



# New Liquid Rules and PHMSA Updates

## Pipeliners Club of Atlanta Virtual Meeting January 11, 2021

*Arthur O. Buff, P.E.*

**Community Liaison**

**PHMSA, Outreach and Engagement Division**



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Pipeline and Hazardous Materials  
Safety Administration

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



# Overview

- Pipelines in US and GA
- Energy production
- New rules (storage, HL)
- Excavation damage  
adequate states
- PERI updates

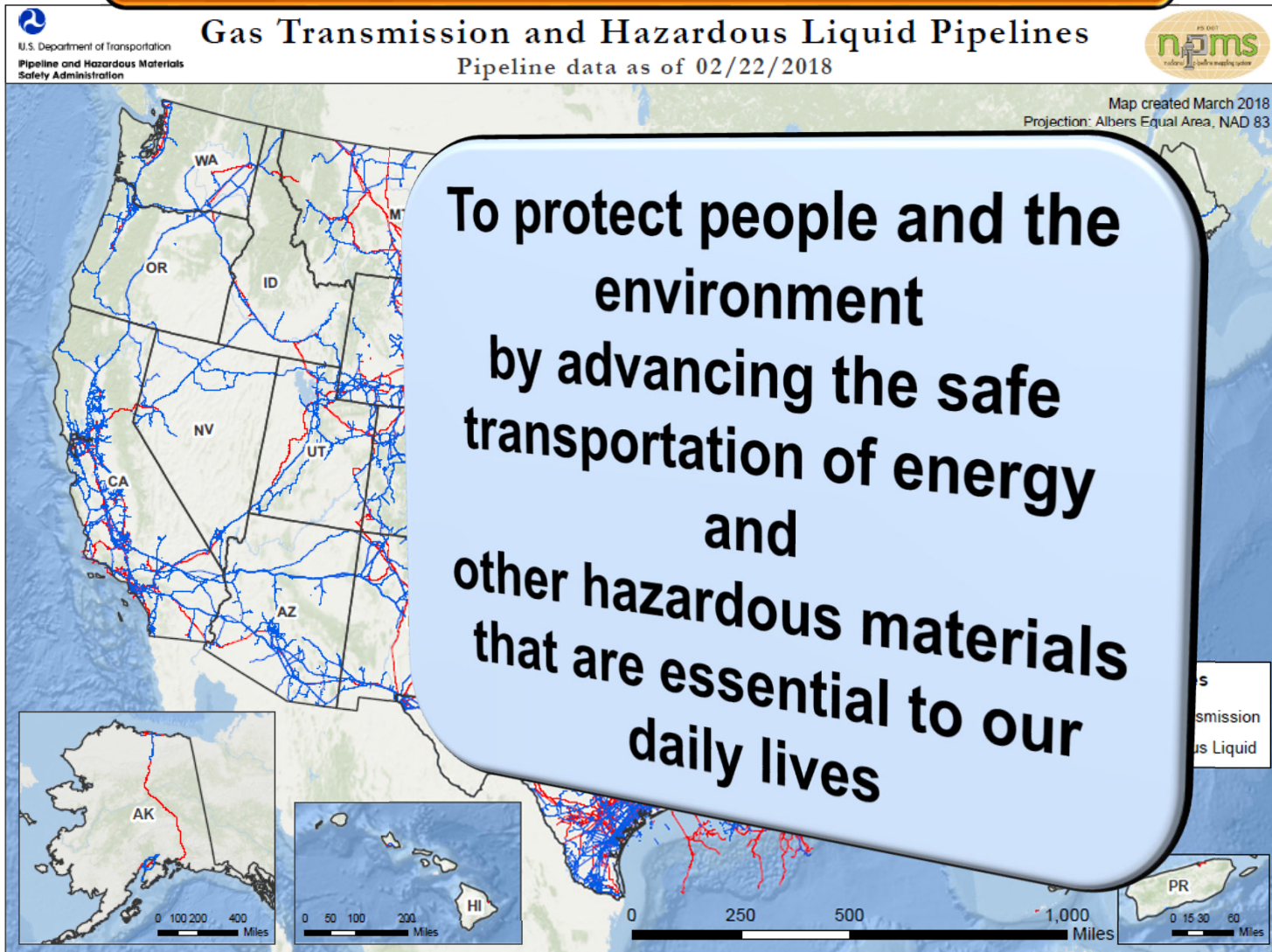


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# PHMSA Office of Pipeline Safety



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# Regulated Pipeline Systems (as of Nov. 11, 2020)

System Type	Miles
Hazardous Liquid	225,015
Gas Transmission	302,264
Gas Gathering	17,776
Gas Distribution (Mains & Services )	2,262,558
<b>Total</b>	<b>2,807,613</b>

<b>Liquid Natural Gas</b>	<b>162 Plants/ 234 Tanks</b>
Underground Natural Gas Storage, (First annual reports in 2018)	397 Facilities 451 Reservoirs 17,281 Total wells

