



Underground Natural Gas Storage

IOGCC

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USDOT / PHMSA



Who Is PHMSA?

- The Pipeline and Hazardous Materials Safety Administration (**PHMSA**)
 - Under the U.S. Department of Transportation
 - ✓ **Pipeline Safety Office**
 - ✓ Hazardous Materials Safety Office
 - Natural Gas Pipeline Safety Act of 1968 provided the federal government the safety authority over pipelines and underground storage



Who Is PHMSA?

- PHMSA's Office of Pipeline Safety (OPS)
 - Provides Safety Oversight for the Nation's 2.6 Million Miles of Pipeline Infrastructure
 - ✓ Natural Gas
 - ✓ Hazardous Liquid
 - ✓ Liquefied Natural Gas (LNG)
 - ✓ Underground Storage Facilities



How Does PHMSA Work With States?

- State Safety Programs through Certification/Agreements with PHMSA Oversees Approximately 80 Percent of the Infrastructure Under PHMSA's Safety Authority
- All States except Alaska and Hawaii Participate in PHMSA's Pipeline Safety Program
- PHMSA has been working with States Since 1968



Underground Natural Gas Storage

- Critical role in our ability to have Energy Independence
- Buffers seasonal variations in supply & demand
- Significant growth in domestic shale gas has prompted renewed interest and investment
- NG Storage increased 16% between 1995 - 2014
- In 2016, value of natural gas in storage was \$15+ billion

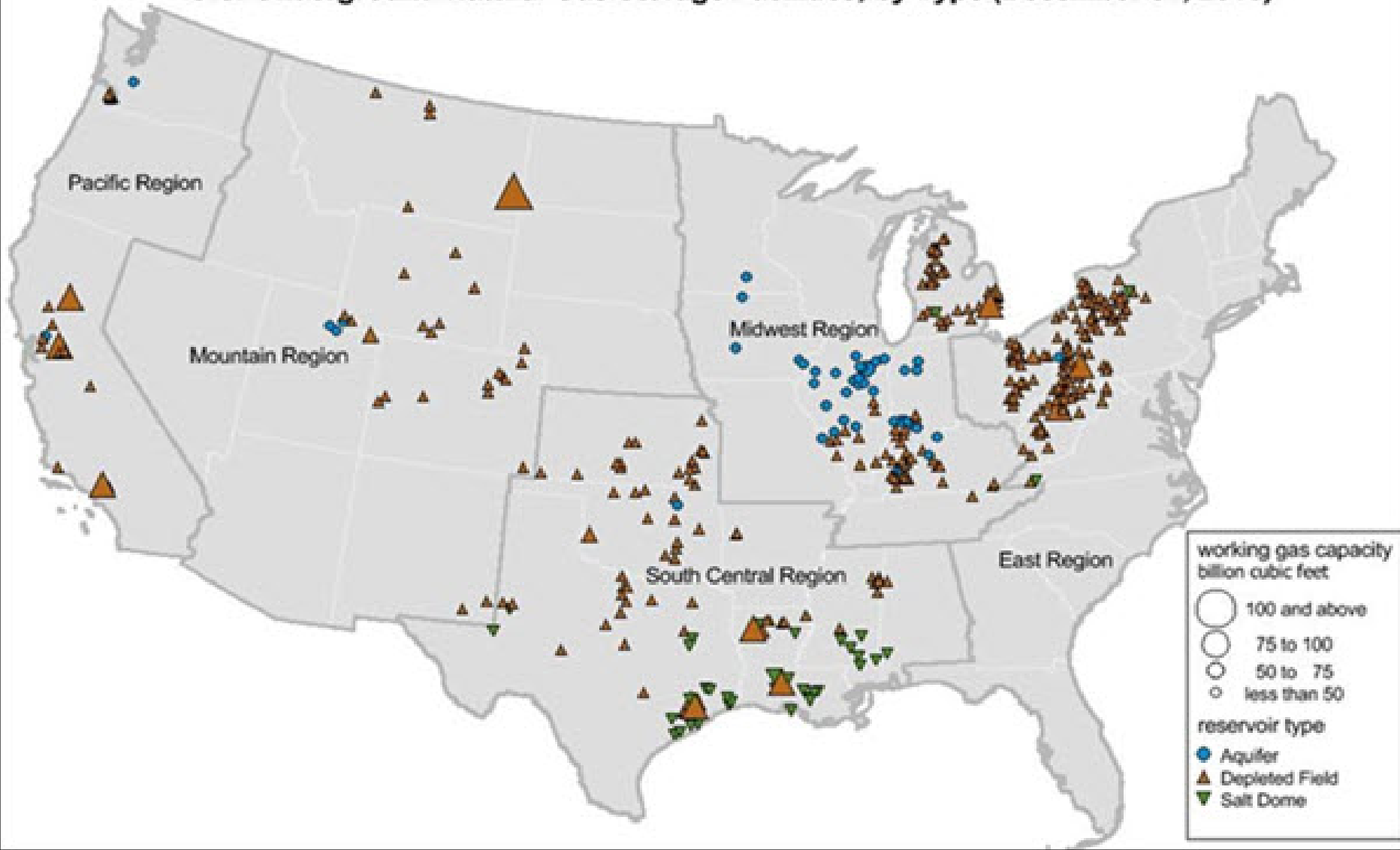


Statistics

- 124 Companies/Operators
- 4800 BCF Working Capacity
- 406 Storage Fields, 50/50 Intra/Inter
- UGS Facilities in ~31 States
- ~ 17,000 Wells
- ~41 Wells/Facility
- First Annual Reports will clarify Data



