is proposing to revise the Pipeline Safety Regulations applicable to newly constructed or entirely replaced natural gas transmission and hazardous liquid pipelines to improve rupture mitigation and shorten pipeline segment isolation times in high consequence and select non-high consequence areas. The proposed rule defines certain pipeline events as "ruptures" and outlines certain performance standards related to rupture identification and pipeline segment isolation. PHMSA also proposes specific valve maintenance and inspection requirements, and 9-1-1 notification requirements to help operators achieve better rupture response and mitigation. The rule addresses congressional mandates, incorporate recommendations from the National Transportation Safety Board, and are necessary to reduce the serious consequences of large-volume, uncontrolled releases of natural gas and hazardous liquids.



Major OPS Rules - Overview

Title	Last Public Action	Status	Abstract
Underground Storage Facilities	IFR: 12/19/2019	PHMSA working with OMB to complete the final rule	PHMSA issued an interim final rule that requires operators of underground storage facilities for natural gas to comply with minimum safety standards, including compliance with 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. The next planned action is to finalize the interim final rule.
Enhanced Emergency Orders	IFR: 10/14/2016	PHMSA working with OMB to complete the final rule	PHMSA issued an interim final rule (IFR) that established regulations implementing the emergency order authority conferred on the Secretary of Transportation by the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2016 (PIPES Act of 2016 or Act). These regulations are mandated by the PIPES Act of 2016 and establish procedures for the issuance of emergency orders (restrictions, prohibitions) to address unsafe conditions or practices posing an imminent hazard. These requirements are expected to improve PHMSA's existing enforcement authority by allowing it to respond immediately and effectively to conditions or practices that pose serious threats to life, property, or the environment. The next planned action is to finalize the interim final rule, as required by the Act.



Major OPS Rules - Overview

Title	Last Public Action	Status	Abstract
Class Location Requirements	None	PHMSA working to complete NPRM and supporting documents	This rulemaking regards existing class location requirements for natural gas transmission lines, specifically as they pertain to actions operators are required to take following class location changes due to population growth near the pipeline. Operators have suggested that performing integrity management measures on pipelines where class locations have changed due to population increases would be an equally safe but less costly alternative to the current requirements of either reducing pressure, pressure testing, or replacing pipe. The ANPRM requested public comment to inform future regulatory or deregulatory efforts related to this topic.
Repair Criteria for Hazardous Liquid Pipelines	None	PHMSA working to complete NPRM and supporting documents	PHMSA plans a notice of proposed rulemaking that would modify the provisions for determining the need to make repairs to hazardous liquid pipelines, commonly referred to as repair criteria, in High Consequence Areas (HCAs) and develop new repair criteria for hazardous liquid pipelines in non-HCAs.
Gas Pipeline Regulatory Reform	None	PHMSA working with OST to complete NPRM.	This rulemaking would amend the Pipeline Safety Regulations to adopt a number of actions that ease regulatory burdens on the construction and operation of gas transmission, gas distribution and gas gathering pipeline systems. These amendments include regulatory relief actions identified by internal agency review, existing petitions for rulemaking, and public comments on the Department of Transportation Regulatory Review and Transportation Infrastructure notices.



Major OPS Rules - Overview

Title	Last Public Action	Status	Abstract
Safety of Gas Gathering Pipelines	NPRM: 4/8/2016	PHMSA working to complete final rule and supporting documents.	This rulemaking would require all gas gathering pipeline operators to report incidents and annual pipeline data. PHMSA is also extending regulatory safety requirements to Type A gathering lines in Class 1 locations and is proposing to change certain definitions related to gas gathering operation.
Safety of Gas Transmission – Repair Criteria, IM improvements, etc.	NPRM: 4/8/2016	PHMSA working to complete final rule and supporting documents.	This rulemaking would amend the pipeline safety regulations relevant to gas transmission pipelines by adjusting the repair criteria in high consequence areas and creating new criteria for non-high consequence areas, requiring the inspection of pipelines following extreme events, requiring safety features on in-line inspection tool launchers and receivers, updating and bolstering pipeline corrosion control, codifying a management of change process, clarifying certain integrity management provisions, and strengthening integrity management assessment requirements.
Amendments to LNG Facilities	None	PHMSA working with OST to complete NPRM.	Abstract: PHMSA is proposing to update incorporated industry standards and revise all subparts of Part 193, as needed. These updates to Part 193 will address the risks associated with today's liquefied natural gas facilities, including permanent, small scale liquefied natural gas pipeline facilities as required by Section 27 of the PIPES Act of 2016.



Plastic Pipe

Final Rule Published

- Published November 20, 2018
- Petition response March 1, 2019
- Addresses the following plastic pipe topics:
 - Authorized the use of PA12;
 - AGA petition to raise D.F. from 0.32 to 0.40 for PE pipe;
 - Tracking and traceability (not adopted);
 - Miscellaneous revisions for PE and PA11 pipelines; and
 - Additional provisions for fittings used on plastic pipe.



Current Rulemakings in Process

Safety of On-shore Hazardous Liquid Pipelines *Final Rule Stage*

- The final rule is with the OMB for review
- Major topics under consideration:
 - Assessments beyond High Consequence Areas (HCAs);
 - Leak detection beyond HCAs;
 - Repair criteria in HCA and non-HCA areas;
 - Piggability of lines in HCAs;
 - Reporting requirements for gathering lines; and
 - Reporting requirements for gravity lines.



Current Rulemakings in Process

Safety of Gas Transmission and Gathering Lines *Final Rule*

- Major topics:
 - Expansion of assessments beyond HCAs/MCAs;
 - Repair criteria for both HCA and non-HCA areas;
 - Assessment methods;
 - Corrosion control;
 - Gas gathering, including additional reporting and regulations;
 - Assessment methods for GT lines; and
 - MAOP reconfirmation, material records for grandfathered pipe, and bad records.



Regulated Gas Gathering Mileage by Diameter

Pipe Type	12.75- inches or Less	Greater than 12.75- inches	Total
Onshore Type A	6,720	1,568	8,288
Onshore Type B	3,223	150	3,373
Offshore	1,867	4,316	6,183
Total	11,810	6,035	17,845