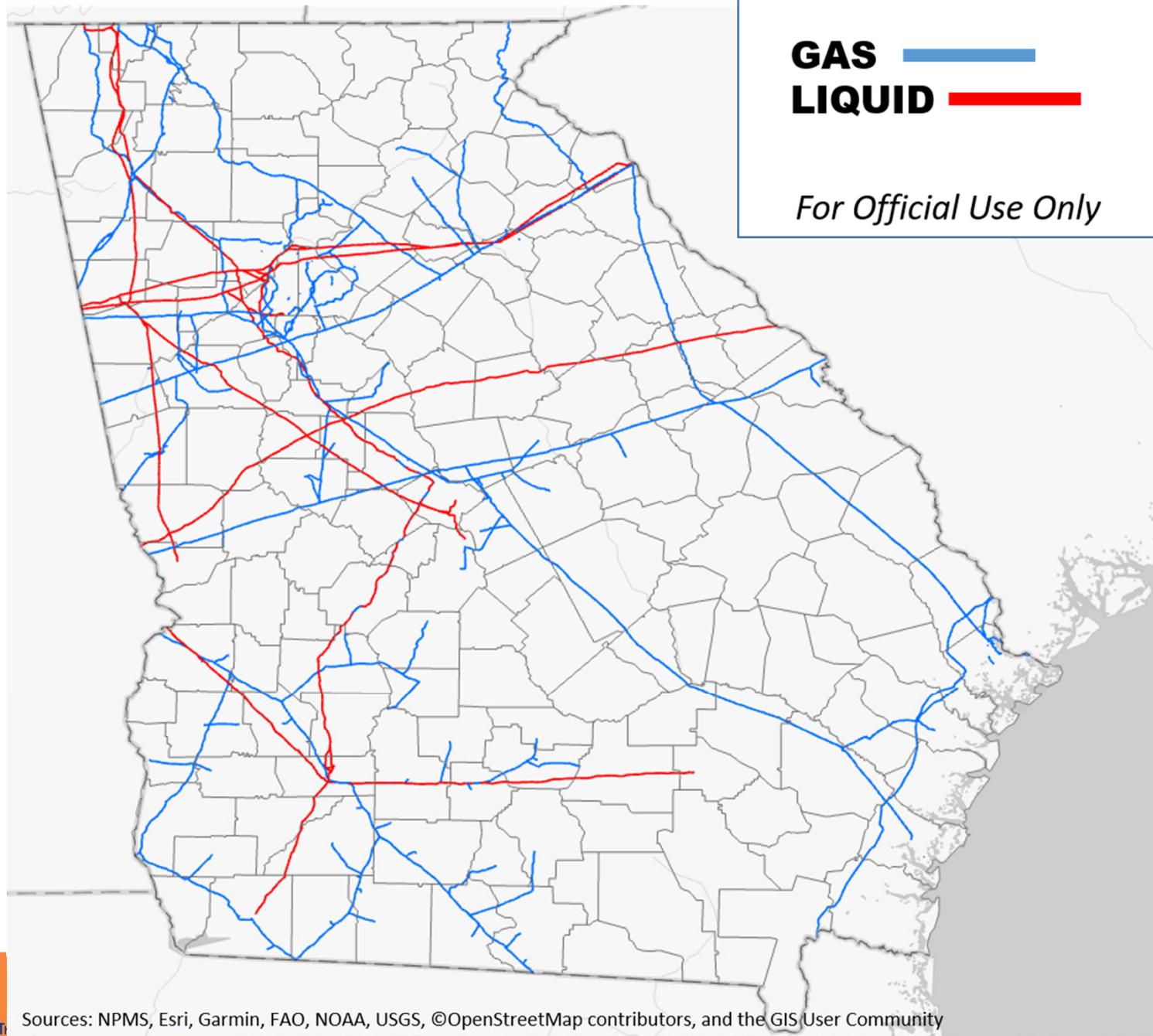


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Sources: NPMS, Esri, Garmin, FAO, NOAA, USGS, ©OpenStreetMap contributors, and the GIS User Community

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# Regulated Pipeline Systems - Georgia

System Type	Miles
Hazardous Liquid (fpp, hvl)	2,121
Gas Transmission	4,890
Gas Gathering	0
Gas Distribution (Mains & Services )	87,595 (93%)
<b>Total</b>	<b>94,606</b>

Liquid Natural Gas	4 Plants/9 Tanks
Underground Natural Gas Storage, (First annual reports in 2018)	Facilities Reservoirs Total wells



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# Increased Energy Production



- ✓ ANWR
- ✓ Dakota
- ✓ Keystone XL
- ✓ Utah

- U.S. No. 1 producer of oil and gas
- Energy Independent to energy dominance



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# Drilling in ANWR

(2,000 Acres out of 19 million)

See  
The  
Point?



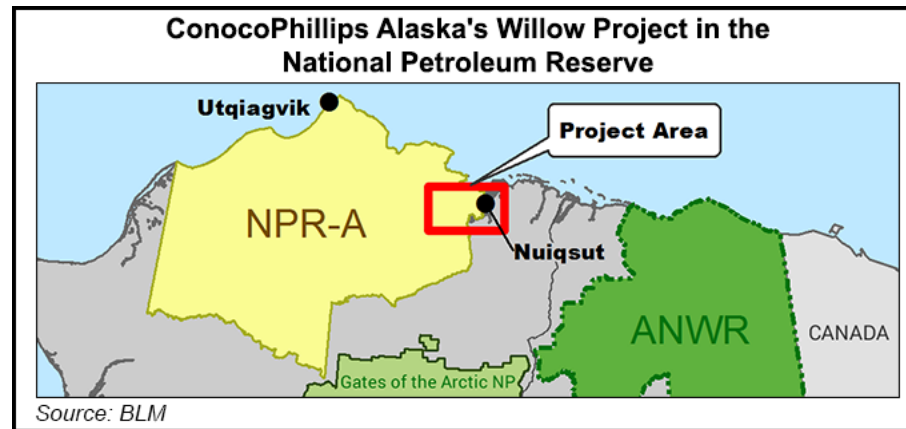
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# Approval Drilling in NPR



- ConocoPhillips' plan for drilling in the National Petroleum Reserve in Alaska, a wilderness area along the state's North Slope oil field, approved 10/27/20.
- Will allow up to three drill sites, a processing facility and gravel roads and pipelines
- A final EIS for the company's Willow project was published by the BLM
- Could produce more than 160,000 bpd over the next 30 years.