U.S. Underground Natural Gas Storage Facilities, by Type (December 31, 2015)



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



Pipes Act of 2016

- Charged PHMSA to establish regulations and inspection program for all UGS storage facilities
- Interim Final Rule published on December 19, 2016, which incorporated industry-established recommended practices
- Subject to Revision...
 - PHMSA is developing inspection criteria and related inspector training for both federal and state inspectors
 - Inspection in this new area of responsibility would begin in 1Q-2018



Key Sources for Inspection Objectives

- Interim Final Rule
- API RP's 1170 & 1171
- IOGCC - States First Guidance Document
- Aliso Canyon Task Force Report
- PHMSA Advisory Bulletins
- Industry Safety Assessments & Best Practices
- Incident Reviews
- Research Forum Projects



Implementation Elements

Timeline - Up to Now

4Q-CY2016

- Interim Final Rule
- Assemble Implementation Team
- Initial FAQs Published

1Q-CY2017

- Analysis : IFR, 1170, 1171, IOGCC-States First
- Establish User Fees Structure



Implementation Elements

Forward Timeline – 2017, Subject to Revision

2Q-CY2017

- Expand & Refine FAQs
- Industry Safety Assessments

3Q-CY2017

- Research Projects awarded
- Public Workshop
- Prototype Inspections
- State Certification Program

4Q-CY2017

- Establish Training Program
- Identify UGS Goals for PHMSA Strategic & Annual Plans



Implementation Elements

Forward Timeline – 2018, Subject to Revision

1Q-CY2018

- Inspector Training Program Launch
- Initial T&Q Training for Federal & State Inspectors
- Initial Federal & State Inspections

2Q-CY2018

- Fed/State Inspection Feedback
- Adjustments to Inspection Program (Guidance & FAQs)

3Q-CY2018

- Inspection Outcome Analysis

4Q-CY2018

- Preliminary Analysis for Possible Round 2 Rule Development



States Certification

- Would begin accepting State Certifications in September 2017 for CY2018 inspection year
- Certification would be the mechanism for States to inspect and enforce the federal regulations for intrastate facilities, and any additional state regulations
- If a State could not Certify, usually because they have not adopted the federal regulations, it can enter into an Agreement to Inspect to the federal regulations – PHMSA would do the enforcement



States Certification

- PHMSA will work with IOGCC to Identify Contacts to Work, with to discuss State Certification for Underground Storage
- Budget Considerations - \$6 Million Grant
- State Underground Storage Program to be modeled after long-standing State Pipeline Program



States Certification

- PHMSA T&Q Training Class begins in 1Q-CY2018
- Initial State/Federal inspections under the IFR would begin after January 18, 2018



Permits and Licenses

- UGS Operators interact with local, state and other federal agencies
- IFR does not impact land use, permits, certifications or licenses for UGS facilities



Industry Safety Assessments

Month	Week of	Operator/Facility	State
May	15	Kinder Morgan, Totem	CO
June	12	Boardwalk, Petal	MS
June	19	Spectra, Moss Bluff	TX
June	26	TransCanada, Muttonville	MI
July	10	Cardinal, Cadeville/Perryville	LA
July	10	Peoples Gas, Manlove	IL
July	17	East Cheyenne	CO
July	31	PG&E, McDonnal Island	CA



Industry Safety Assessments

- PHMSA Staff, Contractor Support
- State Regulators, at Operators Discretion
- Operator overview of facility operations
- PHMSA/States questions generally based on the RPs
- PHMSA to review some procedures, but none taken from site
- Operator invited to highlight and explain best practices
- Operator to identify especially problematic areas impacting safety risks



Industry Safety Assessments

- Operator invited to discuss regulations impact on
 - Operating Logistics
 - Regulatory timelines
 - Available contract resources
 - Site constraints especially for simultaneous assessments
 - Design Factors
 - Safety Factors
 - Throughput



PHMSA : Web Links

- <http://opsweb.phmsa.dot.gov>
 - Operator Notifications
 - Event Reporting
- <https://primis.phmsa.dot.gov/ung/index.htm>
 - Major Incidents
 - Key Documents
 - FAQs
 - Pictures
 - Locations Map



Thank You!

Questions

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