2018 Gas Transmission and Gas Gathering Annual Report



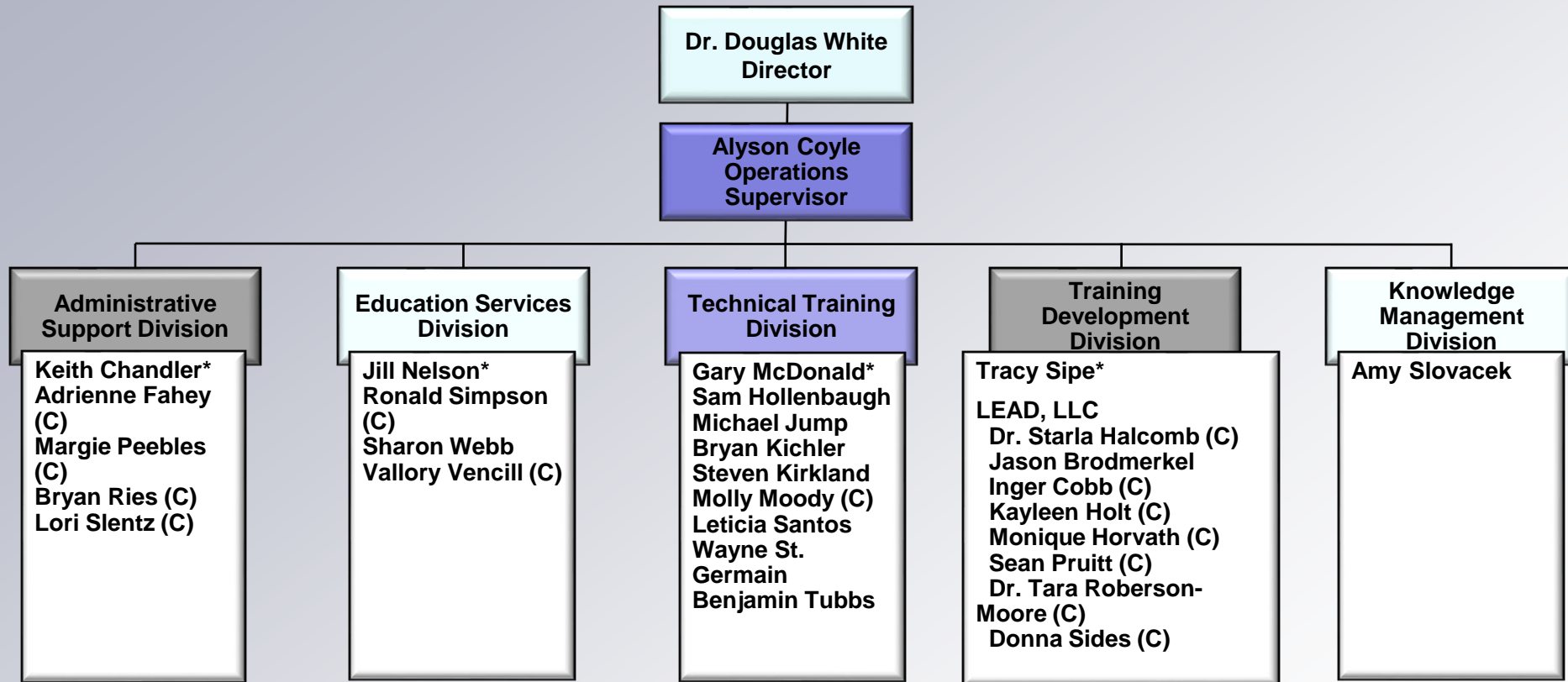


TQ's Mission Statement

- **Promote safe transportation of energy and other hazardous materials by providing state-of-the-art training that produces the best qualified Federal and State inspectors and investigators in the world.**



PHMSA INSPECTOR TRAINING AND QUALIFICATIONS STAFFING ALIGNMENT



• Denotes Team Lead

(C) Denotes Contractor Support



TQ's Vision Statement

Advance public safety by being the best training facility in the Federal Government as measured by recognition as the premier Federal Training Center of Excellence.



TQ's Core Values

TQ staff chose core values that are universal and eternal. The staff agreed en masse to apply these values in our daily actions, attitudes, and behavior and to hold each other accountable to living up to them.

- **INTEGRITY** to always do the right thing and to always do it right
- **COMMITMENT** to strive for excellence in all that we do
- **PERSEVERANCE** to push ahead during times of uncertainty, difficulty and challenges.



TQ Goals

- **Short-Term (1-2 Years)**
 - **Establish a VTT program to provide a greater access to TQ training while reducing travel costs**
 - **Council on Occupational Education (COE) Accreditation**
 - **Completion of outdoor Applied Instruction Facility (3.5 Acres)**
 - **Full implementation of TQLM**
 - **Write SOPs/Process Maps for SAT and ADDIE**
 - **Total instructor mastery**
 - **Continue Instructor Qualification Program**
 - **Development and full integration of “Gusher Pipeline” into facility and training products**



TQ Goals

Long-Term (3-5 Years)

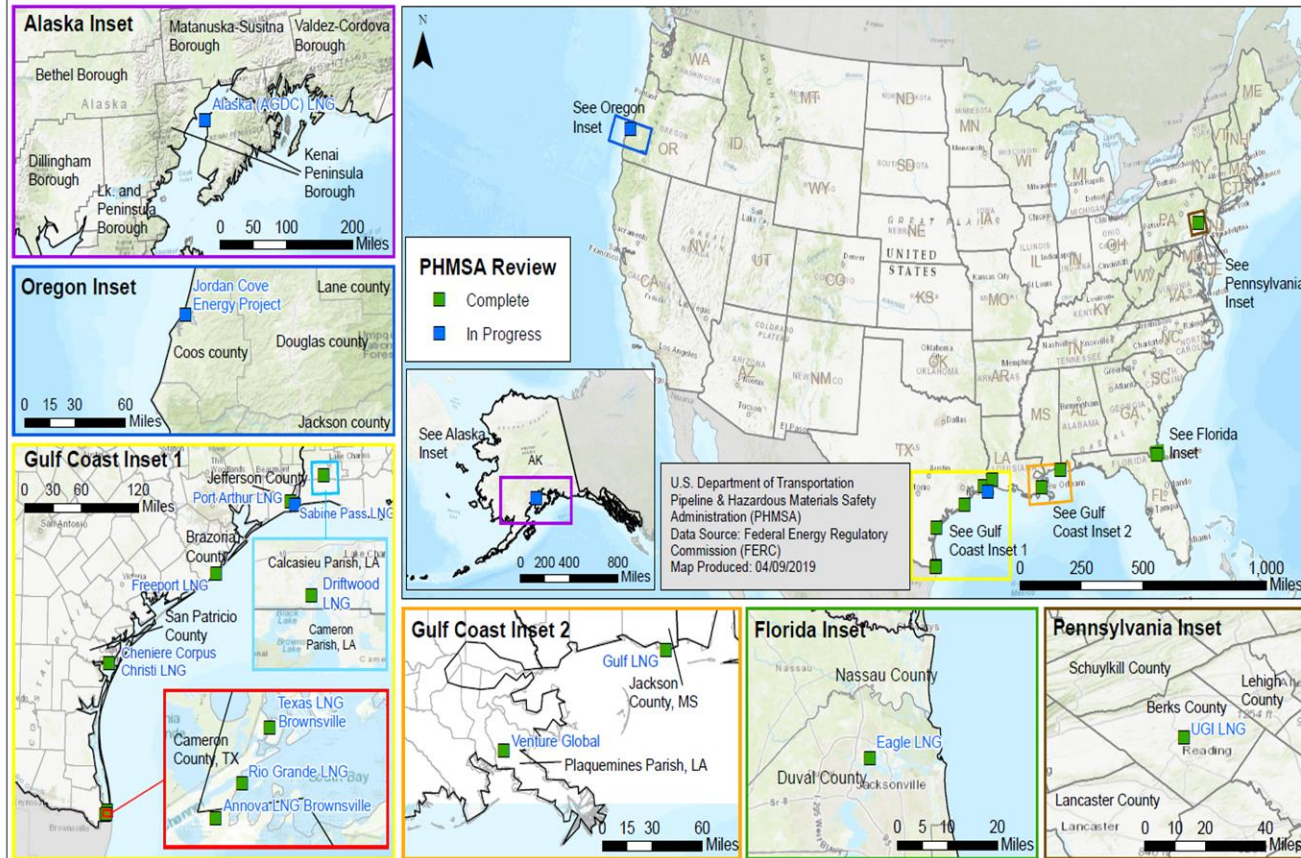
- **Revise remaining 70% courses in accordance with the SAT/ADDIE Model**
- **Establish a regulatory compliance training program for Industry**
- **Earn ACE, and COE accreditation**
- **Build partnerships with colleges and universities to enhance recruitment of top quality OPS/OHMS inspectors/investigators**
- **Complete Applied Instruction Facility (3.5-acre training field) – Phase 2**
- **Earn ISO 9001: 2015 certification**
- **Build Live Fire Training site in TQ's Applied Instruction Facility.**
- **SCADA Lab Completion**

LNG Agenda

- Liquefied Natural Gas NPRM
- LNG by Rail NPRM
- August 31, 2018: FERC/PHMSA MOU
- April 10, 2019: Executive Order 13868: Promoting Energy Infrastructure and Economic Growth
- Coordination with other federal agencies such as the USCG and MARAD



PHMSA Review of FERC Jurisdictional LNG Facilities



Z:\Maps\LNG Maps\LNG Construction Map\PHMSAApprovals FERCProposed LNG



"To protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives."