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# Department of Interior Bureau of Land Management Leases

- Two lease sales before 12/20/2024 (Law)
- Areas with highest hydrocarbon potential
- NEPA review limited to one year and 150 pages



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# China Trade Deal



U.S. will be  
exporting more  
gas to China

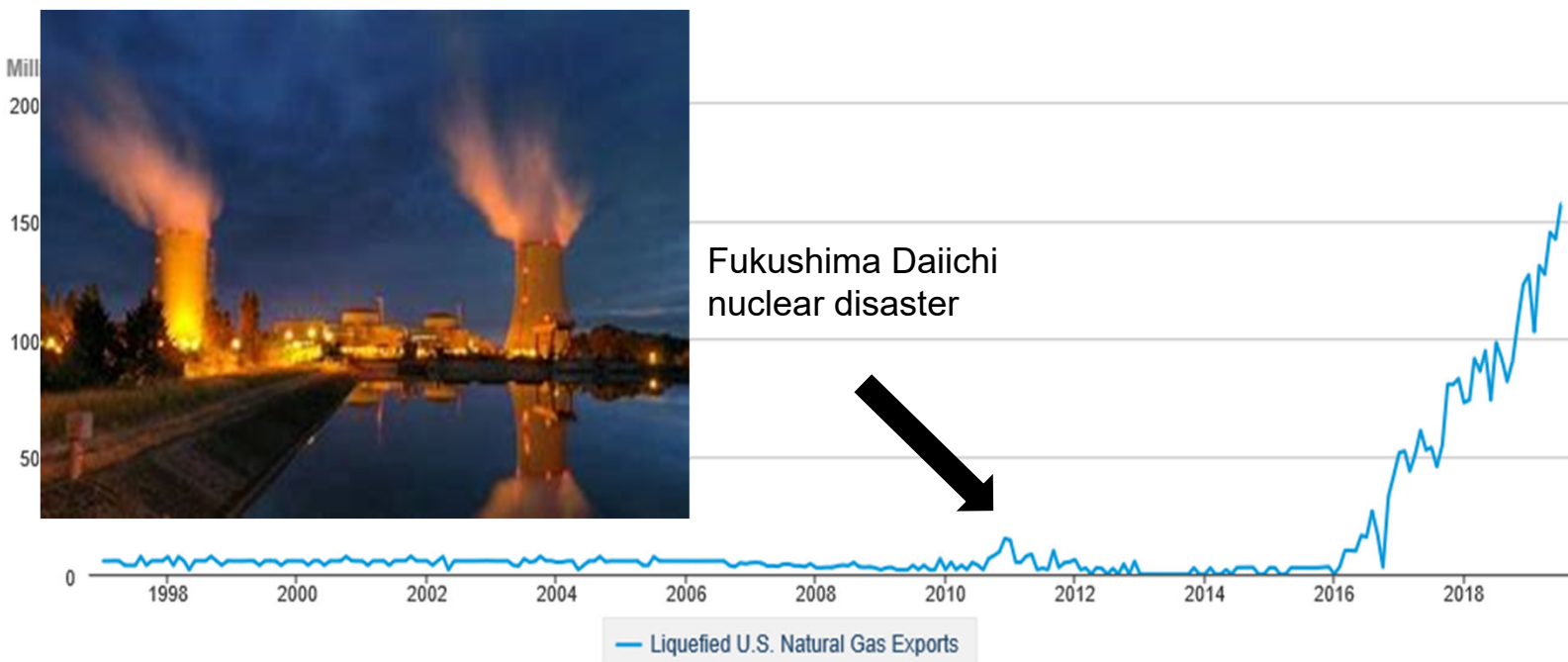


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# LNG Exports



> 150,000,000,000 (150 billion cubic feet)



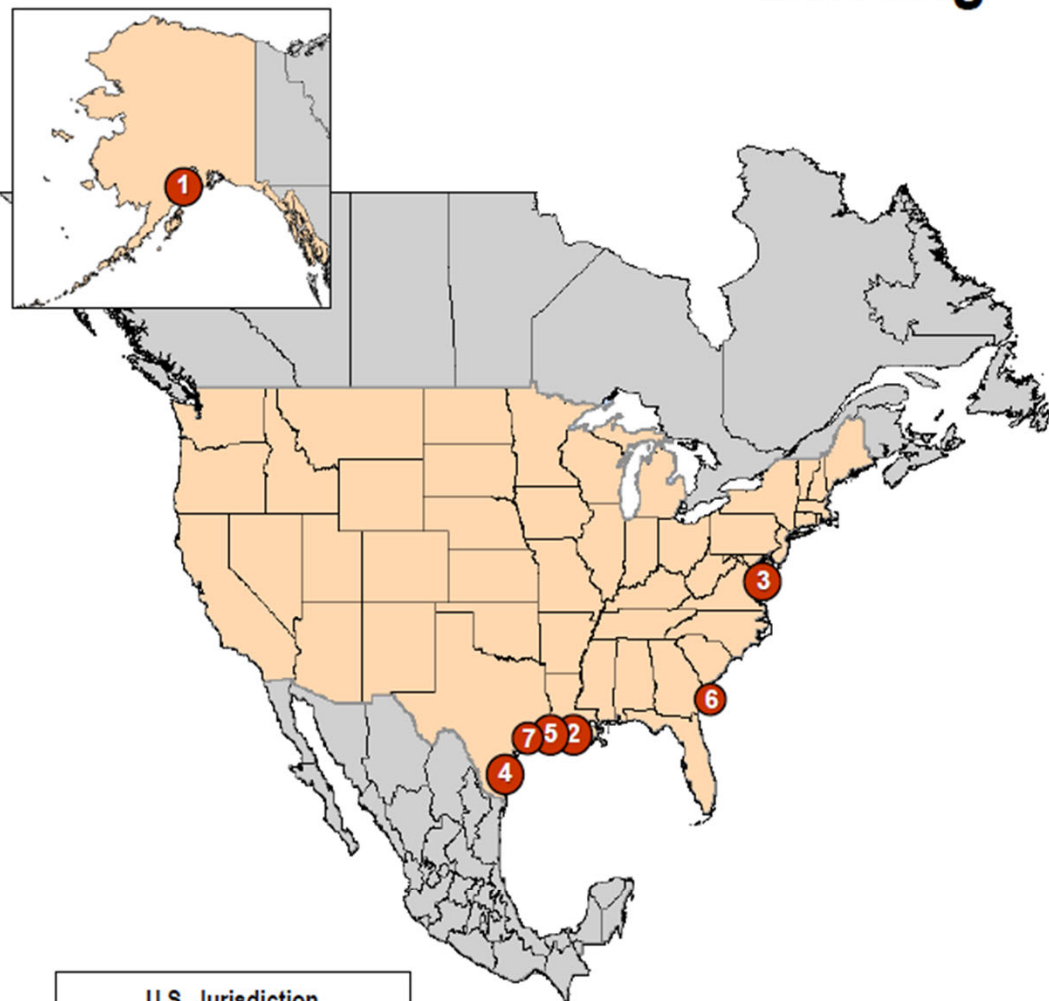
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# North American LNG Export Terminals

