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DEPARTMENT OF TRANSPORTATION

Pipeline and Hazardous Materials Safety Administration

49 CFR Part 193

[Docket No. PHMSA-2019-0091]

RIN 2137-AF45

Pipeline Safety: Amendments to Liquefied Natural Gas Facilities

AGENCY: Pipeline and Hazardous Materials Safety Administration (PHMSA), Department of Transportation (DOT).

ACTION: Advance notice of proposed rulemaking (ANPRM).

SUMMARY: PHMSA is publishing this advance notice of proposed rulemaking (ANPRM) to solicit stakeholder feedback on potential amendments to the pipeline safety regulations governing liquefied natural gas (LNG).

DATES: Comments on this ANPRM must be submitted by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may submit comments identified by the Docket Number PHMSA-2019-0091 using any of the following methods:

E-Gov Web: https://www.regulations.gov. This site allows the public to enter comments on any Federal Register notice issued by any agency. Follow the online instructions for submitting comments.

Mail: Docket Management System: U.S. Department of Transportation, 1200 New Jersey Avenue SE, West Building Ground Floor, Room W12–140, Washington, DC 20590–0001.

Hand Delivery: U.S. DOT Docket Management System: West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Fax: 1-202-493-2251.

Instructions: Please include the docket number PHMSA-2019-0091 at the beginning of your comments. If you submit your comments by mail, submit two copies. If you wish to receive confirmation that PHMSA received your comments, include a self-addressed stamped postcard. Internet users may submit comments at https://www.regulations.gov.

Note: Comments are posted without changes or edits to https://www.regulations.gov, including any personal information provided. There is a privacy statement published on https://www.regulations.gov.

Privacy Act: In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to inform its rulemaking process. DOT posts these comments, without edit, including any personal information the commenter provides, to https://www.regulations.gov, as described in the system of records notice (DOT/ALL–14 FDMS), which can be reviewed at https://www.dot.gov/privacy.

Confidential Business Information: Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA, 5 U.S.C. 552), CBI is exempt from public disclosure. It is important that you clearly designate the comments

submitted as CBI if: your comments responsive to this document contain commercial or financial information that is customarily treated as private; you actually treat such information as private; and your comment is relevant or responsive to this notice. Pursuant to 49 Code of Federal Regulations (CFR) 190.343, you may ask PHMSA to provide confidential treatment to information you give to the agency by taking the following steps: (1) mark each page of the original document submission containing CBI as "Confidential"; (2) send PHMSA, along with the original document, a second copy of the original document with the CBI deleted; and (3) explain why the information that you are submitting is CBI. Submissions containing CBI should be sent to Brianna Wilson, Office of Pipeline Safety (PHP-30), Pipeline and Hazardous Materials Safety Administration (PHMSA), 2nd Floor, 1200 New Jersey Avenue SE, Washington, DC 20590-0001, or by email at brianna.wilson@dot.gov. Any materials PHMSA receives that is not specifically designated as CBI will be placed in the public docket.

Docket: For access to the docket to read background documents or comments received, go to http://www.regulations.gov. Follow the online instructions for accessing the docket. Alternatively, you may review the documents in person at the street address listed above.

FOR FURTHER INFORMATION CONTACT:

General: Brianna Wilson, Transportation Specialist, by phone at (771) 215-0969, or by email at brianna.wilson@dot.gov.

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I. EXECUTIVE SUMMARY

PHMSA is publishing this advance notice of proposed rulemaking (ANPRM) to solicit stakeholder feedback on potential opportunities for amendment of its regulations governing the siting, design, installation, construction, inspection, testing, operation, and maintenance of LNG facilities at 49 CFR part 193. Those requirements have not been substantially revised for over two decades. In the years since, the U.S. LNG industry has become truly global in scale and geopolitical importance; the sophistication of technology and operating practices within LNG facilities regulated by PHMSA have similarly evolved at a breakneck pace. In recognition of these developments, Congress, the Government Accountability Office (GAO), and industry stakeholders have repeatedly called on PHMSA to update its part 193 regulations to better align with current technologies, operational best practices, and lessons learned. In response to these recommendations and mandates, PHMSA now solicits stakeholder feedback on potential amendments to its part 193 LNG facility requirements that will inform a forthcoming notice of proposed rulemaking (NPRM) in this proceeding.