Reauthorization 2020 - DOT BILL

- Themes: Safety, Infrastructure, Innovation
- “Beyond Compliance” Safety Incentives and Pilot Programs
- Voluntary Information Sharing System
- LNG Project Reviews and PHMSA Regs Used Exclusively for Permitting
- Overpressure Protection, Management of Change, Extend OQ to Construction Tasks (Merrimack Valley, MA incident)
- Criminal Penalties for Disrupting Construction



Reauthorization 2020 - CONGRESS

- Senate Bill S.2299 Voted Out of Committee 7-31-19
 - Pilot Programs, Self-Disclosure of Violations, ALJ Hearings, Idled Pipelines, LNG Rulemaking Mandate
 - Study on Pipeline Testing Facility; Establish LNG Center for Excellence
 - Leonel Rondon Act in Title II, Major DIMP Rulemaking Mandates
- House Bill H.R.3432 – Energy and Commerce Committee
 - Reducing Cost-Benefit Requirements, Limiting Direct Assessments, Automatic and Remote Valve Rule Mandate, Emergency and O&M Procedures Rule Mandates, Change Criminal Standard to Reckless and Increase Civil Penalties. Many Additions Likely.
- House T&I Bill Likely this Fall



Discussion



PAUL J. ROBERTI

33 POJAC POINT ROAD
NORTH KINGSTOWN, RI 02852

PROBERTI33@GMAIL.COM

CELL: 401.429.8129
LINKEDIN.COM/IN/PAUL-ROBERTI

PROFESSIONAL EXPERIENCE

ERNST & YOUNG LLP
MANAGING DIRECTOR, RISK CONSULTING

PROVIDENCE, RI
2024 – Present

- Management consulting services across all facets of the power and utilities industry with a focus on assisting public utilities with compliance with legislative and regulatory mandates across the power and utilities sector, with an emphasis on helping utilities advance safety, reliability and high-quality services to customers in the most cost-effective manner, including strategies to increase resilience, efficiency gains through technological transformation, and strategic electrification.

RHODE ISLAND DIVISION OF PUBLIC UTILITIES AND CARRIERS
CHIEF ECONOMIC AND POLICY ADVISOR

WARWICK, RI
2022 – 2014

- Oversaw the development of positions and recommendations in all docketed proceedings before the Rhode Island Public Utilities Commission and the Federal Energy Regulatory Commission.
- Evaluated offshore wind solicitations; renewable energy tariffs and interconnection policies; general rate cases and Cap-X programs for electric, gas and water utilities; energy facility siting cases; advanced metering infrastructure implementation; and grid modernization investment strategies.
- Advised Administrator on regional transmission and market development proposals before NEPOOL and ISO New England, legislation, and physical and cybersecurity risks, including briefings to Governor's office and the Director of Emergency Management.

UNITED STATES DEPARTMENT OF TRANSPORTATION
CHIEF COUNSEL, PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMIN.

WASHINGTON, D.C.
2018 – 2021

- Responsible for legal affairs of 580-member federal agency charged with safety oversight of 2.7 million miles of natural gas and hazardous liquid pipelines and over 100 LNG facilities, as well as hazardous materials moving across all modes of the transportation network throughout the United States. Direct report to the Secretary of Transportation with direct supervision of 40 lawyers and staff.
- Oversight and responsibility for 788 enforcement matters; coordination with Department of Justice on significant litigation; coordination with White House and State Department on Presidential Permits; and compliance with NEPA and CEQ regulations.
- Development of Pipeline and Surface Transportation legislative proposals to Congress, including technical assistance requests and briefings to key House and Senate Committees. High-profile public appearances, including testimony before Congress concerning rail transportation of toxic hazardous materials and the Columbia Gas pipeline incident in Merrimack Valley.

ERNST & YOUNG LLP
EXECUTIVE DIRECTOR, POWER & UTILITIES ADVISORY SERVICES

MEXICO CITY, MEXICO
2016 – 2018

- Advised clients in the natural gas, oil, power and utilities sectors focusing on IT transformation, cybersecurity, transmission siting, emerging technology adoption, and regulatory strategy. Advised clients across North America.

RHODE ISLAND PUBLIC UTILITIES COMMISSION
COMMISSIONER

WARWICK, RI
2009 – 2016

- Senate-confirmed appointment to commission charged with regulating rates, service quality and reliability of utilities, including electric, gas, water, sewer, and telecom service providers. Assumed multiple leadership roles at NARUC to advance pipeline safety.
- Oversight of renewable energy integration policies, including approval of the nation's first offshore wind farm. Advisor to NARUC and USAID support missions to Moldova, Hungary, Georgia, Nigeria, India, Jamaica and Mexico.

RHODE ISLAND OFFICE OF ATTORNEY GENERAL
ASSISTANT ATTORNEY GENERAL & CHIEF, REGULATORY DIVISION

PROVIDENCE, RI
1992 – 2009

- Appointed Assistant Attorney General by four consecutive Attorneys General, both Democratic and Republican. Supervised team representing ratepayer and citizen interests during hundreds of proceedings involving rates, safety and environmental matters across multiple agencies at federal and state level.

SUPREME COURT OF RHODE ISLAND
LAW CLERK

PROVIDENCE, RI
1990 – 1991

- Law Clerk for Rhode Island Supreme Court Justice Donald F. Shea. Conducted research, drafted opinions, and attended oral arguments, motion sessions and conferences.

NOTABLE APPOINTMENTS

- **Vice Chairman**, New England Power Pool (End User Sector) (2021 – 2024)
- **Member**, Board of Directors, Univ. of Rhode Island Research Foundation (2022 – Present)
- **Member**, Special Legislative Commission to Study and Evaluate Rhode Island's Electric and Natural Gas Transmission and Distribution System Infrastructure (2021— Present)
- **Member**, North American Energy Standards Board Adv. Council (2013-Present)
- **Member**, U.S. Department of Energy, Electricity Advisory Committee (2013-17)
- **Member**, Board of Directors, Nat'l Assn. of Regulatory Utility Commissioners (2013-16)
- **Chairman**, NARUC Subcommittee on Pipeline Safety (2013-16)
- **Member**, Board of Directors, National Regulatory Research Institute, (2012-16)
- **Member**, Gas Technology Institute Public Interest Advisory Council (2013-16)
- **Member**, International Confederation of Energy Regulators (2015-2016)
- **Chairman**, New Mexico State Univ. — Ctr. for Public Utilities Adv. Council (2013-15)
- **Vice Chairman**, NARUC Committee on Gas (2013-14)
- **Chairman**, NARUC Pipeline Safety Task Force (2011-13)

EDUCATION

College of the Holy Cross, Worcester, MA
B.A. *Chemistry* (1987)

Suffolk University School of Law, Boston, MA
J.D. (1990) *cum laude*
Editor, Transnational Law Review

AWARDS & ACHIEVEMENTS

- **U.S. Department of Justice** — Energy & Natural Resources Award of Appreciation (2020)

- **Harvard Business School** – Executive Leadership Program (2017)
- **Terry Barnich Award** – NARUC’s highest honor recognizing contributions for promoting international cooperation among utility regulators and advancement of regulation (2016)
- **Leadership Rhode Island** (*Class of 2014*)
- **National Institute of Trial Advocacy**, Trial Academy, Boulder, CO (1996)
- **Michigan State Univ. – Graduate School of Management** (Regulatory Studies Program) (1993)
- **Outstanding Physics Student of the Year** (Am. Ass’n of Physics Teachers (1983))
- **The American Legion — “Boys Nation”** — Washington D.C. (*Class of 1982*)

BAR ADMISSIONS

- | | |
|--|---|
| <ul style="list-style-type: none"> • Rhode Island • Florida (ret'd) • Massachusetts (ret'd) | <ul style="list-style-type: none"> • United States Court of Appeals (<i>Cir. D.C. & 1st</i>) • United States District Court (<i>RI</i>) • United States Supreme Court |
|--|---|

PUBLICATIONS

The Essential Role of State Engagement in Demand Response, **HARVARD ENVIRONMENTAL LAW REVIEW FORUM**, Vol. 40, at 14 (2016)

Challenges of Aging Infrastructure, **PUBLIC UTILITIES FORTNIGHTLY** (Nov. 2015)

REFERENCES AVAILABLE UPON REQUEST

**Remarks of Paul Roberti, General Counsel
Pipeline and Hazardous Materials Safety Administration
To
The Fertilizer Institute
Scottsdale, Arizona
October 22, 2018**

Thank You for the opportunity to speak with you today here at the North American Fertilizer Transportation Conference about safety in the fertilizer industry. It is always a pleasure to meet with organizations like yours, because you encourage industry collaboration in our collective to ensure that the hazardous materials, which are an essential input in the manufacturing process, are handled safely and securely.