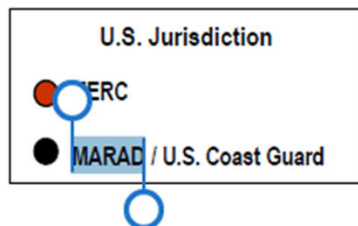
## *Existing*



### Export Terminals

#### UNITED STATES

1. Kenai, AK: 0.2 Bcfd (Trans-Foreland)
2. Sabine, LA: 3.5 Bcfd (Cheniere/Sabine Pass LNG – Trains 1-5)
3. Cove Point, MD: 0.82 Bcfd (Dominion–Cove Point LNG)
4. Corpus Christi, TX: 1.44 Bcfd (Cheniere – Corpus Christi LNG Trains 1, 2)
5. Hackberry, LA: 1.4 Bcfd (Semptra–Cameron LNG, Trains 1, 2)
6. Elba Island, GA: 210 MMcfd (Southern LNG Company Units 1-6)
7. Freeport, TX: 2.13 Bcfd (Freeport LNG Dev/Freeport LNG Expansion/FLNG Liquefaction Trains 1-3)



As of May 29, 2020



# North American LNG Export Terminals

## Approved, Not Yet Built



### Export Terminals

#### UNITED STATES

##### APPROVED - UNDER CONSTRUCTION - FERC

1. Hackberry, LA: .71 Bcfd (Sempra-Cameron LNG Train 3) (CP13-25)
2. Corpus Christi, TX: 0.72 Bcfd (Cheniere-Corpus Christi LNG Train 2) (CP12-507)
3. Sabine Pass, LA: 0.7 Bcfd Train 6 (Sabine Pass Liquefaction) (CP13-552)
4. Elba Island, GA: 140 MMcfd (Southern LNG Company Units 7-10) (CP14-103)
5. Cameron Parish, LA: 1.41 Bcfd (Venture Global Calcasieu Pass) (CP15-550)
6. Sabine Pass, TX: 2.1 Bcfd (ExxonMobil - Golden Pass) (CP14-517)
7. Calcasieu Parish, LA: 4.0 Bcfd (Driftwood LNG) (CP17-117)

##### APPROVED - NOT UNDER CONSTRUCTION - FERC

- A. Lake Charles, LA: 2.2 Bcfd (Lake Charles LNG) (CP14-120)
- B. Lake Charles, LA: 1.08 Bcfd (Magnolia LNG) (CP14-347)
- C. Hackberry, LA: 1.41 Bcfd (Sempra - Cameron LNG Trains 4 & 5) (CP15-560)
- D. Port Arthur, TX: 1.86 Bcfd (Port Arthur LNG Trains 1 & 2) (CP17-20)
- E. Freeport, TX: 0.72 Bcfd (Freeport LNG Dev Train 4) (CP17-470)
- F. Pascagoula, MS: 1.5 Bcfd (Gulf LNG Liquefaction) (CP15-521)
- G. Jacksonville, FL: 0.132 Bcfd (Eagle LNG Partners) (CP17-41)
- H. Plaquemines Parish, LA: 3.40 Bcfd (Venture Global LNG) (CP17-66)
- I. Brownsville, TX: 0.55 Bcfd (Texas LNG Brownsville) (CP16-116)
- J. Brownsville, TX: 3.6 Bcfd (Rio Grande LNG - NextDecade) (CP16-454)
- K. Brownsville, TX: 0.9 Bcfd (Annova LNG Brownsville) (CP16-480)
- L. Corpus Christi, TX: 1.86 Bcfd (Cheniere Corpus Christi LNG) (CP18-512)
- M. Sabine Pass, LA: NA Bcfd (Sabine Pass Liquefaction) (CP19-11)
- N. Coos Bay, OR: 1.08 Bcfd (Jordan Cove) (CP17-494)
- O. Nikiski, AK: 2.63 Bcfd (Alaska Gasline) (CP17-178)

APPROVED - NOT UNDER CONSTRUCTION - MARAD/Coast Guard  
MC. Gulf of Mexico: 1.8 Bcfd (Delfin LNG)

#### CANADA

For Canadian LNG Import and Proposed Export Facilities:

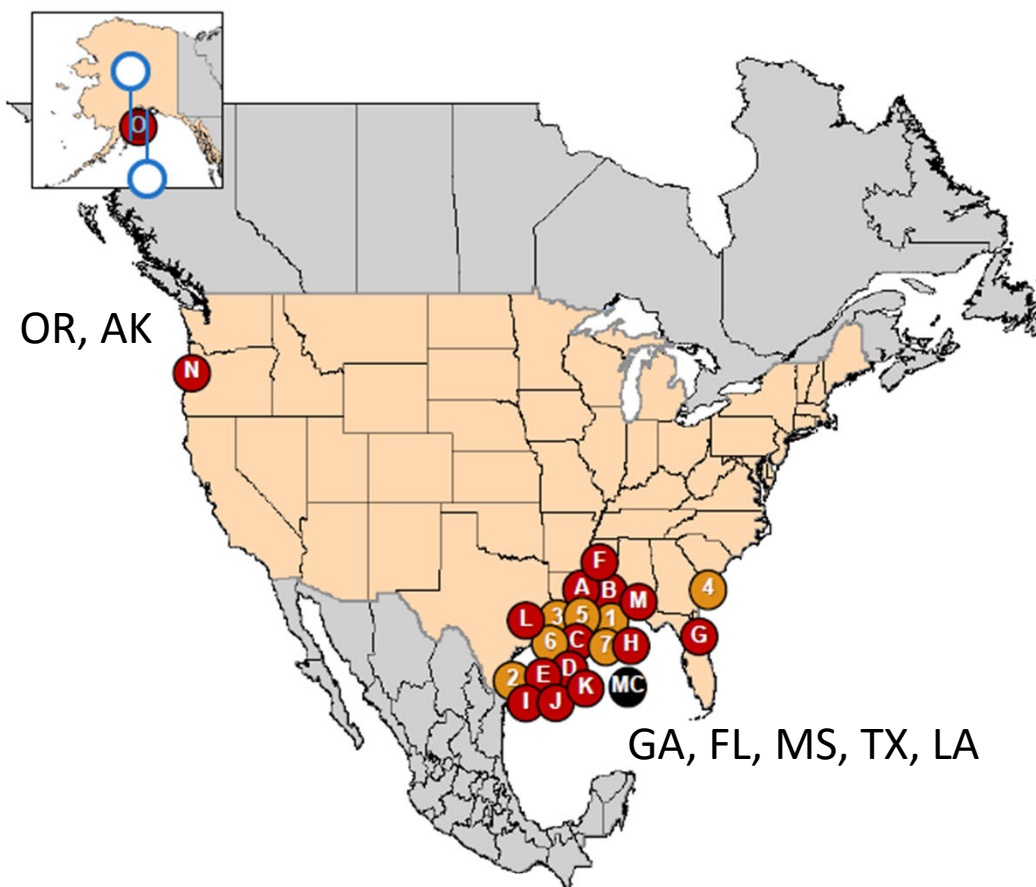
<https://www.nrcan.gc.ca/energy/natural-gas/5683>

As of May 29, 2020

23 Total

#### U.S. Jurisdiction & Status

- FERC - Approved, Under Construction
- FERC - Approved, Not Under Construction
- MARAD / U.S. Coast Guard



# Utah Bears Ears and Grand Staircase Monuments

**Department of Interior will open up more federal lands for the mining of coal, drilling for oil and gas, and recreation and tourism in Utah, where massive amounts of land were put off limits by the previous administration.**



The DOI announced the finalized plan in Feb. of this year (2020), returning the boundaries Bears Ears and Grand Staircase Escalante monuments to be consistent with the Antiquities Act of 1906.



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# Why were Hazardous Rules Ammended?

To improve the safety of pipelines transporting hazardous liquids.

## Basis for Rule Changes:

- In response to congressional mandates
- NTSB and GAO recommendations
- Lessons learned
- Public input



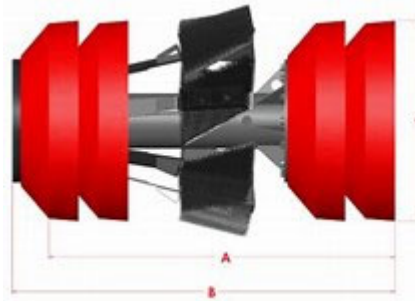
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# Hazardous Rule Highlights

- extending reporting requirements to certain hazardous liquid gravity and rural gathering lines (**195.13** and **.15**)
- requiring inspection of pipelines in areas affected by extreme weather and natural disasters (**195.414**);
- requiring integrity assessments of onshore hazardous liquid pipeline segments outside of HCA and that are “piggable” (**195.416**);



- extending the required use of leak detection systems beyond HCAs (195.134 and .444) ;



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# Hazardous Rule Highlights

- Requiring that all pipelines in or affecting HCAs be capable of accommodating in-line inspection tools within 20 years (195.452);
- Other IM revisions and clarifications – information analysis & segment verification [195.452(g), 195.452(j)(2)]
- Self Executing Provisions from PIPES Act of 2016, Section 14 and 25
  - MSDS requirements (**195.65**)
  - Annual inspection of certain deep water pipelines (>150' beneath water surface) (**195.454**)



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# Hazardous Rule Implementation

## Known Milestones

Publication Date: October 1, 2019

Effective Date: July 1, 2020



## Various Regulatory Dates: (Examples)

- Reporting: 6 and 12 months after Effective Date
- CPM (computational pipeline monitoring): New 1 year, existing 5 years after publication date
- Inspection following weather: Immediate.
- Pipeline Assessments: 10 years from Publication Date (5 years for Pre 70)
- IM DATA Analysis: 3 years form Publication



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## New Reporting Requirements – Gravity Lines

- Preamble: PHMSA estimates will apply to 5 operators, approx. 28 miles of pipe.
- Longer lines (more than 1 mile from facility boundary), not low stress, not crossing CNW (Commercially Navigable Waterways).
- Reporting
  - Annual Report
  - Accident Reports (30-day written)
  - Safety-Related Condition Reports
  - Updated forms to be available at:  
<https://www.phmsa.dot.gov/forms/operator-reports-submitted-phmsa-forms-and-instructions>



## **“Reporting-Regulated-Only” Gathering**

### **New Code section: 195.15**

- New reporting requirements for gathering lines not currently regulated

### **Important dates:**

- Annual Reporting Effective Date: March 31, 2021
- Accident/SRC Reporting Effective Dates: Jan 1, 2021

**Preamble:** PHMSA regulates < 4,000 miles of the 30,000 to 40,000 onshore HL gathering lines. Estimated 20 operators will be reporting first time, and another 56 will be adding to existing annual reports.



