



The Journey to Date

# Safety of Transmission & Gas Gathering Rule

September 10, 2018



# Disclaimers

- This presentation is not intended to interpret regulations
- Timelines and dates in this presentation are **best guesses** and **opinions** of the authors and do not represent those of any industry associations or members
- Proposed regulatory language that captures GPAC's intent in approved voting are highlighted in **red**
- Industry proposed regulatory language revisions are highlighted in **blue**



# Safety of Gas Transmission & Gas Gathering Rule Update

The Journey



# Safety of Gas Transmission & Gathering Lines Proposed Rule

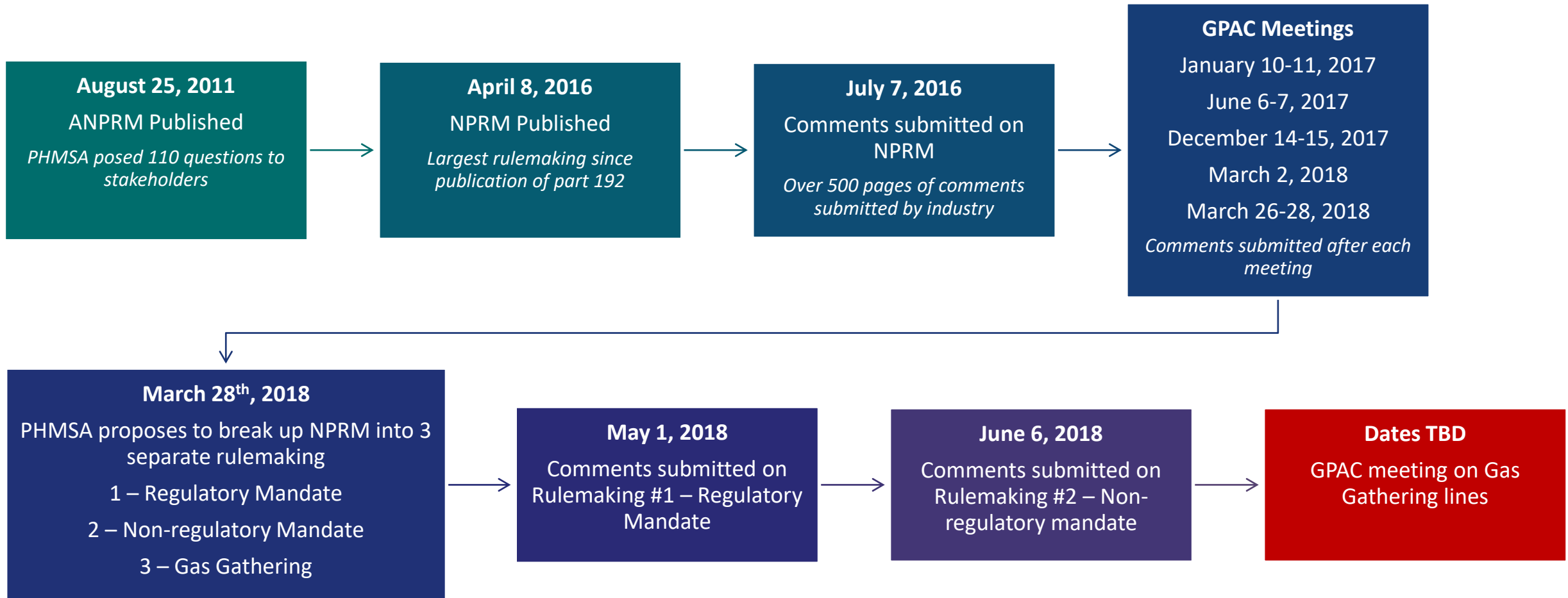
- Largest rule since federal pipeline safety regulations were created
- Covers over 30 major areas
- Performance to prescriptive regulation
- Extensive record and material validation requirements
- Extensive testing requirements
- Expands integrity assessment concepts
- Revises definition of Transmission, Distribution, and Gas Gathering pipe

***As proposed, cost of rule will be billions of dollars. Example costs per operator:***

- *\$4.6M: Identify moderate consequence areas (MCAs)*
- *\$3.9M annually: Maintain MCA database*
- *\$2.5M: Records research*
- *\$39M: Field verification*

