

**BEFORE THE
UNITED STATES DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
WASHINGTON, D.C.**

Pipeline Safety: Safety of Underground

Natural Gas Storage Facilities

Interim Final Rule; reopening comment period

Docket No. PHMSA-2016-0016

**COMMENTS OF
THE AMERICAN GAS ASSOCIATION
THE AMERICAN PETROLEUM INSTITUTE
THE AMERICAN PUBLIC GAS ASSOCIATION
THE INTERSTATE NATURAL GAS ASSOCIATION OF AMERICA**

November 20, 2017

The American Gas Association (AGA), American Petroleum Institute (API), American Public Gas Association (APGA), and Interstate Natural Gas Association of America (INGAA) (collectively, the Associations) jointly submit these comments on the Pipeline and Hazardous Materials Safety Administration’s (PHMSA) Interim Final Rule establishing for the first time federal pipeline safety regulations for underground natural gas storage facilities (Interim Final Rule or IFR).¹ The Associations support the promulgation of federal Underground Storage regulations, appreciate the opportunity to provide these comments, and suggest amendments that are necessary to ensure a practicable and effective rule.

Underground storage of natural gas is an integral component of the nation’s energy system, and our nation’s significant storage capacity enables storage operators and utilities to offer clean natural gas to consumers reliably throughout the year in a cost-efficient manner and without interruption. Each Association, and its member companies, has a strong commitment to advancing pipeline and underground natural gas storage safety. Building upon this commitment, the Associations fully supported the development of industry-wide safety standards for underground natural gas storage. As a result of these efforts, with input from national experts and stakeholders, including PHMSA and state regulators, API issued two Recommended Practices (RPs): API RP 1170: *Design and Operation of Solution-mined Salt Caverns used for Natural Gas Storage*² and API RP 1171: *Functional Integrity of Natural Gas Storage in Depleted Hydrocarbon Reservoirs and Aquifer Reservoirs*³ (collectively, the Recommended Practices).

The Associations continue to maintain that storage operators’ adoption of these Recommended Practices, as published, will result in the most comprehensive safety enhancement to underground natural gas storage in decades. The Recommended Practices appropriately recognize the diversity of underground natural gas storage facilities throughout the U.S. and are not limited to addressing facilities of a particular well type or those located in a single state, basin, or geological setting. By incorporating the Recommended Practices by reference, PHMSA’s Interim Final Rule directs operators to implement a functional integrity management system, which requires operators to conduct a rigorous risk assessment to determine the appropriate preventative and mitigative measures that will address the unique characteristics of each underground storage facility. The Associations’ members are working expeditiously to ensure that they meet the expectations outlined in the Recommended Practices in a timely manner.

¹ Pipeline Safety: Safety of Underground Natural Gas Storage Facilities Interim Final Rule, 81 Fed. Reg. 91,860 (Dec. 19, 2016).

² API Recommended Practice 1170 “Design and Operation of Solution-mined Salt Caverns used for Natural Gas Storage” (1st edition, July 2015).

³ API Recommended Practice 1171 “Functional Integrity of Natural Gas Storage in Depleted Hydrocarbon Reservoirs and Aquifer Reservoirs” (1st edition, September 2015).

The Associations support PHMSA’s decision to apply the Recommended Practices, through the IFR, to all interstate and intrastate underground natural gas storage facilities throughout the nation. That being said, PHMSA must promptly revise certain aspects of the IFR to ensure a practicable and effective final rule for underground natural gas storage facilities, including:

- Incorporate by reference API RP 1170 and 1171 *without modification* of the non-mandatory provisions;
- Provide for *reasonable implementation periods*, consistent with PHMSA Underground Natural Gas Facility FAQs 11, 12, 15, 16, 22, and 24;⁴ and,
- Incorporate underground natural gas storage facilities into a new Part of Subchapter D of PHMSA’s regulations, *separate from Part 192*.