II. BACKGROUND

PHMSA's last significant amendments to its part 193 regulations governing LNG facilities date to 2004.[1] Current regulations rely heavily on the 2001 edition of a consensus industry standard—National Fire Protection Association (NFPA) 59A, "Standard for the Production, Storage, and Handling of Liquefied Natural Gas" (NFPA 59A)[2]—that has since been updated multiple times.

[1] Research and Special Projects Administration, "Pipeline Safety: Liquefied Natural Gas Facilities; Clarifying and Updating Safety Standards," 69 FR 11336 (Mar. 10, 2004).

[2] PHMSA elsewhere in this ANPRM refers to specific editions of NFPA 59A by adding the date of those editions as a suffix; by way of example, "NFPA 59A-2023" refers to the 2023 edition of NFPA 59A.

In the interim, the U.S. LNG industry has emerged as a driver of the U.S. domestic economy, a lynchpin of international commerce, and a critical instrument for advancing U.S. strategic interests. A recent study predicts the U.S. LNG industry over the next 16 years will contribute around $1.3 trillion to U.S. Gross Domestic Product—including more than $2.5 trillion in total revenues for U.S. businesses, $165 billion in Federal and State tax revenues, more than $500 billion in labor income, and support an average of nearly a half-million U.S. jobs annually.[3]

Meanwhile, the United States is the largest international exporter of LNG, is the source of roughly 22% of worldwide LNG supply, and is a critical supplier to energy markets in Europe and Asia (the top destinations for U.S. LNG exports). U.S. LNG exports play an outsized role in advancing U.S. strategic interests, improving the nation's trade balance, and supporting the energy needs of resource-constrained strategic allies.

U.S. LNG facility technologies and operations have evolved alongside the expansion and growing importance of the industry. When PHMSA issued its last major updates to the part 193 regulations in 2004, most LNG facilities regulated by PHMSA were relatively small facilities focused on the U.S. domestic market: LNG import facilities and "peak-shaving" facilities supporting local gas distribution companies. But even as those LNG facilities remain common, there is increasing interest within the U.S. domestic LNG market for small-scale or mobile or temporary LNG facilities supporting novel applications, including (but not limited to): marine bunkering for fueling maritime

[3] Yergin et al., *Major New U.S. Industry at a Crossroads: a U.S. LNG Industry Impact Study – Phase 1* (Dec. 2024), *available at* https://www.spglobal.com/en/research-insights/special-reports/major-new-us-industry-at-a-crossroads-us-lng-impact-study-phase-1.

vessels; trucking fleet transportation fueling; alternative gas supply for pipeline testing activity; off-grid electric power and heat generation; and electric power continuity for data centers. At the same time, the re-orientation of the U.S. LNG industry toward international markets has resulted in the construction of a number of massive, capital-intensive, and increasingly sophisticated LNG export terminals. The LNG industry has compiled and memorialized the lessons learned and best practices in designing, constructing, and operating each of these types of LNG facilities over the last two decades in consensus industry standards—culminating in the latest edition of NFPA 59A that was published in 2023.

Recognizing that PHMSA regulations have not kept pace with technological innovation and best practices in the LNG industry, policymakers and other stakeholders have repeatedly called on PHMSA to update its part 193 regulations. GAO in 2020 criticized PHMSA for not having conducted a standards-specific review of its part 193 regulations for nearly two decades and recommended that PHMSA consider incorporating by reference more recent editions of consensus industry standards such as NFPA 59A.[4] Section 27 of the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2016 (PIPES Act of 2016, Pub. L. No. 114-183) directed PHMSA to update its minimum safety standards for "permanent, small scale" LNG facilities.[5] Subsequently, section 110 of the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020 (PIPES Act of 2020, Pub. L. No. 116-2600) directed PHMSA to

[4] GAO, GAO-20-619, "Natural Gas Exports: Updated Guidance and Regulations Could Improve Facility Permitting Processes" (Aug. 2020), *available at* https://www.gao.gov/products/gao-20-619.