# Timeline to Date

## Safety of Gas Transmission & Gathering Rule





# Safety of Gas Transmission & Gas Gathering Rule Update

## The Scope(s)



# Scope of Rulemaking(s): *Safety of Gas Transmission & Gathering Lines*





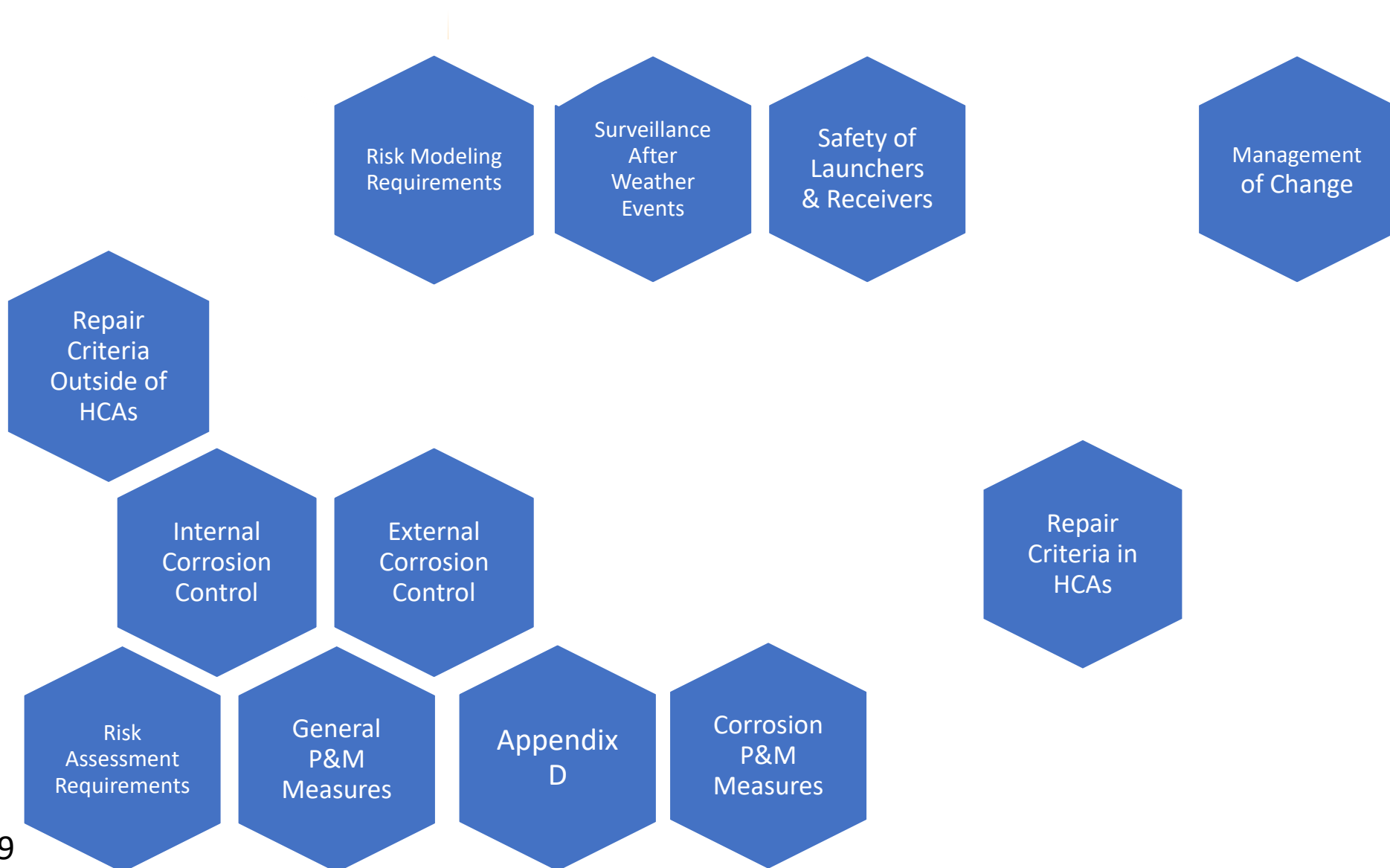
# Scope of Rulemaking 1:

*Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments*

## Rule #1 - Regulatory Mandate Scope

- **What is likely in scope**
- **What industry proposed to be included in scope**





