

Underground Natural Gas Storage Facility (UNGSF): FAQs

These Frequently Asked Questions (FAQs) are intended to clarify, explain, and promote better understanding of issues concerning integrity assessment of Underground Natural Gas Storage Facilities (UNGSFs). These FAQs are not substantive rules and do not create rights, assign duties, or impose new obligations not outlined in the existing regulations and standards. Requests for informal interpretations regarding specific situations may be submitted to PHMSA in accordance with 49 C.F.R. §190.11.

The Underground Natural Gas Storage Facility (UNGSF) regulations in § 192.12(a)-(d) state that each UNGSF that uses a solution-mined salt cavern reservoir, a depleted hydrocarbon reservoir, or an aquifer reservoir for natural gas storage must meet the design, construction, operations, maintenance, integrity demonstration and verification, monitoring, threat and hazard identification, assessment, remediation, site security, emergency response and preparedness, and recordkeeping provisions of the American Petroleum Institute (API) Recommended Practices (RP) 1170 and/or 1171. These frequently asked questions (FAQs) are designed to assist operators and the public in understanding the application of the regulations to UNGSFs.

These FAQs reflect the Underground Natural Gas Storage Final Rule, published in the Federal Register on February 12, 2020. These FAQs replace in their entirety the original FAQs, which were issued on 4/03/2017 in response to the Interim Final Rule, which was published in the Federal Register on December 19, 2016. These FAQs are subject to change.

1. Within the § 192.3 definition of an underground natural gas storage facility (UNGSF), what is meant by “any other equipment, facility, right-of-way, or building used in the underground storage of natural gas?”

The principle components of an underground natural gas storage facility are the reservoir or cavern, the well, wellhead components, and wing valves. Elements located at, and used to specifically protect or facilitate the operation of the wellhead, such as devices, fencing, barricades, or enclosures, are examples of “other equipment, facility, right-of-way, or building used in the underground storage of natural gas” and are subject to § 192.12.

Original: 11/18/2021

2. What does “incidental to transportation” mean?

If an UNGSF is used in any way to store gas that is received from a PHMSA regulated pipeline and returns any of that stored gas to transportation by pipeline, then such a facility is incidental to transportation and therefore covered by this final rule. Even if some of that gas is used to support production operations or is mingled with produced gas that has not yet entered transportation, the storage facility itself will be treated as a UNGSF under the final rule and will be subject to PHMSA’s full jurisdiction. See 85 FR 8119, 8121.

Original: 11/18/2021

3. When did the reporting requirements for existing and new UNGSFs under §§ 191.15, 191.17, 191.22, and 191.23 take effect?

The reporting requirements for incidents, National Registry of Operators, changes notifications, and safety-related condition reporting became effective on January 18, 2017 (the effective date of the Interim Final Rule).

Under § 191.17, Annual Reports are due by March 15 for the preceding calendar year.

Original: 11/18/2021

4. What reporting is required for UNGSFs?

There are various reporting requirements for UNGSF operators related to incident reports (*see* § 191.15(c); annual reports (*see* § 191.17(c)); new facilities [including new well construction and well abandonment], and certain changes made to existing facilities (*see* § 191.22(c); and safety related condition reports (*see* § 191.23).

Original: 11/18/2021

5. Are individual notifications specified in § 191.22(c) required for every activity that meets the reporting requirement?

Multiple activities within the same storage field may be reported individually or combined into a single notification. Separate notifications are required for each storage field.

Original: 11/18/2021

6. How is the start date of construction determined?

The start date of construction is when physical onsite construction activities commence, such as, construction equipment move-in activities. Section 192.12 states that UNGSFs “constructed after July 18, 2017” must meet all requirements and recommendations of API RP 1170 or API RP 1171, as applicable, including design, construction, testing, and commissioning requirements.

Original: 11/18/2021

7. How are local or state licenses and permits for UNGSFs impacted by the Final Rule?

Neither the PIPES Act nor the Final Rule alters the existing role of the States in the siting or permitting of UNGSFs or their regulation of natural gas production. FERC and the States will continue to exercise their respective authorities over the permitting of UNGSFs. PHMSA is not responsible for siting determinations or related provisions and does not prescribe the location of any facilities. Operators remain responsible for obtaining and renewing any federal, state, or local licenses, permits, or certificates. *See* 85 FR 8104, 8118 (Feb. 2, 2020).

Original: 11/18/2021

8. Does replacement, expansion, or addition of components or appurtenances on existing storage wells require compliance with all provisions of API RPs 1170 or 1171, as applicable?