On January 18, 2017, the Associations filed a Petition for Reconsideration with PHMSA, requesting that PHMSA promptly revise its regulations for underground natural gas storage facilities at 49 C.F.R. § 192.12 to provide for reasonable implementation periods and to incorporate by reference RP 1170 and 1171 without modification. On February 19, 2017, the Associations filed detailed comments reiterating and expanding upon the issues outlined in their January petition. The Associations stand by those comments. Rather than restate fully the February comments, the Associations here summarize key aspects of previously-submitted comments and provide additional comments to address actions that PHMSA has taken since February 2017. The Associations’ February comments are attached hereto and incorporated by reference. Furthermore, Appendix A below provides recommended “red-lined” changes to the regulatory text, consistent with the Associations’ comments. The Associations and our members look forward to working with federal and state partners to advance our shared goal of ensuring strong and proven underground natural gas storage integrity.

Making all “non-mandatory” provisions of the incorporated Recommended Practices mandatory is not necessary for safety or enforcement and makes the Interim Final Rule unreasonable and impracticable.

API Recommended Practices 1170 and 1171 outline a process for maintaining functional integrity of underground natural gas storage facilities through design, construction, operation, monitoring, maintenance, and documentation practices. To achieve functional integrity, the Recommended Practices contain numerous provisions that use the term “shall” to denote a mandatory requirement in order to conform to the standard. The Recommended Practices also use non-mandatory terms, such as “should,” “may,” or “can.” Generally, “should” denotes a recommendation that is advised when applicable to a particular field, well or situation, but may

⁴ PHMSA, Underground Natural Gas Storage: FAQs, Apr. 3, 2017, <https://primis.phmsa.dot.gov/UNG/faqs.htm>.

not always apply or always be necessary to achieve functional integrity or conform to the standard. Generally, “can” and “may” statements are intended to be statements of permission, possibility or examples – not recommendations.

The Associations support PHMSA’s incorporation of the mandatory provisions in the Recommended Practices as mandatory requirements in the IFR. However, the PHMSA IFR deviated from the Recommended Practices by making all “non-mandatory provisions be adopted as mandatory,⁵” which the associations *do not* support. By making the non-mandatory provisions mandatory, PHMSA has significantly altered the Recommended Practices and has created regulatory requirements that are not practicable or reasonable. Nor are these changes necessary for enforcement. The Recommended Practices were developed by a multi-stakeholder group that included input from national experts, including PHMSA and state regulators. The developers of the Recommended Practices deliberately determined which provisions should be mandatory versus non-mandatory. Their selections reflect an understanding and awareness of the diverse operating conditions of individual underground storage wells and facilities as well as differing geological concerns, which create site-specific challenges that warrant flexibility to ensure safe operations. The Associations’ February 19, 2017 comments detailed why there is no regulatory justification for making all “non-mandatory” provisions “mandatory.” PHMSA should eliminate the requirement in Section 192.12(f) that all “non-mandatory provisions (i.e., provisions containing the word ‘should’ or other non-mandatory language) are adopted as mandatory provisions.”

Although both RP 1170 and 1171 contain non-mandatory provisions, this does not present a threat to safety. Throughout the Recommended Practices, there are mandatory statements imposing broad obligations on operators of underground natural gas storage facilities. These overarching mandatory provisions require operators to develop detailed systems to manage the different aspects of their functional integrity management programs. Examples of such “umbrella” mandatory obligations are included in Appendix B of these comments. In implementing these functional integrity management programs, the non-mandatory statements provide best practice recommendations that operators should consider and apply in many situations, where warranted based on site-specific conditions, but are not necessary for safety in *every* situation. An operator will likely need to implement many of the non-mandatory provisions in order to achieve the requirements of the mandatory provisions, but the specific non-mandatory provisions will vary based on the unique conditions of each facility.

⁵ 49 C.F.R. § 192.12(f).

The fact that API elected to issue RPs 1170 and 1171 as “recommended practices” has no bearing on their enforceability.⁶ API standards include several different types of documents, including “specifications,” “recommended practices,” “standards,” and “codes.”⁷ “Recommended practices” are simply a type of API standard that communicate recognized industry practices and may include both mandatory and non-mandatory requirements. As such, the usage of the term “recommended practice” should not have been a factor in PHMSA’s determination of the enforceability of the Recommended Practices.