## Scope of Rulemaking 2:

*Safety of Gas Transmission Pipelines: Repair Criteria, Integrity Management Improvements, Cathodic Protection, Management of Change, and Other Related Amendments*

### **Rule #2 – Non-regulatory Mandate Scope**

➤ **What is likely in scope**



# Scope of Rulemaking(s)

*Safety of Gas Transmission & Gathering Lines Rule*

## Rule #1 - Regulatory Mandate Scope

- What is likely in scope
- What industry proposed to be included in scope

## Rule #2 – Non-regulatory Mandate Scope

- What is likely in scope

## Rule #3 – Safety of Gas Gathering Pipelines

- What is likely in scope



# Safety of Gas Transmission & Gas Gathering Rule Update

## The Highlights





# Scope of Rulemaking(s)

*Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments*

## Rule #1 - Regulatory Mandate Scope

- What is likely in scope
- What industry proposed to be included in scope

# Transmission Line & Distribution Center Definitions

## Transmission Line:

“...means a pipeline ~~or connected series of pipelines~~, other than a gathering line, that:

- 1) Transports gas from a gathering line or storage facility to a distribution center, storage facility; or large volume customer that is not down-stream from a distribution center;
- 2) ~~Has an MAOP Operates at a hoop stress~~ of 20 percent or more of SMYS; or
- 3) transports gas within a storage field; or
- 4) *is voluntarily determined by the operator to be a transmission pipeline.*”

## Distribution Center:

“means the initial point where gas piping used primarily to deliver gas to customers who purchase it for consumption as opposed to customers who purchase it for resale, for example:

- 1) at a metering location
- 2) pressure reduction location, such as a gate station or custody transfer point, or
- 3) where there is a reduction in the volume of gas, such as a lateral off a transmission line.”

## Notable Points

### 1. Transmission Definition:

- “...**or connected series of pipelines**” is confusing and creates possible future enforcement issues.
- For clause (2), PHMSA proposes to replace current language, “**Operates at a hoop stress of...**” with “**Has an MAOP...**” without clear justification or cost assessment.

### 2. Distribution Center:

- Industry is supportive of codifying the definition of Distribution Center.
- This proposed definition was developed by cross-functional industry association technical committees and is proposed in lieu of PHMSA proposed definition.

# Moderate Consequence Area & Occupied Site

## Moderate Consequence Area (MCA) definition §192.3

- Onshore area within PIR of Pipe segment with MAOP  $\geq$  30% SMYS and “contains five or more buildings intended for human occupancy, an occupied site, or *any portion of the pave surface, including shoulders, of a designated interstate, freeway, expressway, and other principal arterial roadway with four or more lanes...that does not meet the definition of high consequence area...*”

## Occupied Site definition §192.3

- “*Occupied site means a small, well-defined area of congregation at any of the following outside public areas or open public structures that an operator identifies through a publicly available database or class location survey and that does not meet the definition of Identified Site in § 192.903: Beaches, playgrounds, recreational facilities, camping grounds, outdoor theaters, stadiums, recreational areas near a body of water, or areas outside of a religious facility.*”

## Notable Points

1. MCA definition §192.3
  - Industry asked PHMSA to provide public database for principal arterial roadways and occupied sites
2. Occupied Site definition §192.3
  - GPAC members agreed that the intent of occupied sites is to specify list of outdoor sites with well defined boundaries

# MAOP Reconfirmation

## Scope - §192.624(a)

- HCA segments w/o TVC Records
- Class 3 & 4 segments w/o TVC Records
- Grandfathered lines with **MAOP > 30% SMYS** that are:
  - HCA, or
  - Class 3 or 4, or
  - MCAs able to accommodate ILI

## Timeline - §192.624(b)

- 50% of scope within 8 years of effective date
- 100% of scope within 15 years or within 4 years of segment first meeting scope condition

## Methods - §192.624(c)

1. Pressure Test
2. Pressure Reduction
3. Engineering Critical Assessment (ECA)
4. Pipe Replacement
5. Pressure reduction for segments with small PIR
6. Other technology