Largely because of fertilizer, one of the early predictors of doom for mankind turned out to be wrong. In 1798, Thomas Malthus observed that food production increased arithmetically, while population growth and demand was exponential. He predicted that this dichotomy would have dire consequences – eventually leading to widespread famine. But it hasn't happened – because of the innovation your members delivered to the business of agriculture. And we all know that fertilizer is a very large part of that innovation.

Part of what makes PHMSA an interesting and important place to work is the vital importance of some of the industries we regulate. There are a lot of hazardous materials – in fact, they are ubiquitous – from medical waste, to chlorine, to radioactive materials, lithium batteries in airplanes, to crude oil on trains, one could argue that nothing is more vital to the well-being of

our nation and the world than the ability to feed people, which depends heavily on the work of your organization's members.

PHMSA is first and foremost a regulatory agency. We work hard to execute our regulatory responsibility in a way that is smart, comprehensive, and responsive to all stakeholders. Industry organizations like the Fertilizer Institute facilitate that part of our job, by organizing the concerns and interests of their members, by serving as a consistent source for trusted information and data, and by helping to publicize industry initiatives on safety and environmental stewardship.

In all of the industries we regulate, PHMSA strives to be consultative in making clear and effective rules, transparent in our internal operations, thorough in inspections, and consistent in regulatory enforcement. We rely on organizations like The Fertilizer Institute, and their members, to ensure that our rulemaking is done with a keen understanding of the challenges you face every day in your industry.

Beyond that, PHMSA understands that safety requires more than mere regulation. "Zero incidents" is our ultimate goal; but it will never be achieved by enforcing minimum standards, even if the rules and their application are perfect.

To get to zero incidents, a more comprehensive effort is needed. As a small agency – employing just 536 people – it is obvious that direct action cannot ensure the safety of 2.7 million miles of pipeline and 2.1 billion tons of hazardous materials transports each year. For that reason, PHMSA is committed to the concept of leveraging our limited resources in order to have the greatest

impact on safety. We want to leverage data and information; research and development; and the efforts and reach of partners like The Fertilizer Institute is a vital input into our safety mission.

Safety is the result of many small things, of consistency and meticulous attention to detail. Michelangelo, an expert in this area, said that “Trifles make perfection; and perfection is no trifle.”

PHMSA works closely with multiple DOT operating administrations to ensure consistency in administering hazardous materials transportation safety programs across all modes – such as the FRA, FCMSA, FAA, etc. We are actively working with our counterparts at FRA to address many issues relevant to the safe transportation of hazmat by rail, including materials that pose a toxic inhalation hazard (TIH).

These TIH materials, which include essential products, such as anhydrous ammonia and chlorine, are vital not only to our nation’s infrastructure, but also to our health and safety since our water and food supplies depend on their safe movement. PHMSA recognizes its critical role as an agency that must ensure the safety of a vast transportation network that supports our economy and our national way of life.

As an example of our close collaboration with FRA and our industry stakeholders, PHMSA has reviewed, analyzed, and accepted several petitions for consideration in upcoming rulemakings that address the safe transportation of materials that are toxic when inhaled. These petitions cover a range of issues,

including: finalizing specifications codified in 2009 to provide certainty to the industry regarding tank car design and construction standards; extending the authorized service life for tank cars that meet improved standards from 20 to 50 years; and determining an appropriate timeline for phasing out rail tank cars that do not meet the final standard.

PHMSA truly appreciates the wealth of expertise that the shippers and carriers provide to the regulatory process, as well as their continued commitment to build consensus on necessary safety standards. We are pleased to note that the Association of American Railroads (AAR) and several associations representing TIH shippers, including the American Chemistry Council (ACC), the Chlorine Institute (CI), and the Fertilizer Institute (TFI), have reached a general consensus with respect to a number of challenging policy determinations PHMSA must make – such as proposing a timeline for compliance with the final TIH tank car standard. I would specifically note the Joint comments you submitted on June 19, 2018, along with AAR, ACC, and CI, , advocating for the adoption of a mutually agreed-upon phase out date of December 31, 2027.

Just a few weeks ago, on September 6 leadership of each of these organizations came together to meet with PHMSA's senior leadership team to affirm their support for this new approach. At that meeting, you all urged PHMSA to accelerate the timeframe for completing rules – so that you will have certainty for the strategic investment decisions that must be made to advance safety. The successful collaboration of industry stakeholders has greatly facilitated our efforts to finalize a draft

rule that can be issued for public notice and comment and published as expeditiously as possible.

Looking ahead, we know that additional challenges remain as we work together with all stakeholders to build on our existing safety framework. We recognize the need to embrace innovative technologies and solutions that advance safe transportation for the benefit of the public. We also understand and acknowledge your need for regulatory certainty. As shippers and carriers of hazardous materials, you are not only integral to ensuring the safe transport of hazardous materials, but also critical to achieving our shared goal of zero incidents. With strong commitment, leadership, and robust stakeholder collaboration, we can ultimately achieve this goal.

Thank you all for your efforts in moving us in this direction, and thank you the opportunity to speak with you today

**UNITED STATES SENATE
COMMITTEE ON SMALL BUSINESS AND ENTREPRENEURSHIP**

**TESTIMONY OF
PAUL ROBERTI, PHMSA CHIEF COUNSEL
NOVEMBER 16, 2018**

Good morning Senator Kennedy and thank you for the opportunity to testify today, in the great State of Louisiana, about the Pipeline and Hazardous Materials Safety Administration's efforts to advance the safety of rail tank cars transporting hazardous materials.

On behalf of Secretary Chao and Administrator Skip Elliott, I want to thank you for your leadership and personal efforts to improve the safety of our nation's railroad system. Safety is the number one priority for Secretary Chao and everyone working at the Department of Transportation. PHMSA's mission is to protect people and the environment from the risks of hazardous materials by all modes of transportation. We achieve this mission by creating regulations and carrying out a comprehensive safety oversight strategy. We advance education, and research and development projects, focused on enhancing safety and accident prevention.

PHMSA also provides funding and training to prepare first responders to mitigate hazards in the unlikely event that an incident occurs. Our goal is to reduce risk towards zero deaths, zero injuries, prevent property and environmental damage, and prevent transportation disruptions. Tragic train accidents like Lac-Mégantic, Quebec in 2013; Graniteville, South Carolina in 2005; and Minot, North Dakota in 2002, underscore the need to improve the safety of rail tank cars. We remain vigilant while working with industry to prevent these types of accidents from ever happening again.

In the interest of time, I refer you to my written testimony which describes:

- PHMSA's hazardous materials safety program and its role in preventing and mitigating incidents;
- Background about PHMSA's regulatory authority, and the status of pending rulemakings;
- PHMSA's effort to build consensus within the regulated industry and our work to modernize standards and reduce regulatory burdens on small businesses; and
- PHMSA's efforts to finalize standards for rail tank cars that transport hazardous materials classified as Toxic Inhalation Hazards, such as anhydrous ammonia and chlorine.