PHMSA has indicated its intent to “further evaluate the need for any additional regulatory requirements for underground storage facilities,” after the issuance of the Final Rule and based on learnings from its future inspection program.⁸ This evaluation period would be the appropriate time for PHMSA to explore additional requirements, beyond the mandatory requirements prescribed in the Recommended Practices. The Associations support a future review of the existing Recommended Practices after the issuance of the Final Rule, based on input from PHMSA inspections and operator experiences in implementing the Recommended Practices, with the goal of identifying additional opportunities to enhance underground gas storage facility safety. In fact, API requires a periodic review and update of recommended practices to encourage operators’ continuous improvement and enhancements to the documents. PHMSA’s evaluation and insight would provide useful information for the next edition of the Recommended Practices.

As currently enacted, PHMSA’s revisions to the Recommended Practices in Section 192.12(f) are unreasonable, not practicable and often nonsensical regulatory requirements imposed on operators of underground natural gas storage facilities. The Associations believe PHMSA recognized the potential obstacles associated with treating all non-mandatory provisions as mandatory when the agency issued a stay of enforcement of the non-mandatory provisions on June 20, 2017.⁹ As operators begin to implement their underground gas storage functional integrity management programs, they need certainty regarding the regulatory requirements. The Associations strongly encourage PHMSA to eliminate the requirement in Section 192.12(f) that all “non-mandatory provisions (i.e., provisions containing the word ‘should’ or other non-mandatory language) are adopted as mandatory provisions.”

⁶ *Contra* 81 Fed. Reg. 91865 (“API elected to issue RPs 1170 and 1171 in the form of ‘recommended practices,’ as opposed to ‘standards.’ This presented PHMSA with the challenge of dealing with concerns about the enforceability of these practices.”).

⁷ API, *Procedures for Standards Development*, Fifth Ed. April 2016, ANSI Approved June 2016 at 3.

⁸ 81 Fed. Reg. 91,861.

⁹ Pipeline Safety: Safety of Underground Natural Gas Storage Facilities Interim Final Rule; Petition for Reconsideration, 82 Fed. Reg. 28,224 (Jun. 20, 2017).

It is not practicable for operators to implement the Interim Final Rule by January 18, 2018.

The IFR requires that existing underground natural gas storage facilities using a solution-mined salt cavern for storage meet the requirements of API RP 1170, sections 9, 10, and 11 by January 18, 2018.¹⁰ Similarly, PHMSA requires that existing underground natural gas storage facilities using either a depleted hydrocarbon reservoir or an aquifer reservoir for gas storage meet the requirements of API RP 1171, sections 8, 9, 10, and 11 by January, 18, 2018.^{11,12} The plain text of the IFR requires natural gas storage operators to implement all actions under the applicable sections of API RP 1170 and 1171 by January 18, 2018 (within one year of the effective date of the IFR).¹³ Yet, based upon a reading of the IFR’s preamble and PHMSA’s subsequent issuance of Underground Natural Gas Storage FAQs,¹⁴ the Associations do not believe this was the intent of the IFR.

The time frame in the IFR is not just unreasonable – it is not practicable – and would not substantively fulfill the goal of the IFR and the Recommended Practices – to increase safety. There is a necessary sequential progression and coordination of actions that operators must take in order to fully implement the Recommended Practices. While the Associations appreciate the guidance provided to operators through the FAQs, PHMSA should revise the text of the Final Rule to be consistent with PHMSA Underground Natural Gas Facility FAQs 11, 12, 15, 16, 22, and 24, so that the implementation timelines required for regulatory compliance are clear.

Even though the FAQs are helpful, additional clarification is warranted in the Final Rule to better define what is achievable by January 18, 2018. The Associations suggest that the foundational components of a storage functional integrity management system can be put in place and available for inspection by PHMSA within 12 months of the effective date of the IFR. Specifically, these foundational components would include a *plan* for developing procedures and an outline of the procedures to be developed, a specific breakout of how the applicable Recommended Practice requirements would be addressed in the management system framework and its procedures, the roles and responsibilities of staff committed to the development and implementation, how staff will be trained in awareness and application of the procedures, and an implementation schedule.

¹⁰ 49 C.F.R. § 192.12(b).

¹¹ 49 C.F.R. § 192.12(d).

¹² Included in both Sections 192.12 (b) and (d) is a list of topics from the Recommended Practices that operators must comply with. *Id.* (“operational, maintenance, integrity demonstration and verification, monitoring, threat and hazard identification, assessment, remediation, site security, emergency response and preparedness, and recordkeeping”). Because these terms are not taken directly from the Recommended Practices, it is not clear what regulatory purpose PHMSA intended by including this list.