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# Extreme Weather and Natural Disasters

**New Code section: 195.414** Effective Date: July 1, 2020

- After certain events, operator must inspect facilities, assess damage and, as necessary, remediate

Events include:

- named tropical storm or hurricane;
  - a flood that exceeds the river, shoreline, or creek high-water banks in the area of the pipeline;
  - a landslide in the area of the pipeline; or
  - an earthquake in the area of the pipeline; or
  - other similar events
- Initial Inspection must start within 72 hours of event



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## Increased uses of ILI

**Effective July 1, 2020**

195.120 – fewer exceptions

**195.416** – assessment of non-HCA pipe every 10 years (use ILI, unless impracticable)

195.452 – baseline assessments using ILI, unless impracticable and all HCA pipe capable of ILI in 20 years



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## Increased use of ILI

### 195.120 – **fewer exceptions**

Each new pipeline and main line section of a pipeline where the line pipe, valve, fitting or other line component is replaced must be designed and constructed to accommodate the passage of instrumented internal inspection devices.

Upon petition to the PHMSA Administrator, exceptions are:

- Where the basic existing construction of a pipeline makes ILI accommodation impracticable.
- Emergencies – if denied, must make piggable within 1 year of Administrator decision.
- See 190.9 for filing petitions.



## What if ILI Impracticable in Line Segment

**“Impracticable”** means it is impossible in practice to carry out an ILI based on operational limits:

- Operating pressure
- Low flow
- Pipeline length
- Unavailable ILI tool technology for the pipe diameter



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# Leak Detection

**Revised Code sections: 195.134 & 195.444**

**Important Dates:**

- Pipelines constructed prior to Oct. 1, 2019; effective LDS by Oct. 1, 2024.
- Pipelines constructed on or after Oct. 1, 2019; effective LDS by Oct. 1, 2020.

195.134 design requirements for leak detection systems

195.444 requirements of effective system to detect leaks

Offshore gathering and regulated rural gathering are excepted



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# Leak Detection

195.134 referenced computational pipeline monitoring (CPM) leak detection (LD) systems per API 1130

195.134 also includes design requirements for LD with timeframes.

Must comply with 195.444 for effective system to detect leaks, evaluate LD capability considering these factors, and install/modify system to protect life, property, environment:

- length and size of the pipeline
- type of product carried
- the swiftness of leak detection
- location of nearest response personnel
- leak history
- If HCA, then 195.452 requires LD be evaluated also considering risk assessment & proximity to HCA



# Safety Data Sheets

**New Code section: 195.65**

Effective Date: July 1, 2020

- Operators must present MSDS sheets to On Scene Coordinators, and local responders.

This is a self executing provision of the PIPES Act of 2016 - operators be doing already.



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# Integrity Assessment for Certain Underwater HL Pipelines outside HCA

**Effective Date: July 1, 2020**

- Certain pipelines will have to be assessed every 12 months.

This is a self executing provision of the PIPES Act of 2016 - operators should be doing this.



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# Seismicity

**Updated Code sections:** 195.452 – IM in HCA

Effective Date: July 1, 2020

Seismicity has been added as a risk factor in the IM rules.

- Risk factors for assessment schedules 195.452(e)
- Information analysis 195.452(g)
- Preventive and mitigative measures 195.452(i)



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# Implementation Team

Rod Seeley – Team Lead

Chris McLaren – State Programs Office

David Barrett – Central Region

Tiffany Baker – Southern Region



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## Cost Benefit Analyses

PHMSA estimates the annual costs of the rule to be approximately **\$21.4 million**, calculated using a 7 percent discount rate



**\$33.7 GT**



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# Inspection Approach

- New content being developed for Inspectors
- Expectation is that the oversight will flow into the Integrated Inspection process.
  - No specialized inspection approach, no separate teams
  - As various rule effective dates occur the new parts of the regulation will be inspected.



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# Underground Natural Gas Storage

- Final Rule published February 12, 2020
- Effective date March 13, 2020
- Amended December 19, 2016 Interim Final Rule
- Establishes minimum safety standards for underground natural gas storage facilities



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## Good Source of Information on new Rules

View public comments received on FAQs and draft answers posted to docket, PHMSA-2019-0225, at