For this class of hazardous materials, we are coordinating with the Federal Railroad Administration to resolve a number of issues that will promote their safe transportation on the nation's railroads. As you know Senator Kennedy, these products are essential for sustaining our food and water supplies, and our health and safety depend upon their safe transportation. As an example of our collaboration with the Federal Railroad Administration and the industry, PHMSA accepted a number of petitions for consideration in upcoming rulemakings that address the safe transportation of toxic hazardous materials.

PHMSA appreciates the expertise that both the shippers and the carriers contribute to the regulatory process, as well as their commitment to build consensus on safety standards. A great example of consensus was the June 19, 2018 joint submission of comments by the shippers and carriers advocating for a mutually agreed-upon phase-out date of December 31, 2027 for legacy tank cars. We are pleased that industry reached consensus regarding this proposed date for compliance with the final tank car standard.

Moreover, on September 6, 2018, industry leaders met with PHMSA's leadership to affirm their support for this newly achieved consensus. They urged PHMSA to accelerate the timeframe for completing rules that provide much needed regulatory certainty to guide the strategic investment decisions that are necessary to advance safety.

In closing, the success of PHMSA's mission relies on continued collaboration with industry to build on the existing regulatory framework. We need to embrace innovative technologies that provide cost-effective solutions for improving safety, as well as continue taking steps to increase the level of regulatory certainty. We recognize that both shippers and carriers are important partners to the success of PHMSA's safety programs, our national economy, the State of Louisiana, and Port of New Orleans.

Thank you for opportunity to testify. I look forward to answering any questions you may have.

Advancing Pipeline Safety: State, Regional and National Efforts

**Northeast Gas Association
Regional Market Trends Forum
Hartford, CT
April 30, 2013**

***Paul Roberti, Commissioner
Chairman, NARUC Subcommittee on Pipeline Safety
Rhode Island Public Utilities Commission***

OVERVIEW

- Rhode Island Pipeline Replacement Program
- Northeast Regional Perspective
- National Developments

Prominent Features of Rhode Island's Capital Expense Tariff Rider

- Accelerated Replacement Program (ARP)
 - ARP began as part of a 2008 Rate Case Settlement over the 2 year period, funded replacement of 70 miles of Leak Prone Pipe and 4,391 Bare Steel, high pressure services.
- Infrastructure Safety and Reliability Plan (ISR)
 - Replaced existing ARP and legislatively mandated 5 year strategic plan.
 - The plan funds both replacement of leak prone mains and bare steel, high pressure services. The plan also includes funds for system reliability, mandated programs and special projects
 - The plan is expected to annually fund replacement of approximately 50 miles of Leak Prone Pipe and 2,125 Bare Steel, high-pressure inside services.
 - Implementation of a fully reconciling rate mechanism designed to recover actual and anticipated capital investments as reflected in the approved ISR spending plan.

National Grid Rhode Island: 2014 Forecast and 5 Year Plan

Capital Forecast (000's)						
Investment Categories	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	TOTAL
Growth (1)	\$ 11,942	\$ 16,325	\$ 15,944	\$ 16,485	\$ 16,891	\$ 77,588
Main Replacement Program (2)	\$ 33,362	\$ 37,107	\$ 39,991	\$ 43,705	\$ 44,579	\$ 198,743
Service Replacement Program (3)	\$ 3,100	\$ 3,100	\$ -	\$ -	\$ -	\$ 6,200
Sub-total	\$ 36,462	\$ 40,207	\$ 39,991	\$ 43,705	\$ 44,579	\$ 204,943
Public Works	\$ 1,821	\$ 1,857	\$ 1,857	\$ 1,857	\$ 1,857	\$ 9,249
Reactive Main Replacement	\$ 500	\$ 510	\$ 510	\$ 510	\$ 510	\$ 2,540
Mandated Program	\$ 13,522	\$ 14,671	\$ 14,824	\$ 14,880	\$ 14,936	\$ 72,833
Reliability	\$ 8,987	\$ 8,690	\$ 9,371	\$ 9,135	\$ 11,231	\$ 47,412
Special Projects	\$ 4,000	\$ 387	\$ -	\$ -	\$ -	\$ 4,387
TOTAL	\$ 77,233	\$ 82,648	\$ 82,497	\$ 86,571	\$ 90,004	\$ 418,953
(1) Growth is generally not included in the ISR Plan (2) Main Replacement mileage increases annually (50, 53, 55, 60, 60) (3) Service Replacement Program is projected to conclude in FY15						

Rhode Island FY 2014 Capital investment In Safety -- \$50 million

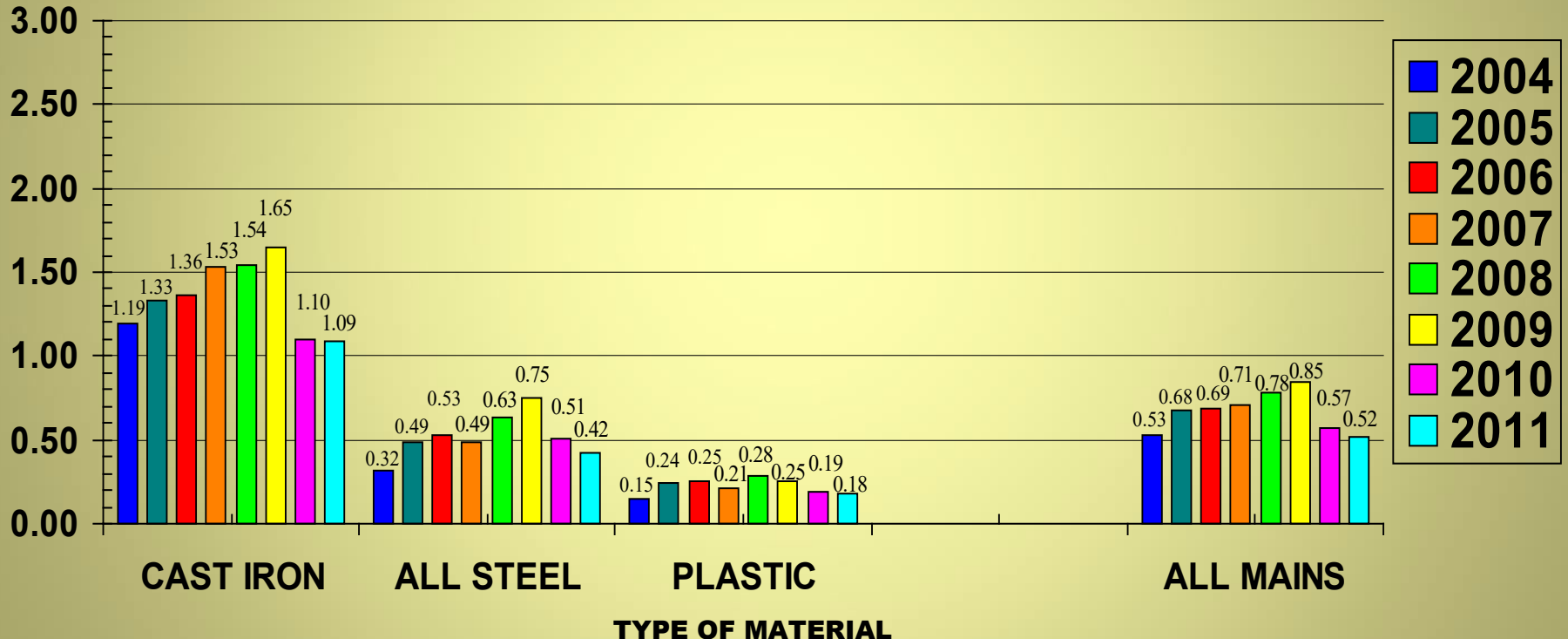
- **Major Initiatives**

- ◆ Proactive replacement of leak prone pipe (50 miles)
- ◆ Cathodic protection of steel mains (10 miles)
- ◆ Replacement of 1,100 Bare Steel, HP Services with Inside Meter Sets
- ◆ Replacement of meters
- ◆ Repair of leaking gas services and cast iron joint encapsulation
- ◆ Service relocations, meter protection, service abandonments and curb valve installation