¹³ 81 Fed. Reg. 91,861.

¹⁴ PHMSA, Underground Natural Gas Storage: FAQs, Apr. 3, 2017, <https://primis.phmsa.dot.gov/UNG/faqs.htm>.

As acknowledged in FAQs 11 and 12, it will take time for an operator to mature these foundational components into a complete functional integrity management system. Based on operators' experiences in beginning to build these storage functional integrity management systems, we strongly recommend that PHMSA set the requirement to three years for operators to have a storage functional integrity management system in place, including 1) complete written procedures covering the mandatory provisions of the Recommended Practices and 2) programs for training and qualifying staff and contractors on procedures, building competency, maintaining databases, and ensuring supervision and documentation.

Consistent with the FAQs 22 and 24, operators' implementation schedules will establish a timeline to complete an underground natural gas facility risk assessment, including preventive and mitigative measures, within 3 to 8 years, depending on the size, complexity and initial risk evaluation of the facilities. As warranted by the risk assessment, baseline integrity assessments in each storage field would start within two years of the effective date of the rule, and prioritized based on risk. Baseline assessments in each storage field would be completed within 3 to 8 years, depending on the size and complexity of the storage field and as warranted by the risk assessment. Consistent with FAQ 21, operators' implementation schedule "will likely change over time as new data is collected and evaluated during the on-going risk analysis process."

PHMSA should create a new Part within Subchapter D for underground natural gas storage facility regulations to ensure clarity and avoid confusion with the regulations for pipeline facilities in Part 192.

As stated in the Associations' February 19, 2017 comments, PHMSA should move § 192.12 to a new Part within Subchapter D of its regulations to ensure clarity with respect to current and future regulatory requirements for underground natural gas storage facilities. The inclusion of the underground natural gas storage facility regulations in Part 192 may result in confusion regarding whether additional subparts or provisions of Part 192 apply to underground storage facilities, beyond the requirements outlined in § 192.12. The methods of design, construction, and integrity management for underground natural gas storage facilities are significantly different than for pipeline facilities, requiring significantly different engineering practices. The application of additional subparts or provisions of Part 192 to underground natural gas storage facilities could create an array of conflicts with the design, construction, operations, and maintenance practices prescribed by API Recommended Practices 1170 and 1171 and could result in some inappropriate and nonsensical requirements, such as applying *pipeline* regulations to *storage* facilities or *storage* regulations to *pipeline* facilities.

For example, PHMSA clarified in FAQ 28 that Part 192, Subpart N, "Qualification of Pipeline Personnel" does not apply to underground gas storage facilities, as training is addressed in the Recommended Practices. This is just one example of the potential for confusion regarding


whether additional subparts or provisions of Part 192 apply to underground storage facilities, beyond the requirements outlined in § 192.12.

In addition, it is unclear how definitions for key terms used throughout Part 192 (including those in § 192.3) relate to storage facilities and how they apply to storage facilities. These key terms were developed well before PHMSA's regulation of underground natural gas storage facilities and are used to define the scope of each subpart within Part 192. Furthermore, the new definition of *underground natural gas storage facility* that PHMSA added to the IFR in § 192.3 presents additional confusion and should be revised. The definition includes "piping, rights-of-way, property, buildings, compressor units, separators, metering equipment, and regulator equipment." Much of this equipment appears to be separately addressed by PHMSA's Part 192 regulations developed prior to the promulgation of the IFR. As such, the Associations recommend that the underground natural gas storage facility regulations be moved to a separate part and that the *underground natural gas storage facility* definition be revised to exclude "facilities covered by part 192 of this chapter."

Further, PHMSA is continuously revising and restructuring Part 192 in an attempt to more effectively regulate pipeline safety. Because the primary focus of Part 192 is natural gas transmission and distribution pipelines, it may be challenging for PHMSA to make further additions and structural changes to Part 192 to address transmission and distribution pipelines, without creating uncertainty and confusion over the applicability or non-applicability to the regulation of storage facilities under Part 192. Therefore, PHMSA should move § 192.12 to a new Part within Subchapter D of its regulations to ensure clarity with respect to current and future regulatory requirements for underground natural gas storage facilities.