[5] 49 U.S.C. 60103 note.

update the minimum safety standards by December 27, 2023, to impose a risk-based regulatory approach for large-scale LNG facilities, other than peak-shaving facilities.[6]

Meanwhile, President Trump in his first term issued Executive Order (E.O.) 13868 "Promoting Energy Infrastructure and Economic Growth," directing PHMSA to issue a final rule updating its part 193 regulations no later than May 2020.[7] President Trump has in the current term issued E.O. 14192, "Unleashing Prosperity Through Deregulation," requiring agencies to identify opportunities to alleviate unnecessary regulatory compliance burdens imposed on industry and the general public, E.O. 14154, "Unleashing American Energy," requiring agencies to reduce undue burdens on the identification, development, or use of domestic energy resources; and E.O. 14156, "Declaring a National Energy Emergency," to ensure the integrity and expansion of U.S. energy infrastructure.[8]

PHMSA has also received petitions for rulemaking and other requests from industry trade groups calling on PHMSA to update its part 193 regulations to address various alleged shortcomings, including incorporating by reference more recent editions of NFPA 59A.

To develop an NPRM responding to the above recommendations and mandates, PHMSA is soliciting stakeholder feedback on, among other things: (1) the topics listed

[6] 49 U.S.C. 60103 note.

[7] E.O. 13868, "Promoting Energy Infrastructure and Economic Growth," 84 FR 15495 (Apr. 19, 2019).

[8] E.O. 14192, "Unleashing Prosperity Through Deregulation," 90 FR 9065 (Feb. 6, 2025); E.O. 14152, "Unleashing American Energy," 90 FR 8353 (Jan. 29, 2025); E.O. 14156, "Declaring a National Energy Emergency," 90 FR 8433 (Jan. 29, 2025).

in section III below; (2) potential amendments to its part 193 LNG facility requirements, including any amendments identified by stakeholders; (3) the appropriateness of those amendments for different types of LNG facilities (including export terminals and peak-shaving facilities); (4) the incremental compliance costs and benefits (including benefits pertaining to avoided compliance costs, safety harms, and environmental harms) anticipated from those amendments; and (5) the technical feasibility, reasonableness, cost-effectiveness, and practicability of those potential amendments. PHMSA plans to hold a public meeting in the near future to supplement or to clarify the materials received in response to this ANPRM.

With respect to incremental cost and benefit information, PHMSA is seeking per-unit, aggregate, and programmatic (both one-time implementing and recurring) data. Explanation of the bases or methodologies employed in generating cost and benefit data, including data sources, assumptions (e.g., calculations), is valuable so that PHMSA can explain the support for any estimates it is able to provide that accompany a proposed rule, and other commenters may weigh in on the validity and accuracy of the data. Please also identify the baseline (*e.g.*, a particular edition of a consensus industry standard such as NFPA 59A; widespread voluntary operator practice; or documentation of sample surveys and other operator level data or information) from which those incremental costs and benefits arise. When estimates are approximate or uncertain, consider using a range or specifying the distribution in other ways.

When responding to a specific question below please note the topic letter and question number in your comment. PHMSA will review and evaluate all comments received, as well as late-filed comments to the extent practicable.

III. TOPICS UNDER CONSIDERATION

A. PHMSA's enabling statute at 49 U.S.C. 60101(a)(14) defines an LNG facility subject to PHMSA's authority as "a gas pipeline facility used for transporting or storing liquefied natural gas, or for liquefied natural gas conversion, in interstate or foreign commerce." Excluded from this definition is "any part of a structure or equipment located in navigable waters."