RHODE ISLAND GAS MAIN LEAK “RATES”

COMPARISON BY MATERIAL

LEAK REPAIRS
PER MILE OF MAIN



COUNTING EACH INDIVIDUAL REPAIR AS A LEAK

(EXCLUDING Damages)

Annual Bill Impacts Are Relatively Modest

Rate Class	Annual Average Use (Therms)	ISR Rate Change Impact* (\$)	ISR Rate Change Impact (%)
Res-NH	214	\$0.99	0.2%
Res-NH-LI	214	\$0.99	0.3%
Res-H	846	\$2.09	0.2%
Res-H-LI	846	\$2.09	0.2%
Small	1,352	\$3.33	0.2%
Medium	12,217	\$22.67	0.2%
Large LL	63,179	\$91.20	0.2%
Large HL	77,558	\$143.93	0.2%
XL-LL	268,243	\$138.28	0.1%
XL-HL	688,340	\$354.80	0.1%

*Impact includes RI Gross Earnings Tax

Public Policy Value of Cap-X Tracker

- Eliminates Utility-borne Risk of Delayed Cost Recovery of Incremental Capital Investments during Post-Rate Case Periods
- Promotes Opportunities for coordination with State highway and local road projects, sewer upgrades and emergency repairs, etc. that are both economic and logistically convenient
- Mitigates the need for large rate increases by spreading cost of infrastructure upgrades along broader timeframe
- Consistent with good ratemaking principles of promoting rate stability and inter-generational equity by eliminating boom/bust investment cycles
- Provides regulators with consistent, periodic review of condition and capital requirements of distribution system
- Most importantly, advances **PUBLIC SAFETY** by encouraging systematic replacement of high-risk facilities

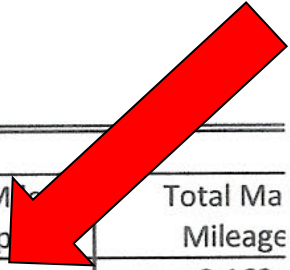
High Risk Infrastructure Score Card – 2007

	Miles of Main				
	Unprotected Steel	Cast/Wrought Iron	Total Miles leak prone pipe	% of Total Miles prone	Total Main Mileage
RHODE ISLAND Totals	711	908	1,619	52.3%	3,095
WASHINGTON DC Totals	102	451	553	46.4%	1,191
MASSACHUSETTS Totals	3,635	4,165	7,801	37.9%	20,574
WEST VIRGINIA Totals	3,409	14	3,424	35.9%	9,531
NEW YORK Totals	9,321	5,088	14,409	31.0%	46,464
PENNSYLVANIA Totals	10,526	1,901	12,427	26.8%	46,449
NEW JERSEY Totals	3,010	5,603	8,613	26.3%	32,755
CONNECTICUT Totals	283	1,640	1,923	25.6%	7,517
MAINE Totals	6	89	95	18.4%	516
MARYLAND Totals	602	1,467	2,068	15.2%	13,646
NEW HAMPSHIRE Totals	120	309	428	13.8%	3,096
VIRGINIA Totals	1,050	676	1,726	8.8%	19,692
DELAWARE Totals	67	124	191	7.4%	2,585
	28,394	16,911	45,305		182,251

Despite Recent Progress, the Challenge of Removing High-Risk Infrastructure Will Persist for Decades

Preliminary 2011 Gas Distribution Annual Report Mileage

Data as of 4/9/2012



REPORT YEAR 2011	Miles of Main				Total Ma Mileage
	Unprotected Steel	Cast/Wrought Iron	Total Miles leak prone pipe	% of Total M leak prone p	
RHODE ISLAND TOTALS	580	875	1,455	46.0%	3,163
WASHINGTON DC TOTALS	96	425	521	43.8%	1,190
MASSACHUSETTS TOTALS	2,871	3,899	6,770	32.1%	21,110
WEST VIRGINIA TOTALS	3,115	14	3,129	29.6%	10,561
NEW YORK TOTALS	8,243	4,541	12,784	26.8%	47,700
PENNSYLVANIA TOTALS	9,011	3,199	12,209	25.7%	47,477
NEW JERSEY TOTALS	2,519	5,138	7,656	22.8%	33,646
CONNECTICUT TOTALS	250	1,509	1,759	22.9%	7,696
MAINE TOTALS	17	59	77	9.8%	780
MARYLAND TOTALS	491	1,422	1,913	13.3%	14,348
NEW HAMPSHIRE TOTALS	60	140	200	10.7%	1,865
VIRGINIA TOTALS	895	480	1,375	6.6%	20,780
DELAWARE TOTALS	45	96	141	4.9%	2,841
PHMSA EASTERN REGION TOTALS	28,192	21,797	49,989		213,159

In 2012

2012 Gas Distribution Annual Report Mileage and Leaks

Data as of 4/26/2013

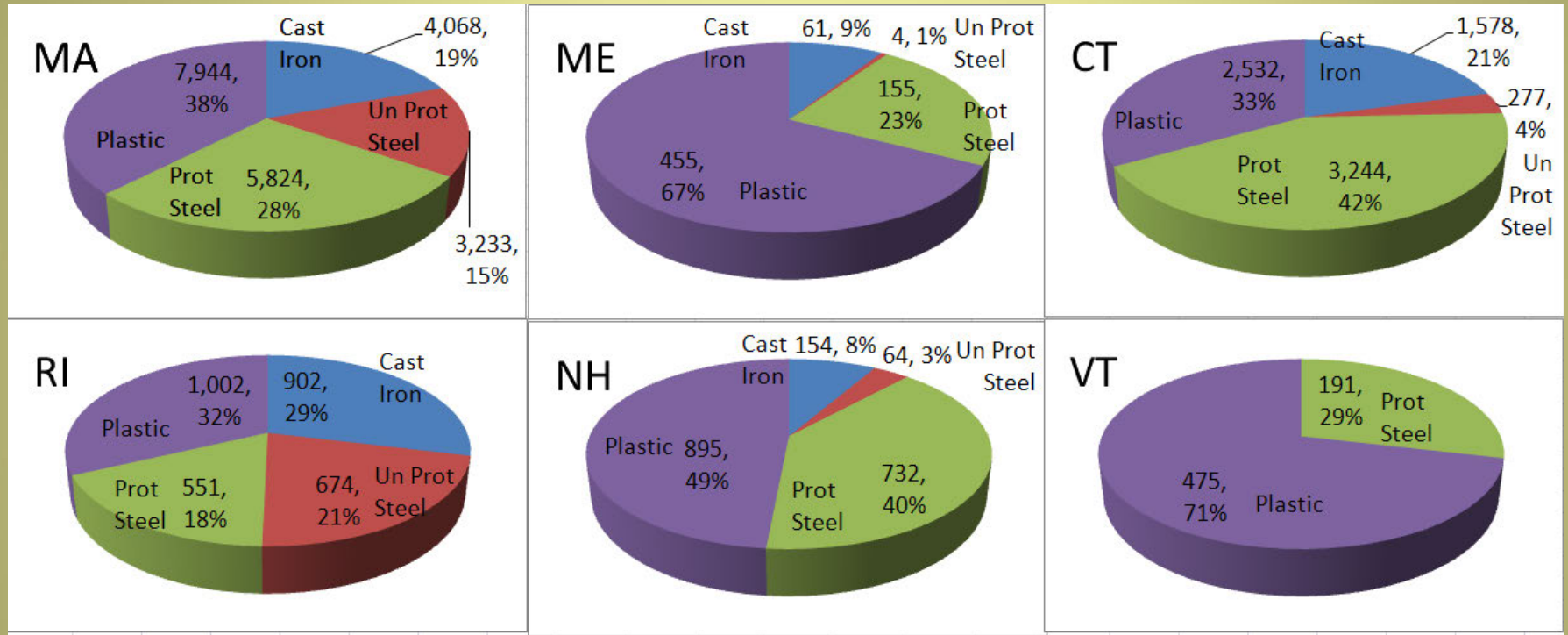
2012 Gas Distribution Annual report is preliminary data