The Associations continue to support PHMSA's efforts to regulate the safety of both interstate and intrastate underground natural gas storage facilities. Yet we strongly believe that the changes recommended through these comments are necessary to ensure that PHMSA's regulations are practicable, reasonable, and will enhance the safety of these facilities. The Associations and our members look forward to working with federal and state partners to advance our shared goal of ensuring strong and proven underground gas storage integrity.

Respectfully submitted,



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APPENDIX A

Based on the Associations' comments, the PHMSA UGS FAQs, and the June 2017 partial stay of enforcement of the non-mandatory provisions from the Recommended Practices, the Associations recommend the following changes to the PHMSA regulatory text governing underground gas storage facilities (**recommended changes are in red, additions are underlined and deletions are indicated with a strikethrough**):

§191.22 National Registry of Pipeline and LNG operators.

[...]

(c) *Changes.* Each operator of a gas pipeline, gas pipeline facility, underground natural gas storage facility, LNG plant, or LNG facility must notify PHMSA electronically through the National Registry of Pipeline, Underground Natural Gas Storage Facility, and LNG Operators at <http://opsweb.phmsa.dot.gov> of certain events.

(1) An operator must notify PHMSA of any of the following events not later than 60 days before the event occurs:

(i) Construction or any planned rehabilitation, replacement, modification, upgrade, uprate, or update of a facility, other than a section of line pipe, that costs \$10 million or more. If 60 day notice is not feasible because of an emergency, an operator must notify PHMSA as soon as practicable;

(ii) Construction of 10 or more miles of a new or replacement pipeline;

(iii) Construction of a new LNG plant or LNG facility; or

(iv) Construction of a new underground natural gas storage facility or the abandonment, drilling or well workover (including replacement of wellhead, tubing, or a new casing) of an injection, withdrawal, monitoring, or observation well for an underground natural gas storage facility. **Replacement means the complete removal of the existing component and replacement with a new component. Operators are not required to notify PHMSA of routine maintenance or repairs to existing components. If 60 day notice is not feasible because of an emergency, an operator must notify PHMSA as soon as practicable.**

For clarity, the Associations propose that PHMSA incorporate this additional language from PHMSA UGS FAQ #9 regarding the meaning of "replacement" for purposes of the notification requirements. Furthermore, the Associations recommend that PHMSA include the same language regarding "emergency" work as is included above in § 191.22(c)(1)(i), and also develop a similar cost threshold for reporting changes to underground natural gas storage facilities.

§ 1XX.X Definitions.

[...]

Underground natural gas storage facility means a facility that stores natural gas in an underground facility incident to natural gas transportation, including—

- (1) A depleted hydrocarbon reservoir;
- (2) An aquifer reservoir; or

(3) A solution-mined salt cavern ~~reservoir~~, including associated material and equipment used for injection, withdrawal, monitoring, or observation wells, and wellhead equipment, piping, rights-of-way, property, buildings, compressor units, separators, metering equipment, and regulator equipment not covered in part 192 of this chapter.

The Associations recommend that PHMSA move the UGS regulations currently included in § 192.12 to a separate part within subchapter D. Furthermore, so that there is clear demarcation between the two parts, the Associations recommend that PHMSA state that facilities included in the scope of Part 192 are outside the scope of the UGS regulations.

For technical accuracy, the term “solution-mined salt cavern reservoir” should be modified to simply “solution-mined salt cavern.”

§1XX.X Underground natural gas storage facilities.

Underground natural gas storage facilities must meet the following requirements:

(a) Each underground natural gas storage facility that uses a solution-mined salt cavern ~~reservoir~~ for gas storage constructed after July 18, 2017 must meet all requirements and recommendations of API RP 1170 (incorporated by reference, see §192.7).