<https://www.regulations.gov/docket?D=PHMSA-2019-0225>

Federal Register: 11/4/2020 and 12/16/2020





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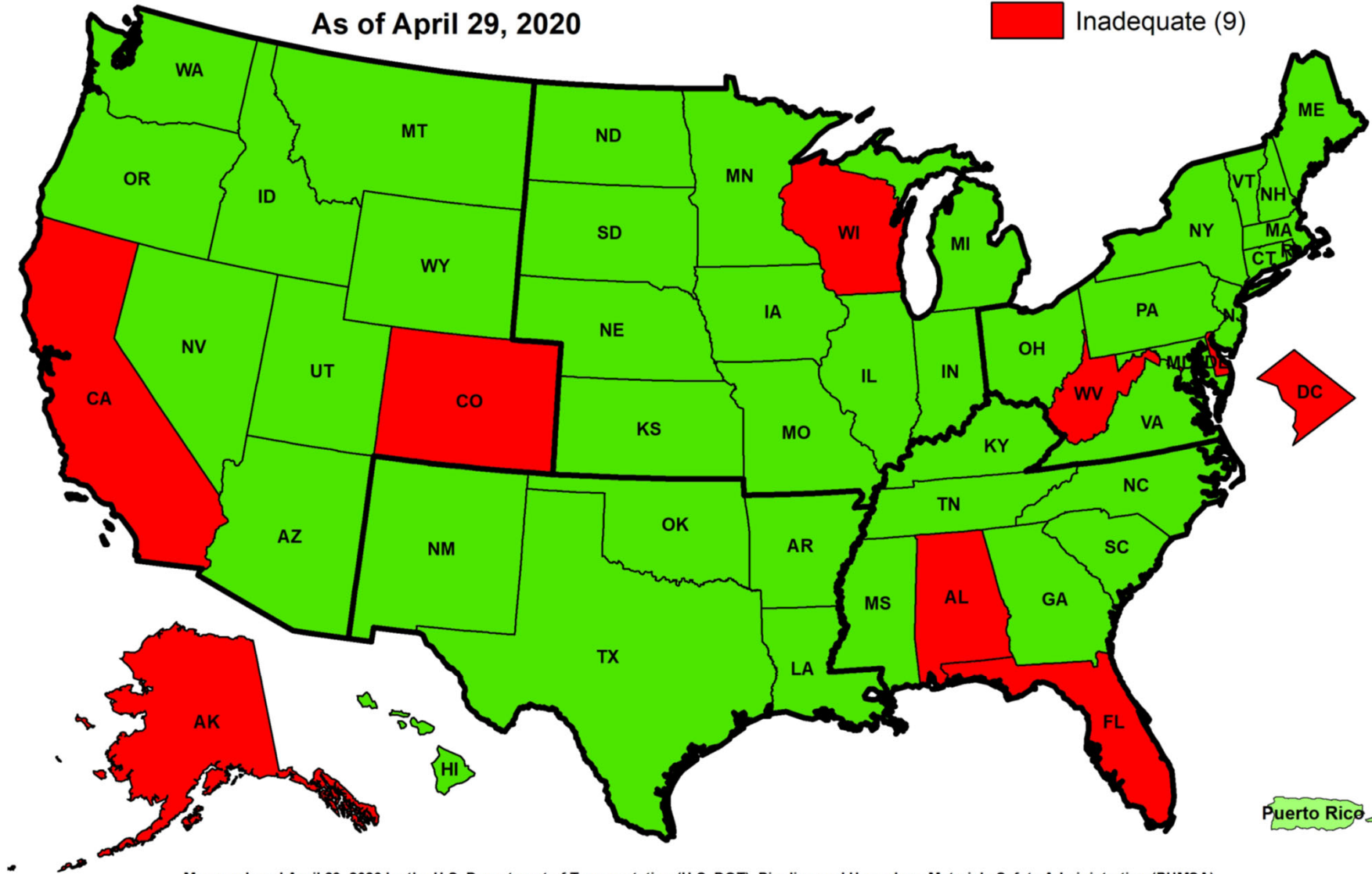
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# Determinations of Adequacy of One-Call Law Enforcement Programs from 2019 Audits

As of April 29, 2020

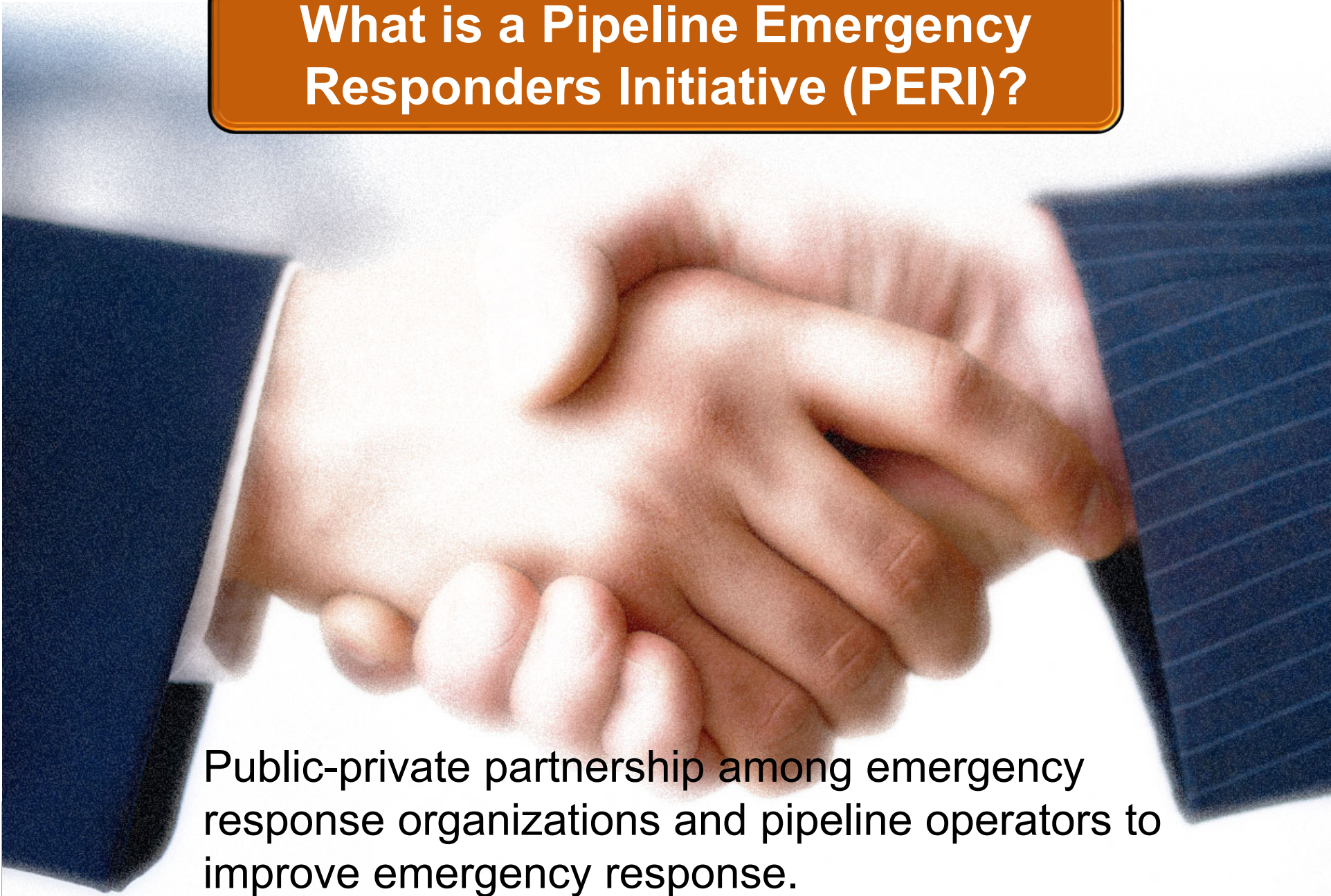
 Adequate (43)  
 Inadequate (9)