## Records - §192.624(d)

- Keep TVC records for lifetime of pipeline

## Notable Points

1. Scope: Industry asked for grandfathered lines with TVC records to be exempt from MAOP reconfirmation (*May 1<sup>st</sup>, 2018 comments*)
2. Scope: “Able to accommodate” – “...*free-swimming, commercially available instrumented in-line inspection tools that can travel (using flow and pressure conditions encountered in normal operations) the length of the pipeline segment, inspect the entire circumference of the pipe, capture and record or transmit relevant, interpretable inspection data in sufficient details for future evaluation of anomalies without permanent modifications to the pipe segment.*”
3. Methods: Pressure Reduction – GPAC agreed to a lookback period of 5 years for valid pressure reductions but industry is asking for lookback to extend to beginning to TIMP (2004) (*May 1<sup>st</sup>, 2018 comments*)
4. Methods: ECA – Apply fracture mechanics and predictive failure pressures for “*manufacturing and construction defects that are cracks or crack-like*”, “*metal loss defects not associated with dents*”, and “*interacting defects*” found by ILI

# Assessments Outside HCAs & Related Topics

## Scope / Applicability - §192.710(a) / §192.3

- Onshore Transmission Pipeline segments that *“have a MAOP that produces a hoop stress greater than or equal to 30% of SMYS”* in:
  - Class 3 or 4 not in HCAs
  - Moderate Consequence Areas (MCA) able to accommodate ILI

## Timeline - §192.710(b)

- *“Initial assessment 14 years after effective date and periodic reassessments every 10 years thereafter”.*
- Assessments used for MAOP reconfirmation (ECA) can count toward pipeline assessment

## Methods - §192.710(c) – (e)

- Same as Assessments in HCA, §192.921(c), appropriate to threat
  - ILI
  - Pressure test
  - Spike test
  - Excavation and NDE
  - GWUT
  - Direct assessment
  - Other technology
- Discovery of condition within 240 days of assessment

## Remediation - §192.710(f), §192.711, §192.713

- §192.711 – General Repair Requirements
- §192.713 – Permanent field repairs (New 713 after 2<sup>nd</sup> rule is published)