Yes. Such activities are considered maintenance activities under § 192.12, and must comply with API RP 1170 or 1171, as applicable.

Original: 11/18/2021

9. What requirements apply to a well that is repurposed or a new well that is constructed at an existing UNGSF?

New storage wells or repurposed non-storage wells (e.g., production or abandoned wells), for which physical onsite construction began after July 18, 2017 at an existing UNGSF, under § 192.12 must follow the requirements of API RP 1170 or 1171, as applicable.

For any existing, in-service storage well that is repurposed as a different type of storage well, any casing, tubing, packers, or wellhead that is replaced must meet the requirements in § 192.12(a) or (b).

Original: 11/18/2021

10. Can an operator use a prior integrity assessment to avoid duplicating work previously performed?

Yes. The Final Rule makes clear in § 192.12(d)(2) that UNGSF operators may use one or more integrity assessments, which may include prior downhole integrity inspections, completed before the effective date (3/13/2020) of the rule to establish a baseline assessment, so long as they meet the requirements of Section 8 of RP 1171, and continue to be relevant and valid for the current operating conditions and environment. When evaluating prior integrity assessment results, operators must account for the growth and effects of indicated defects since the time the integrity assessment was performed. Operators may also conduct new or additional assessments to supplement prior assessments as necessary to establish a more thorough understanding of a UNGSF's risks.

Original: 11/18/2021

11. Must UNGSFs have a Drug and Alcohol Testing Program?

Yes. UNGSF operators must comply with 49 CFR Part 199. Any operator of a pipeline facility that is subject to any Part 192 regulations is required to test covered employees for the presence of prohibited drugs and alcohol. A covered employee is a person who performs a covered function, including persons employed by operators, contractors engaged by operators, and persons employed by such contractors. Covered functions include operations, maintenance, or emergency-response functions that are performed on the pipeline facility.

Original: 11/18/2021

12. Must operators of UNGSFs comply with Part 192, Subpart N, Qualification of Pipeline Personnel?

No. UNGSF operators must comply with the training requirements in API RP 1170 (Section 9.7.5) or API RP 1171 (Section 11.12), dependent on the type of storage field. Both describe general training parameters and specifically identify the need to train personnel for normal, abnormal, and emergency conditions.

In addition, § 192.12(d)(1)(iv) specifically requires a training program for staff involved in the Integrity Management Program.

Original: 11/18/2021

13. Does the Final Rule require any new Reporting of Safety-Related Conditions (SRCs)?

Yes. Section 191.23(a)(11) requires UNGSF operators to report "[a]ny malfunction or operating error that causes the pressure of a UNGSF using a salt cavern for natural gas storage to fall below its minimum allowable operating pressure, as defined by the facility's State or Federal operating permit or certificate, whichever pressure is higher." This is distinguishable from SRC reporting requirements applicable to other facilities subject to § 191.23, as this UNGSF-specific requirement applies to malfunctions or operating errors **below** the minimum allowable operating pressure.

In addition, § 191.23(b)(5) states that an SRC report is not required for any safety-related condition that "exists on an UNGSF, where a well or wellhead is isolated [see FAQ #30], allowing the reservoir or cavern and all other components of the facility to continue to operate normally and without pressure restriction."

Original: 11/18/2021

14. What is meant by "well or wellhead is isolated" as used in § 191.23(b)(5)?

A well or wellhead is "isolated" by plugging (e.g., by one or more bridge plugs), shut in at the surface, and pressure removed.

Original: 11/18/2021

15. Do the other requirements of Part 192 apply to UNGSF?

No. Only § 192.12 applies to UNGSFs. However, UNGSF operators must recognize that there are Part 191 reporting requirements applicable to UNGSFs, and Part 199 requirements for drug and alcohol testing, which are described in a separate FAQ. See 85 FR at 8112-13.

Original: 11/18/2021

16. What are the Integrity Management Program requirements established in the Final Rule?

The Final Rule requires each operator of a UNGSF to establish and follow a comprehensive written Integrity Management Program in accordance with § 192.12(d).

Original: 11/18/2021

17. What are the key dates associated with the publishing of the Final Rule?

The Final Rule was published in the Federal Register on February 12, 2020, in Volume 85, commencing on FR Page 8104.

The Effective Date of the Rule is March 13, 2020. The Effective Date is the date the overall Rule goes into effect and UNGSF operators are expected to comply with the general provisions.