	Miles of Main				
PHMSA F 7100.1-1 / REPORT YEAR 2012	Unprotected Steel	Cast/Wrought Iron	Total Miles leak prone pipe	% of Total Miles leak prone pipe	Total Main Mileage
Rhode Island	534	859	1,393	43.9%	3,174
District of Columbia	95	419	514	42.9%	1,197
Massachusetts	2,785	3,792	6,577	30.9%	21,285
West Virginia	3,009	14	3,022	28.3%	10,674
New York	7,885	4,417	12,301	25.7%	47,880
Pennsylvania	8,972	3,221	12,193	25.6%	47,561
Connecticut	236	1,467	1,703	22.0%	7,751
New Jersey	2,403	5,044	7,447	22.0%	33,919
Maryland	449	1,399	1,847	12.8%	14,477
New Hampshire	55	134	189	10.1%	1,875
Maine	16	56	72	9.0%	803
Virginia	817	406	1,223	5.9%	20,847
Delaware	39	91	130	4.5%	2,872
PHMSA EASTERN REGION TOTALS	27,294	21,318	48,612		214,316

RI's Remaining Challenge: 3,174 Miles of Leak-Prone Pipe



Amount of Leak Prone Pipe (Mains) in New England



National Efforts -- NARUC

- 2011: NARUC establishes Pipeline Safety Task Force after San Bruno, CA and Allentown, PA incidents (13 fatalities)
- April 2013: Task Force converted into permanent Subcommittee on Pipeline Safety
- PHMSA issues “Report to America”
- Close coordination between NAPSRS and NARUC
- Efforts include education, technology and culture



Kansas City, Missouri



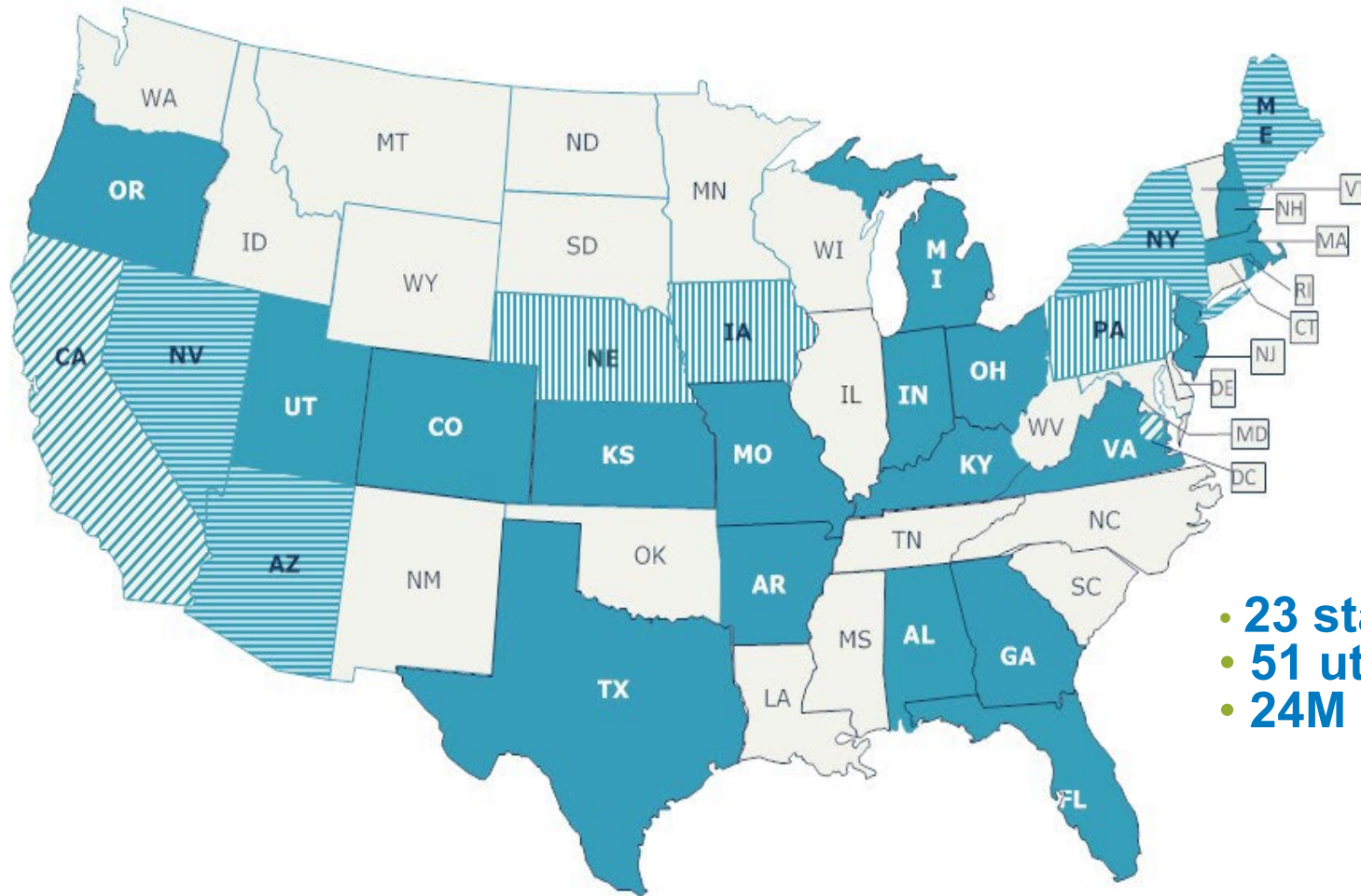
Springfield, MA

**Despite Our
Vigilance,
the Hits
Keep
Coming**



Indianapolis, Indiana

STATES WITH INFRASTRUCTURE COST RECOVERY (As of September 2012)



- **23 states**
- **51 utilities**
- **24M customers**



States with Full Infrastructure Cost Recovery Mechanisms (19)



States with Pending Infrastructure Cost Recovery Mechanisms (1 + DC)



States with Limited Infrastructure Cost Recovery Mechanisms (4)