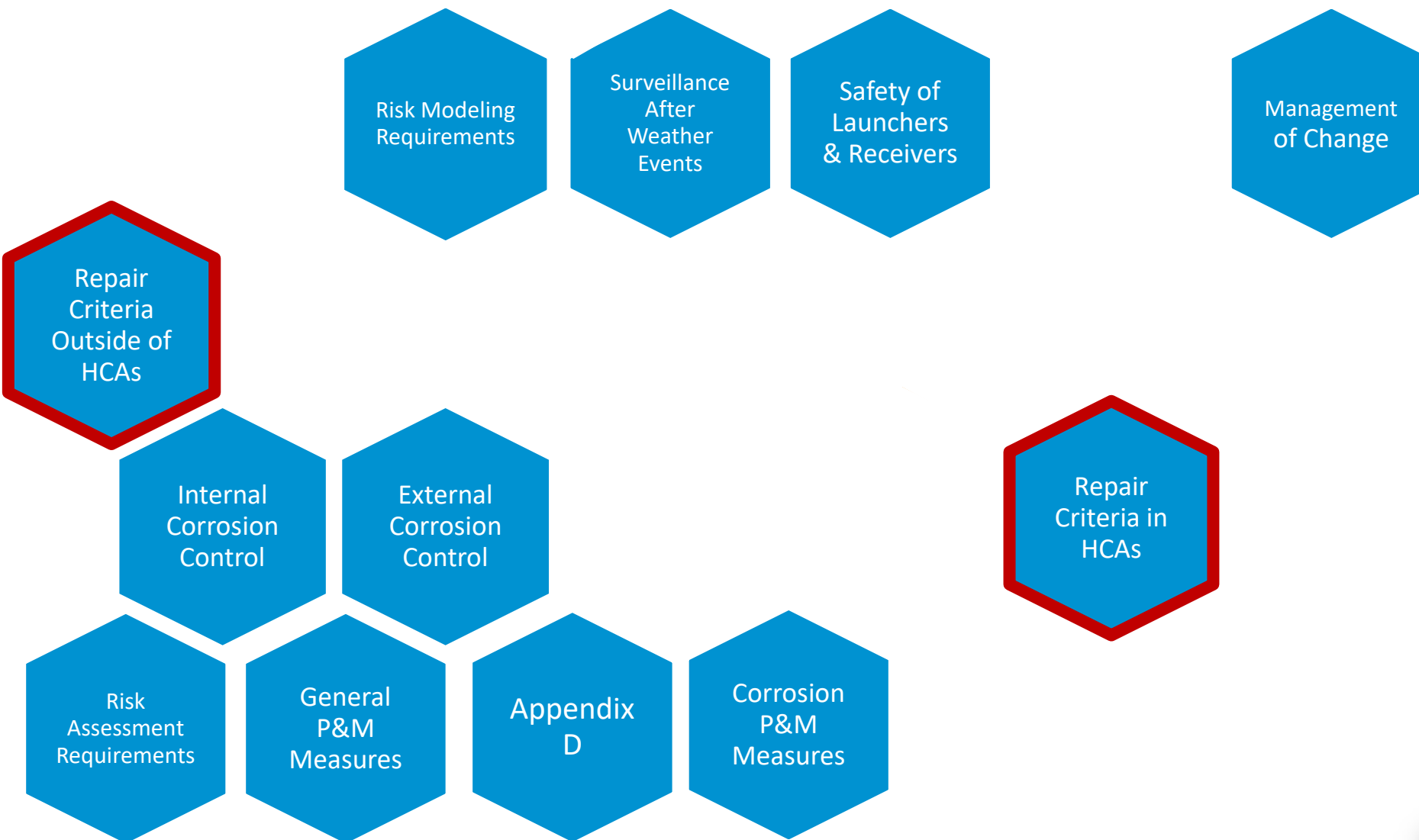
## Notable Points

1. Methods: GPAC agreed that operators should be allowed to select assessment methods based on applicable threat without restrictions when line is “piggable”.
2. Methods: Spike test minimums: 1.5 times MAOP or 100% SMYS for at least 15 minutes.



# Scope of Rulemaking(s)

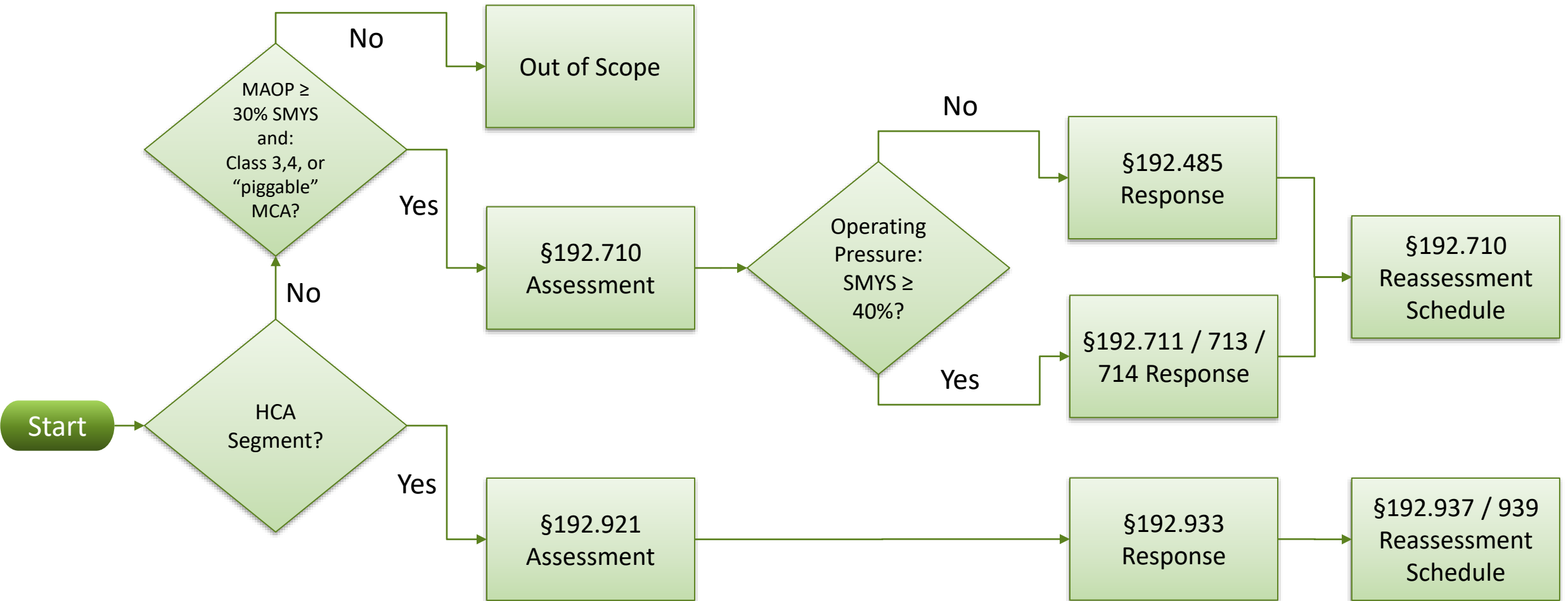
*Safety of Gas Transmission Pipelines: Repair Criteria, Integrity Management Improvements, Cathodic Protection, Management of Change, and Other Related Amendments*