(b) Each underground natural gas storage facility that uses a solution-mined salt cavern ~~reservoir~~ for storage including those constructed not later than July 18, 2017 must conform to the mandatory provisions meet the operations, maintenance, integrity demonstration and verification, monitoring, threat and hazard identification, assessment, remediation, site security, emergency response and preparedness, and recordkeeping requirements and recommendations of API RP 1170, sections 9, 10, and 11 (incorporated by reference, see §1XX.X) by January 18, 2018 as follows:

(1) By January 18, 2018, each underground natural gas storage facility must have the foundational components of an underground natural gas storage functional integrity management program in place. Foundational components include, but are not limited to:

The Associations recommend that PHMSA provided a more specific implementation timeline in the regulatory text. The Associations’ recommended language reflects: PHMSA UGS FAQs 11, 12, 15, 16, 22, 24 and 25, PHMSA’s June 2017 partial stay of enforcement, and the experience of the Associations’ members as to what is feasible to implement by January 2018.

(i) a plan for developing procedures and an outline of the procedures to be developed;

(ii) a specific breakout of how the applicable Recommended Practice requirements would be addressed in the management system framework and its procedures;

(iii) the roles and responsibilities of staff committed to the development and implementation;

(iv) how staff will be trained in awareness and application of the procedures; and,

(v) an initial implementation schedule that is based on an analysis of risk and may change as the operator gathers new information and conducts well assessments, preventative and mitigative measures, and remediations.

(2) By January 18, 2020, each underground natural gas storage facility must have a complete storage functional integrity management system in place, including:

(i) complete written procedures for operations, maintenance, and emergencies implementing the mandatory requirements of API RP 1170, as required under this section, including the effective dates as applicable; and,

(ii) programs for training and qualifying staff and contractors on requirements, building competency, maintaining databases, and ensuring supervision and documentation.

(3) The implementation schedule must establish a timeline to complete an underground natural gas facility risk assessment, including preventive and mitigative measures, within 3 to 8 years from January 18, 2017, depending on the size, complexity and initial risk evaluation of the facilities.

(4) The implementation schedule must establish a timeline to complete baseline integrity assessments, as warranted by the risk assessment. Baseline integrity assessments in each storage field must begin by January 18, 2019 and be completed within 3 to 8 years from January 18, 2017, depending on the size and complexity of the storage field and as warranted by the risk assessment. An operator may use a prior integrity assessment that was completed prior to the effective date of the rule, if a technically acceptable justification is documented and maintained in facility records. Prior integrity assessments must meet the requirements of API RP 1170, as applicable, and must be valid for the current operating conditions and operating environment.

(c) Each underground natural gas storage facility that uses a depleted hydrocarbon reservoir or an aquifer reservoir for storage constructed after July 18, 2017 must meet all requirements and recommendations of API RP 1171 (incorporated by reference, see §192.7).

(d) Each underground natural gas storage facility that uses a depleted hydrocarbon reservoir or an aquifer reservoir for gas storage, including those constructed not later than July 18, 2017 must **conform to the mandatory provisions meet the operations, maintenance, integrity demonstration and verification, monitoring, threat and hazard identification, assessment, remediation, site security,**

~~emergency response and preparedness, and recordkeeping requirements and recommendations~~ of API RP 1171, sections 8, 9, 10, and 11 (incorporated by reference, see §192.7) ~~by January 18, 2018.~~ as follows:

(1) By January 18, 2018, each underground natural gas storage facility must have the foundational components of an underground natural gas storage functional integrity management program in place. Foundational components include, but are not limited to:

(i) a plan for developing procedures and an outline of the procedures to be developed;

(ii) a specific breakout of how the applicable Recommended Practice requirements would be addressed in the management system framework and its procedures;

(iii) the roles and responsibilities of staff committed to the development and implementation;

(iv) how staff will be trained in awareness and application of the procedures; and,

(v) an initial implementation schedule that is based on an analysis of risk and may change as the operator gathers new information and conducts well assessments, preventative and mitigative measures, and remediations.

(2) By January 18, 2020, each underground natural gas storage facility must have a complete storage functional integrity management system in place, including:

(i) complete written procedures for operations, maintenance, and emergencies implementing the mandatory requirements of API RP 1171, as required under this section, including the effective dates as applicable; and,

(ii) programs for training and qualifying staff and contractors on procedures, building competency, maintaining databases, and ensuring supervision and documentation.

(3) The implementation schedule must establish a timeline to complete an underground natural gas facility risk assessment, including preventive and mitigative measures, within 3 to 8 years from January 18, 2017, depending on the size, complexity and initial risk evaluation of the facilities.