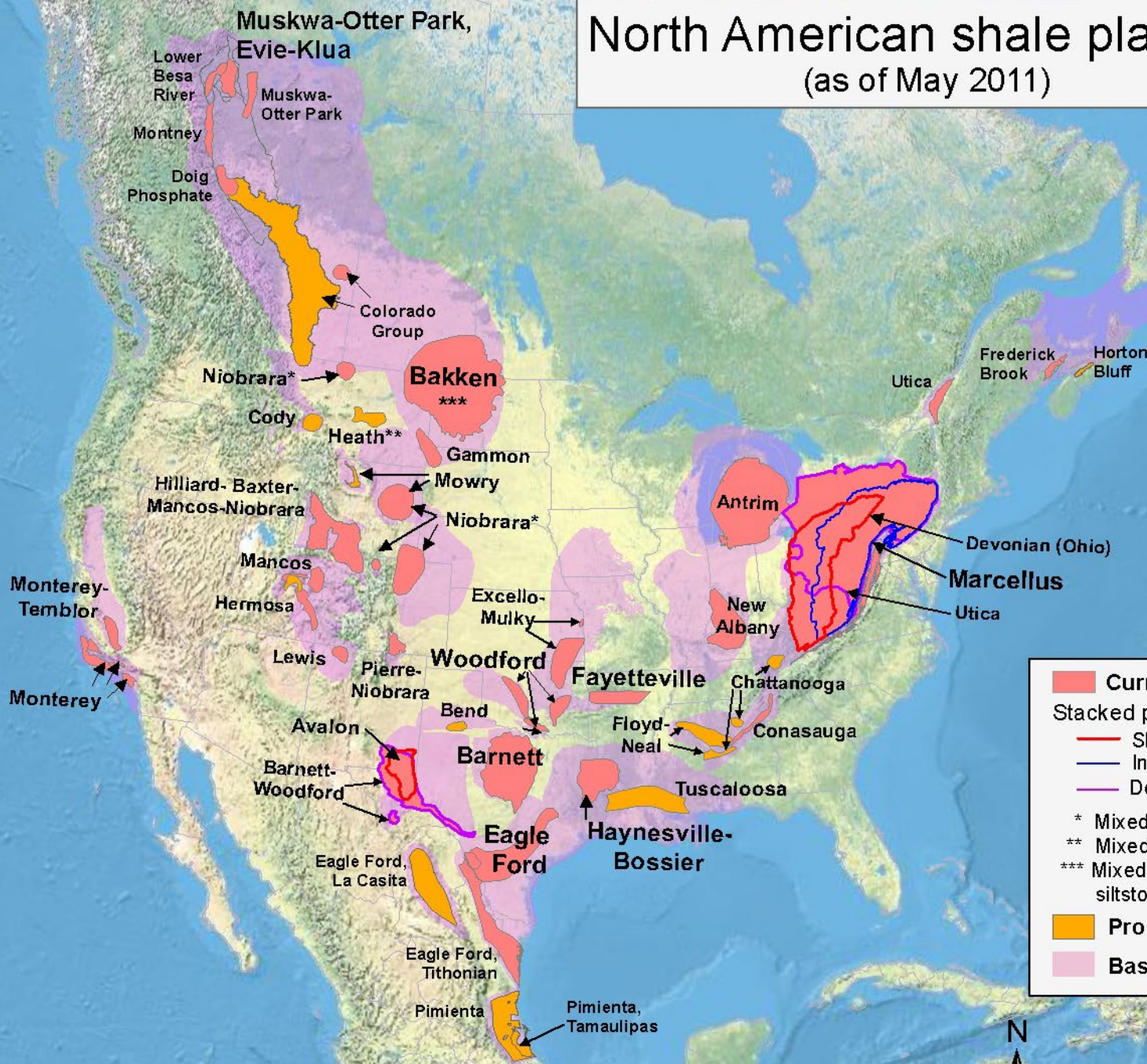


States with Legislation or Generic Rulings (3)



Since 1984

North American shale plays (as of May 2011)



Natural Gas Will Continue to Be a Growing Force in our Nation's Energy Future

- Unconventional Natural Gas Exploration Via Hydraulic Fracturing (Shale Gas) Continues to Expand Low-Cost, Domestic Dry Gas Production
- Emissions Profile, Coupled with Implementation of new EPA Regulations Expected to Increase Market Penetration Gas-fired Electric Generation
- Natural Gas-fired Units Provide:
 - Quick-Start Resource Capabilities to meet Peak Electric Demand Periods
 - Synergistic support for intermittent renewable sources of energy
- Multiple Transmission Pipeline Additions Completed or Underway to Move Shale Gas to Markets
- Growing Economic and Environmental Basis for Greater Penetration of Gas”
 - Convert heating customers from Oil to Gas
 - Conversion to CNG for large commercial fleets
 - Deployment of CHP technologies

 **Greater Pressure on Pipeline Operators and Regulators to Evaluate the Integrity of all System Components (i.e., Age, Material, Condition, Location, etc.).**

Checklist for a Good Night's Sleep

- Know the age, location and characteristics of system components to assess integrity and risk to public.
- In the event of an incident, have an established emergency response plan to address a large scale emergency.
- Identify High Consequence Areas and Inform the Public.
- Quality Control during construction phase – an imperative!
- Use available technology to mitigate risk (e.g., leak detection) and decrease incident response times through worker training and available technologies (i.e., automatic shut-off valves, remote control valves, etc.).
- Greater Interaction between Industry and Regulators is essential.
- Industry remains the first line of defense in minimizing or eliminating the risk of incidents.
- Think beyond the “letter of the regulation” – does logic or science indicate that actions “above and beyond” the letter of law should be pursued?

“A small leak will sink a great ship.”

Benjamin Franklin



**Pipeline inspection – Warwick, RI
November 4, 2011**

Thank you



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**UNITED STATES SENATE
COMMITTEE ON COMMERCE, SCIENCE, & TRANSPORTATION**

**TESTIMONY OF
PAUL ROBERTI, CHIEF COUNSEL
PIPELINE AND HAZARDOUS MATERIALS SAFETY
ADMINISTRATION**

**PIPELINE SAFETY IN THE MERRIMACK VALLEY: INCIDENT
PREVENTION AND RESPONSE**

**LAWRENCE, MA
NOVEMBER 26, 2018**

Senator Markey and Senator Warren, thank you for the opportunity to testify about the tragic accident that occurred in Merrimack Valley on September 13, 2018. I would also like to thank Senator Hassan, Representative Tsongas, Representative Moulton, and Congresswoman-elect Trahan for their attendance as well.

On behalf of Secretary Elaine Chao and Administrator Skip Elliott, I recognize and appreciate your efforts to advance pipeline safety. For Secretary Chao, Administrator Elliott and everyone working at the Department of Transportation, safety is our number one priority.

PHMSA's mission is to protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are so essential to our daily lives. We oversee the inspection and enforcement of the nation's interstate pipeline system; we advance education, research and development projects; and we administer the State Pipeline Safety Programs in 48 States, including Massachusetts.

The natural gas explosions and fires in the Merrimack Valley were indeed tragic and avoidable. We deeply sympathize with the family of the young man who lost his life, and all those who suffered injuries, or had their homes and property damaged or destroyed.

PHMSA acknowledges the initiative to replace aging cast iron pipelines for safety reasons. In my prior role as a public utilities commissioner in Rhode Island just a few miles south of here, I worked steadfastly to advance programs to accelerate the replacement of cast iron and bare steel pipelines for many years, particularly in the aftermath of tragedies like San Bruno, CA and Allentown, PA.

Those tragedies galvanized the effort to modernize pipeline systems across the nation. Yet, despite Columbia Gas' concerted effort to replace aging cast iron systems, we witnessed an extraordinary failure in the planning, design and execution of a replacement project.

This accident once again illustrates how critical it is for pipeline operators to thoroughly plan and safely execute all facets related to construction, maintenance and operation of pipeline networks.

The written testimony that I submitted describes:

- First, PHMSA's financial support to our State partners;
- Second, the training provided to federal and state inspectors;
- Lastly, PHMSA's evaluations of state pipeline safety programs.

On the afternoon of the accident, Administrator Elliott made an immediate decision to deploy multiple inspectors to the scene to provide technical assistance to both the Massachusetts Department of Public Utilities and the National Transportation Safety Board. As some of you know personally, he also reached out to keep affected members of Congress apprised about PHMSA's efforts. Since the time the tragedy unfolded,

PHMSA's team of experts have provided hundreds of hours of technical assistance, and we will continue to support Massachusetts and the NTSB throughout their investigations.

A word about the State pipeline safety programs that PHMSA administers: The federal/state partnership with the Commonwealth of Massachusetts spans over 35 years. Massachusetts is a certified state partner, with inspection and enforcement responsibilities for intrastate natural gas distribution and transmission pipelines. As a matter of law, the Commonwealth possesses jurisdiction to investigate and make determinations regarding an operator's compliance with federal and state regulations.

We also recognize the NTSB's jurisdiction and expertise for leading the investigation and determining the probable cause of this tragic accident. While the NTSB's preliminary report identified circumstances that likely contributed to the over-pressurization during the pipeline replacement project, PHMSA eagerly awaits the completion of both investigations so that we have all requisite information concerning the cause of the incident and operator's compliance with pertinent regulations.

CLOSING

In closing, PHMSA expects pipeline operators to comprehensively understand their systems, including the design, construction, and operation of all facilities. Moreover, we expect operators and qualified subcontractors to exercise extreme care and diligence in every aspect of their work, and above all, to nurture and maintain a safety culture that promotes the highest level of safety, so that tragic pipeline accidents like the Merrimac Valley disaster never happen again.

Thank you again for the opportunity to testify. I look forward your questions.