## Rule #2 – Non-regulatory Mandate Scope

➤ What is likely in scope

# Assessments and Response (After publication of 2<sup>nd</sup> Rule)



# Repair Criteria (§192.713, (§192.933)

Anomaly	Immediate	Scheduled (HCA: 1yr, Non-HCA: 2yr)	Monitored
General metal loss anomalies	PFP $\leq 1.1 \times$ MAOP, or Metal loss > 80% nominal WT	PFP $\leq 1.39 \times$ MAOP in Class 3 & 4 unless PFP $\geq$ MAOP / Design Factor	
Metal loss preferentially affecting long seam on DC/LF ERW / EFW	PFP $\leq 1.25 \times$ MAOP	PFP $\leq 1.39 \times$ MAOP for Class 1, PFP $\leq 1.5 \times$ MAOP for Class 2, 3, and 4, or PFP < MAOP / Design Factor	PFP > 1.39 x MAOP for Class 1, PFP > 1.5 x MAOP for Class 2, 3, and 4, or PFP $\geq$ MAOP / Design Factor
Metal loss > 50% at crossing/circumferential / girth weld		PFP $\leq 1.39 \times$ MAOP for Class 1, PFP $\leq 1.5 \times$ MAOP for Class 2, 3, and 4, or PFP < MAOP / Design Factor	PFP > 1.39 x MAOP for Class 1, PFP > 1.5 x MAOP for Class 2, 3, and 4, or PFP $\geq$ MAOP / Design Factor
Dents between 8 and 4 o'clock (top 2/3 of pipe)	Dent w/ metal loss, cracking, or stress riser unless ECA strain < critical	Smooth dents with depth > 6% unless ECA strain < critical	Depth > 6% and ECA strain < critical
Dents between 4 and 8 o'clock (bottom 1/3 of pipe)		Dent w/ metal loss, cracking, or stress riser unless ECA strain < critical	Depth > 6%
Dent on weld		Depth > 2% at weld, unless ECA strain < critical	Depth > 2% at weld, and ECA strain < critical
General dents			Dent w/ metal loss, cracking, or stress riser and ECA strain < critical
Crack or Crack-like anomalies	Crack depth > 50% of WT at location of crack PFP $\leq 1.1 \times$ MAOP	PFP $\leq 1.39 \times$ MAOP for Class 1, PFP $\leq 1.5 \times$ MAOP for Class 2, 3, and 4, or PFP < MAOP / Design Factor	PFP > 1.39 x MAOP for Class 1, PFP > 1.5 x MAOP for Class 2, 3, and 4, or PFP $\geq$ MAOP / Design Factor

# Additional Industry Comments

- Separation of concepts between 1-time MAOP verification and ongoing pipeline integrity
- Appropriate application of Traceable, Verifiable, and Complete criteria to records requirements
- Consolidation of various response and repair criteria to increase regulatory clarity
- Set effective date to allow feasible implementation period after publication of rule(s)