1. What regulatory amendments could improve or clarify the applicability of PHMSA's part 193 regulations to LNG facilities under its statutory authority? Should PHMSA's regulations be amended to clarify the boundaries of its regulatory authority with respect to some or all categories of LNG facilities? Which provisions (including regulatory definitions) merit revision and how should they be modified?
2. For LNG facilities over which PHMSA shares regulatory authority with another Federal agency, should PHMSA consider an LNG facility's compliance with analogous regulatory requirements or guidance issued by those other agencies in evaluating compliance with existing part 193 requirements or (should they be incorporated by reference into part 193 regulations) NFPA 59A-2023? Please identify those analogous requirements of PHMSA and other Federal agencies.

B. The term "LNG facility" is defined in PHMSA's enabling statute at 49 U.S.C. 60101(a)(14) and PHMSA implementing regulations at 49 CFR 193.2007. LNG facilities subject to part 193 requirements include "baseload" facilities, "peak-shaver" facilities, "temporary" or "mobile" LNG facilities, and "satellite" LNG facilities.

1. How many of each of these categories of LNG facilities are projected to come into existence over the next two decades? What function(s) do they each

currently serve in the interstate natural gas transportation system, and are there any emerging applications for those facilities?

2. Are there material differences in the characteristics (*e.g.*, capacity or size; physical processes) of and among those categories of LNG facilities that merit distinguishable treatment under part 193? What proportion of each category of LNG facilities are operated by "small entities" (small businesses, small organizations, or small government jurisdictions)[9] as defined in the Regulatory Flexibility Act (5 U.S.C. 6010 *et seq.*) and its implementing regulations?

C. LNG facility reporting requirements are set forth at 49 CFR 193.2011.

1. Is there information required in the annual, incident, and safety related condition reports required by PHMSA regulations with limited or no safety value any of the categories of part 193-regulated LNG facilities?
2. Is there information required in the reports that is duplicative with the information required to be submitted to other State or Federal regulatory authorities?
3. What incremental, per-unit costs and benefits may arise from amending § 193.2011 to clarify that safety-related condition reporting would be required not only for "in-service" LNG facilities, but also safety-related conditions that occur during commissioning and initial start-up?

D. Current part 193 regulations incorporate much of NFPA 59A-2001's provisions pertinent to LNG facility siting (§ 193.2051), design (§ 193.2101(a)), construction (§ 193.2301), equipment (§ 193.2401), and fire protection (§ 193.2801).

[9] For example, "small businesses" include those operators that employ fewer than 1500 employees or which have annual revenue less than $ 40 million; "small government jurisdictions" are those with a population of less than 50,000 persons.

1. Stakeholders have asserted that compliance with provisions of NFPA 59A-2001 has become increasingly impracticable as vendors and the industry itself employ more recent consensus industry standards in their activities. Please describe noteworthy examples of tension between NFPA 59A-2001 provisions referenced in current PHMSA regulations and more recent consensus industry standards. What incremental, per-unit costs (including, but not limited to, those arising from personnel having to compare operator practices with provisions of NFPA 59A-2001 referenced in current PHMSA regulations) arise from operators having to navigate those tensions?

2. Should PHMSA consider a narrow rulemaking to update only the NFPA 59A standard to the 2023 edition and pursuing a broader part 193 update afterward? What would the incremental costs and benefits be of an update of the NFPA 59A standard to 2023?
3. To what extent do different categories of LNG facility operators generally comply with other NFPA 59A-2001 provisions (*e.g.*, those governing operating and maintenance) not explicitly incorporated by reference in part 193? With which of those NFPA 59A-2001 provisions do different categories of LNG facility operators generally comply? With which do they generally not comply?
4. To what extent do different categories of LNG facility operators generally comply with provisions in more recent editions of NFPA 59A? If so, which edition (*e.g.*, NFPA 59A-2019 or NFPA 59A-2023) do operators generally follow? Do operators generally conform their activities to the entirety of those more recent

editions, or do they follow specific chapters or paragraphs of those more recent editions, but not others? Do operators conform to more recent editions of NFPA 59A voluntarily or due to regulatory requirements imposed by another State or Federal regulatory authority?