(4) The implementation schedule must establish a timeline to complete baseline integrity assessments, as warranted by the risk assessment. Baseline integrity assessments in each storage field must begin by January 18, 2019 and be completed within 3 to 8 years from January 18, 2017, depending on the size and complexity of the storage field and as warranted by the risk assessment. An operator may use a prior integrity assessment that was completed prior to the effective date of the rule, if a technically acceptable justification is documented and maintained in facility records. Prior integrity assessments must meet the requirements of API RP 1171, as applicable, and must be valid for the current operating conditions and operating environment.

~~(e) Operators of underground gas storage facilities must establish and follow written procedures for operations, maintenance, and emergencies implementing the requirements of API RP 1170 and API RP 1171, as required under this section, including the effective dates as applicable, and incorporate such procedures into their written procedures for operations, maintenance, and emergencies established pursuant to §192.605.~~

~~(f)~~(e) With respect to the incorporation by reference of API RP 1170 and API RP 1171 in this section, the ~~non-~~mandatory provisions (*i.e.*, provisions containing the word “**should shall**” or **other non-mandatory language**) are adopted as mandatory provisions under the authority of the pipeline safety laws except when the operator includes or references written technical justifications in its program or procedural manual, described in paragraph (a)(5) of this section, as to why compliance with a **mandatory** provision of the recommended practice is not practicable **and or** not necessary for safety with respect to specified underground storage facilities or equipment. The justifications for any deviation from any **mandatory** provision of API RP 1170 and API RP 1171 must be technically reviewed and documented by a subject matter expert to ensure there will be no adverse impact on design, construction, operations, maintenance, integrity, emergency preparedness and response, and overall safety and must be dated and approved by a senior executive officer, vice president, or higher office with responsibility of the underground natural gas storage facility. An operator must discontinue use of any variance where PHMSA determines and provides notice that the variance adversely impacts design, construction, operations, maintenance, integrity, emergency preparedness and response, or overall safety.

For clarity, the Associations recommend that the language in current §192.12(e) be incorporated within (b) and (d) as outlined above. Also, consistent with the Associations’ recommendation that the UGS regulations should constitute a separate part within subchapter D, the reference to §192.605 is unnecessary and confusing and should be removed.

As discussed in these comments, the Associations strongly recommend that only the mandatory provisions of the Recommended Practices be mandatory in the UGS final rule.

Consistent with UGS FAQ #17, only one criteria must be met in an operator’s technical justification for a deviation: impracticable **OR** not necessary for safety.

APPENDIX B

Below are a few examples of mandatory “shall” statements that provide broad requirements for operators to develop detailed systems to manage the different aspects of functional integrity management programs:

1. API RP 1171 Section 8.2 – Risk Management
 - *The operator **shall** develop, implement, and document a program to manage risk that includes data collection, identification of potential threats and hazards to the storage operation, risk analysis including estimation of the likelihood of occurrence of events related to each threat, the likelihood of occurrence and potential severity of the consequences of such events, and the preventative, mitigative, and monitoring processes to reduce the likelihood of occurrence and/or the likelihood and severity of consequences, and a periodic review and reassessment of the processes.*
2. API RP 1171 Section 8.8 - Recordkeeping
 - *The operator **shall** develop a risk management records retention schedule and management plan. The operator **should** define the records retention period. Risk management documentation **can** include data used during the risk assessment, P&M measures employed, and the period evaluation of performance metrics.*
3. API RP 1171 Section 9.3 – Well Integrity Demonstration, Verification, and Monitoring
 - *The operator **shall** evaluate the mechanical integrity of each active well, including each third party well, that penetrates the storage reservoir and buffer zone or areas influence by storage operations. Well integrity evaluation methods typically include but are not limited to review of design, completion, and well work records, wellhead and downhole inspection, well pressure monitoring and testing, and gas sampling. The operator **shall** request well integrity evaluation data from third-party well owner/operators following the frequency established using conclusions from the risk assessment. Active well mechanical evaluations **shall** include initial and subsequent evaluations as determined using the risk assessment and the information derived from the initial evaluation.*

APPENDIX C

Comments of AGA, API, APGA and INGAA in response to “Pipeline Safety: Safety of Underground Natural Gas Storage Facilities Interim Final Rule,” filed to Docket No. PHMSA-2016-0016 on February 17, 2017 (separately attached).