Map produced April 29, 2020 by the U.S. Department of Transportation (U.S. DOT), Pipeline and Hazardous Materials Safety Administration (PHMSA)  
Map provided as a reference only. PHMSA makes no representations or warranties of any kind, express or implied, about the completeness, accuracy, reliability, suitability or availability with respect to this map for any purpose. PHMSA expressly disclaims liability for errors and omissions in the contents of this map.



## What is a Pipeline Emergency Responders Initiative (PERI)?



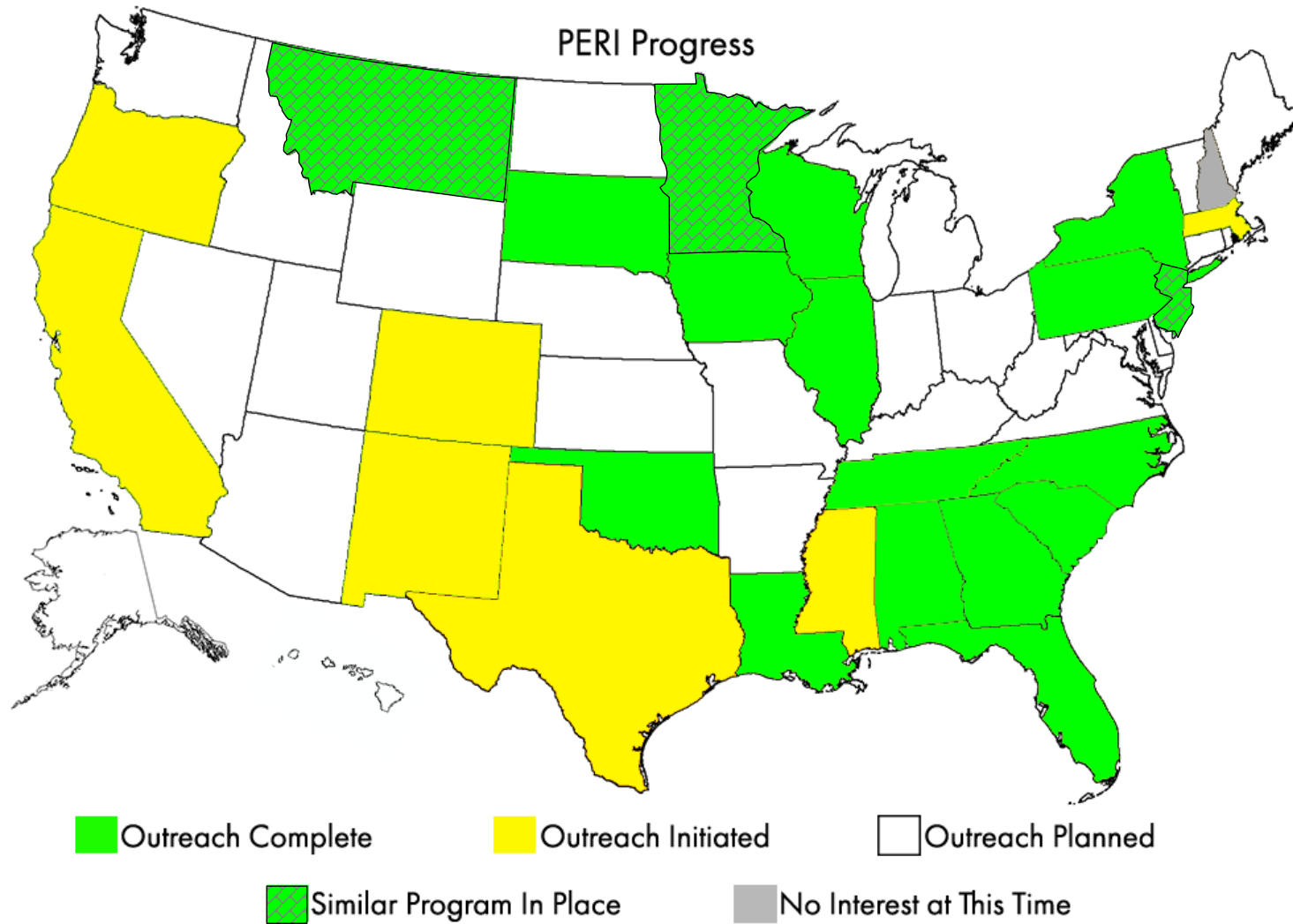
Public-private partnership among emergency response organizations and pipeline operators to improve emergency response.

## Example PERI Stakeholders

- Pipeline operators
- Fire service/emergency responders
- Law enforcement
  - ✓ Face to face interaction
- Forestry Service
  - ✓ “Seat at table”
- Training colleges/academies
  - ✓ Strengthening relationships
- 811 OneCall
  - ✓ Forge new alliances
- Local/State/Federal regulators
- Local/State/Federal resource agencies







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# PERI Accomplishments - GA

- More than 6,000 emergency responders trained
- 59 participating operators
- Training all Forestry Service rangers
- 911 dispatcher courses
- Marketing law enforcement – great response
- Revised bylaws
- Developed data base
- Purchase mobile units with gas props
- GAPSC \$275,000 grant air monitors





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