The Compliance Dates are those dates by which covered entities are required to comply with the new or revised individual provisions of the Final Rule where a compliance date or period is provided. Section 192.12 describes a number of compliance dates that Reservoir and Cavern UNGSF operators must meet. Example Compliance Dates from the Final Rule include:

- March 13, 2020 - Each UNGSF that uses a solution-mined salt cavern and was constructed after this date may not commence operations until after it meets all the provisions of:
 - API RP 1170;
 - API RP1171, section 8, that are applicable to the physical characteristics and operations of the salt cavern UNGSF; and
 - Section 192.12(c) and (d).
- March 13, 2021 – By this date, each UNGSF that uses a solution-mined salt cavern and was constructed between July 18, 2017, and March 13, 2020, must meet all the provisions of:
 - API RP 1170 prior to commencing operations and Section 192.12(c) prior to commencing operations;
 - API RP 1171, section 8, that are applicable to the physical characteristics and operations of the salt cavern UNGSF; and
 - Section 192.12(d).
- March 13, 2021 – By this date, each UNGSF that uses a solution-mined salt cavern and was constructed on or before July 18, 2017, must meet the provisions of:
 - API RP 1170, sections 9, 10, and 11, and § 192.12(c), [implemented by January 18, 2018];
 - API RP 1171, section 8, that are applicable to the physical characteristics and operations of the salt cavern UNGSF; and
 - Section
 - 192.12(d).
- March 13, 2021 – By this date, each UNGSF that uses a depleted hydrocarbon reservoir or an aquifer reservoir for natural gas storage and was constructed after July 18, 2017 must, prior to commencing operations, meet all the provisions of:
 - API RP 1171; and
 - Sections 192.12(c) and 192.12(d).

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- March 13, 2021 – By this date, each UNGSF that uses a depleted hydrocarbon reservoir or an aquifer reservoir for natural gas storage and was constructed on or before July 18, 2017 must, prior to commencing operations, meet all provisions of:
 - API RP 1171, sections 8, 9, 10, and 11, and § 192.12(c), [implemented by January 18, 2018]; and
 - Section 192.12(d).
- March 13, 2024 – By this date, each UNGSF operator must complete the baseline risk assessments of all reservoirs, caverns, and 40% of its wells (including wellhead assemblies), beginning with the highest risk wells.
- March 13, 2027 – By this date, each UNGSF operator must complete baseline risk assessments on all its wells (including wellhead assemblies).

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18. What is a risk analysis and how often should it be conducted?

To support a risk-based integrity management program, operators need to develop a systematic process from which threats/hazards from underground storage operations are identified, and the probability (likelihood) and consequences of potential adverse events are analyzed and estimated. The risk analysis is to be conducted at an operator-defined interval and repeated more frequently as a result of changes to threats/hazards or consequences.

As required by § 192.12(d)(4), operators must document the decisions, justifications, and determinations made to substantiate the risk analysis.

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19. What is included in a baseline assessment?

A baseline assessment specifically includes one or more downhole integrity inspection method(s) as provided for in API RP 1170 and 1171 for each well, reservoir, and cavern based on the potential threats/hazards identified by the risk analysis. In addition, operators may choose to supplement downhole integrity inspections with other inspections based on the potential threats/hazards identified by the risk analysis in order to obtain adequate information to complete a thorough analysis. See § 192.12(d)(2).

The use of previous integrity assessments, including prior downhole integrity inspections, are addressed in the FAQ #25 on prior integrity assessments.

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20. What is included in a re-assessment cycle?

A re-assessment includes one or more methods to assess the integrity of the UNGSF, as identified in API RP 1171 or API RP 1170, as applicable, that account for the threats/hazards identified through the risk analysis to determine the current condition of each well, reservoir, and cavern. A re-assessment interval cycle must not exceed seven (7) years from the date of the prior assessment.

As required by § 192.12(d)(4), the operator must document the decisions, justifications, and determinations made to support the integrity management program, including those made for the

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integrity assessment intervals, and assessment methodology/technology used.

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21. How often are downhole integrity inspections performed?

There is no prescribed maximum interval for performing downhole integrity inspections. However, an operator must develop and implement a process that incorporates risk analysis and integrity assessment results to schedule subsequent downhole integrity inspections.

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22. Are preventive & mitigative (P&M) measures part of the integrity management program?

Yes. In accordance with API RP 1171, Subsection 8.6, Preventative and Mitigative Measures, UNGSF operators must identify and implement preventive and mitigative (P&M) measures to manage and reduce risks. P&M measures must be based on the specific threats/hazards and consequences identified for each reservoir or cavern, well, and wellhead.

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