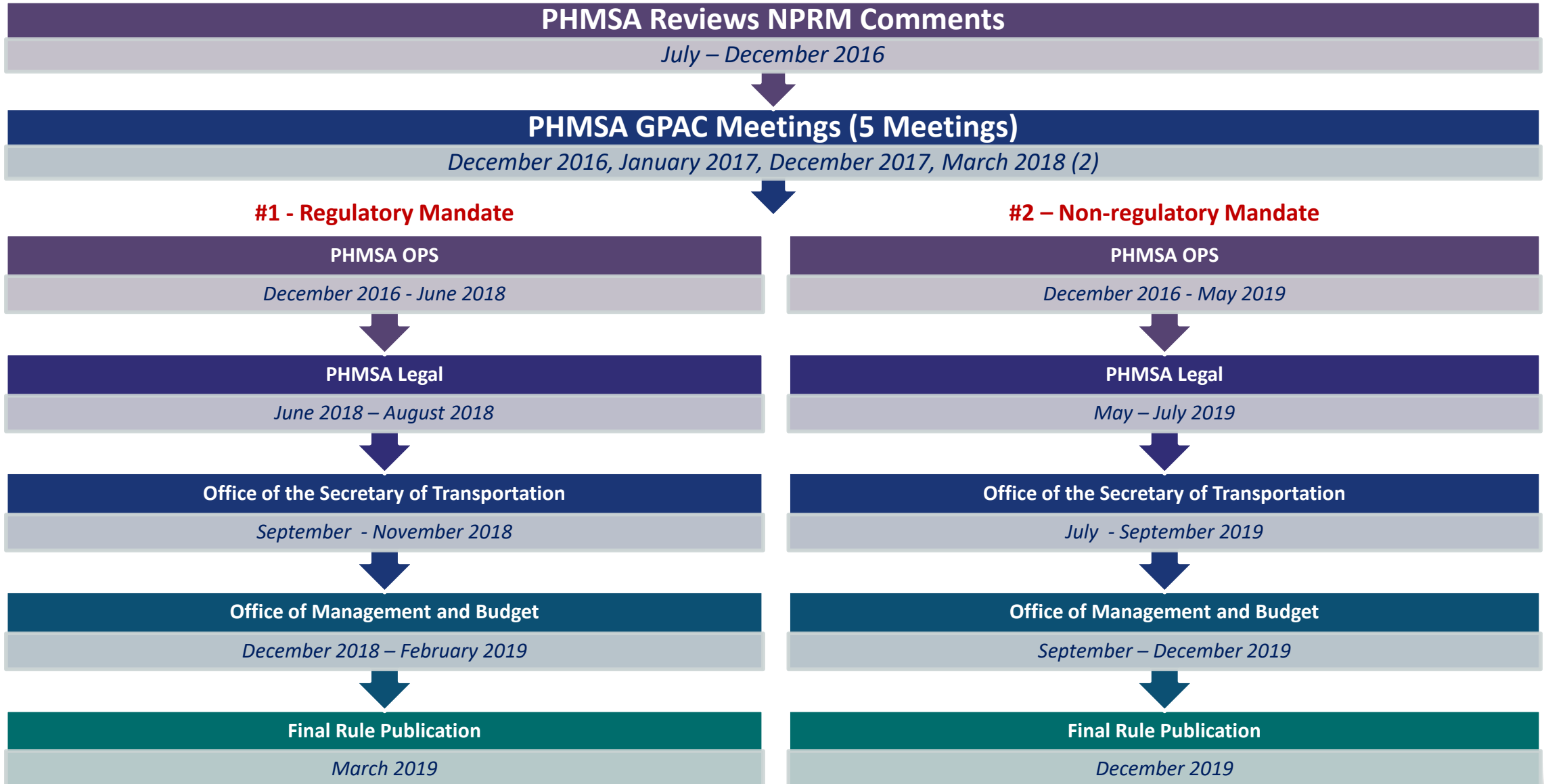
# Safety of Gas Transmission & Gas Gathering Rule Update