5. Part 193 regulations in several places broadly incorporate pertinent NFPA 59A-2001 requirements provided they do not conflict with specific part 193 provisions; such language appears in Subparts B ("Siting"), C ("Design"), D ("Construction"), E ("Equipment"), and I ("Fire Protection). What incremental, per-unit costs and benefits would arise from substituting NFPA 59A-2023 provisions for the current reference to NFPA 59A-2001 provisions (or superseding part 193 provisions) in each of those subparts of part 193? Should PHMSA exclude some NFPA 59A-2023 provisions from incorporation by reference in those subparts? To which categories of LNG facilities should any NFPA 59A-2023 provisions pertinent to those subparts apply?
6. What incremental, per-unit costs and benefits would arise should PHMSA propose to incorporate by reference the entirety of NFPA 59A-2023? Please provide those estimated, incremental costs and benefits on a per-chapter basis where possible, highlighting provisions in each NFPA 59A-2023 chapter for which compliance would be particularly burdensome or costly for particular categories of LNG facility operators.
7. Which mandatory provisions of NFPA 59A-2023 should be made permissive if incorporated into the PHMSA's part 193 regulations? Are there certain mandatory elements of NFPA 59A-2023 that should remain mandatory for some

categories of LNG facilities but not others? Should any non-mandatory provisions in NFPA 59A-2023 be mandatory, and what incremental, per-unit costs and benefits would arise?

8. What incremental, per-unit costs and benefits would arise from PHMSA integrating NFPA 59A-2023's references to "hazardous fluid" alongside references to "LNG" and "natural gas" throughout part 193?

9. What incremental, per-unit costs and benefits would arise in connection with the incorporation by reference in part 193 of NFPA 59A-2023 chapter 14 requirements governing "mobile and temporary LNG facilities"? Are there particular requirements in NFPA 59A-2023 chapter 14 that would entail noteworthy incremental, per-unit compliance costs and benefits?

10. Are the criteria for "stationary, small-scale LNG facilities" in paragraph 17.1.2 of NFPA 59A-2023 appropriate? What would be the incremental, per-unit costs and benefits of adopting these provisions relative to current part 193 requirements (including referenced provisions in NFPA 59A-2001)? Are there particular requirements in NFPA 59A-2023 pertinent to small-scale LNG facilities that would lead to incremental, per-unit costs and benefits?

11. What would be the incremental, per-unit costs and benefits to operators from installing dikes around American Society of Mechanical Engineers (ASME)-compliant single-walled containers and membrane-containment tank systems? How many single-walled ASME containers, single-walled ASME vessels, and membrane-containment tank systems would different categories of LNG facilities have on average?

12. What are the incremental, per-unit costs and benefits to operators of different categories of LNG facilities from utilizing the design spill parameters for pipe-in-pipe systems in Frequently Asked Question (FAQ) #DS2(C) within PHMSA guidance for LNG facilities?[10]

13. What would be the initial and annual recurring incremental, per-unit costs and benefits to operators from generation and implementation of a robust mechanical and electrical lockout program in different categories of LNG facilities?

14. Are there any PHMSA interpretations of its part 193 regulations[11] whose safety value does not justify any associated compliance costs for each category of LNG facilities? If so, what are the associated compliance costs? Are there any interpretations that merit codification in part 193 regulations?

E. GAO in its August 2020 report identified consensus industry standards other than NFPA 59A listed in § 193.2013 and currently incorporated by reference throughout PHMSA's part 193 regulations meriting updating to more recent editions.

1. Please describe current operator compliance strategies with respect to those standards. Do some or all operators generally comply with the older editions currently referenced in part 193 regulations, more recent editions, or both? If operators comply with a more recent edition, which one—the latest edition or some intermediate edition? If some operators but not others comply with each of those updated standards, are there certain categories of LNG facilities that generally comply with more recent standards?

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[10] PHMSA, "LNG Plant Requirements: Frequently Asked Questions" (June 21, 2023), https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2024-06/PHMSA-LNG-FAQs-2014-2023.pdf.
[11] PHMSA, "Letters of Interpretation," https://www.phmsa.dot.gov/regulations/title49/b/2/1 (last accessed Mar. 11, 2025).