## Timelines



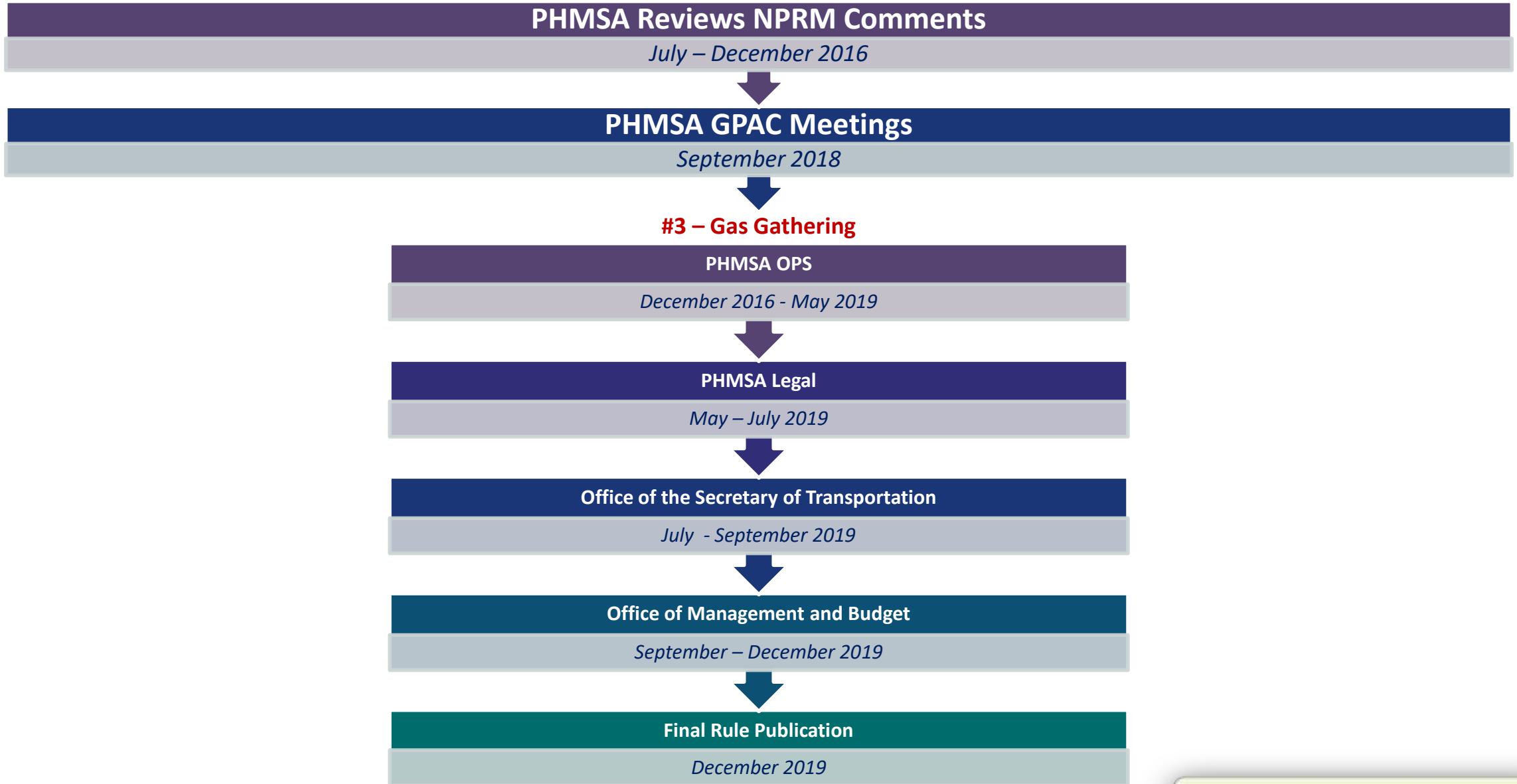
# Quickest Timeline to Final Rule(s) as of June 2018

## Safety of Gas Transmission & Gathering Lines Rule



# Quickest Timeline to Final Gas Gathering Rule as of June 2018

## *Safety of Gas Transmission & Gathering Lines Rule*



## Reducing Regulation and Controlling Regulatory Costs (Two for one order)

*“Unless prohibited by law, whenever an executive department or agency... promulgates a new regulation, it shall identify at least two existing regulations to be repealed.”*

*“... the total incremental cost of all new regulations, including repealed regulations, to be finalized this year shall be no greater than zero.”*



***A Few Things to Consider:  
Executive Orders  
& Presidential Memoranda***



# What Should Operators Do Now?

- MAOP Verification Scope Estimate – Feeds into rate cases and work planning
- Preliminary MCA Assessment – Understand potential impact of non-HCA assessment requirements
- Review potential new engineering assessment methods – Determine what expertise you have and don't have in your workforce
- Communicate with your state regulators
  - Share resources (GPAC transcripts, etc) that show PHMSA's intent for new requirements
  - Share your processes and procedures for new requirements as they are developed
- Participate in 2019 PHMSA and AGA (and other association) workshops



 [aga.org](http://aga.org)

 [truebluenaturalgas.org](http://truebluenaturalgas.org)

 [twitter.com/AGA\\_naturalgas](https://twitter.com/AGA_naturalgas)

 [facebook.com/naturalgas](https://facebook.com/naturalgas)

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## Regulations.gov Docket

<https://www.regulations.gov/docket?D=PHMSA-2011-0023>