2. To which edition of each standard should PHMSA update its part 193 regulations? Please provide technical, safety, and economic reasons for updating part 193 regulations to reference a particular edition of each standard.
3. Please estimate any incremental, per-unit costs and benefits that would arise from updating each of those standards to a more recent standard. Are there particular provisions of those standards that entail noteworthy incremental costs and benefits?
4. Are there specific provisions or sections in those updated editions that PHMSA should exclude when incorporating those standards by reference with respect to some or all part 193-regulated LNG facilities? Please provide the technical, safety, and economic reasons for such an exclusion.
5. Are there any updates in development for consensus industry standards currently incorporated by reference in part 193 regulations that could merit inclusion in this rulemaking? Please provide the technical, safety, and economic reasons for inclusion of those forthcoming updates.

F. Are there any consensus industry standards pertinent to part 193-regulated LNG facilities that PHMSA should consider incorporating by reference for the first time?

1. Please identify any such standards, noting the edition to be incorporated by reference and any portions of those standards that should be excluded from such incorporation, along with any technical, safety, and economic justification.
2. Which provisions of part 193 should reference those standards?

3. Please estimate any incremental, per-unit costs and benefits that would arise from incorporating by reference standard. Are there particular provisions of those standards that entail noteworthy incremental costs and benefits?

G. Section 110 of the PIPES Act of 2020 requires PHMSA to update part 193 operating and maintenance standards for "large-scale" LNG facilities (other than peak shaving facilities) to provide for a "risk-based regulatory approach" that PHMSA ensures will achieve an equivalent level of safety to current, prescriptive part 193 operating and maintenance standards.

1. What is the appropriate metric and threshold for determining whether an LNG facility is a large-scale LNG facility and why is it appropriate?
2. For which provisions of part 193, subparts F (Operations) and G (Maintenance) should a risk-based regulatory approach provide an alternative? What would be the incremental, per-unit cost benefits from substitution of a risk-based regulatory approach, estimated for each of those part 193, subparts F and G provisions?
3. Are there particular regulatory or conceptual frameworks or consensus industry standards or protocols that are appropriate for use in designing implementation plans for an alternative risk-based regulatory approach? Are those frameworks or consensus industry standards or protocols employed by "large-scale LNG facilities—and if so, how widely? Are such frameworks or standards employed voluntarily or pursuant to legal requirements (*e.g.*, the terms and conditions of a FERC certificate of convenience and necessity)? Please provide technical and safety reasons (to include pertinent data or studies) for the appropriateness of those frameworks or industry standards.

4. What should be the relationship between an LNG facility implementation plan and the Emergency Response Plan required under section 3(a) of the Natural Gas Act (15 U.S.C. 717b–1)?
5. What should be the required content and information in LNG facility implementation plans submitted to PHMSA? What would be the incremental, per-unit unit cost for development of implementation plans?
6. What would be the annual incremental, per-unit costs for operators' execution of implementation plans? Please provide such an estimate for each of the elements (e.g., employee and contractor training; quality assurance programs) listed in section 110(c).
7. What processes should PHMSA employ in reviewing and evaluating operator submissions? Are there models for those processes elsewhere in current PHMSA regulations? If so, how are those models appropriate for use in connection with LNG facility implementation plans? Are there elements of those models that would be inappropriate for use in connection with LNG facility implementation plans?
8. What factors should inform PHMSA's review of LNG facility implementation plans?

H. Section II of this ANPRM identifies Executive Orders directing PHMSA and other agencies to reduce regulatory burdens on the U.S. energy industry.

1. Are there current aspects of PHMSA regulations that are particularly burdensome on the ability of industry to operate LNG facilities that PHMSA should consider amending or rescinding?

2. Are there areas that PHMSA could add regulatory text that would reduce costs on operators without reducing safety outcomes?
3. Which aspects of current PHMSA regulations do operators find outdated or unnecessary because industry practice or existing industry guidelines are an equivalent or better standard both for cost savings and safety outcomes?
4. How can PHMSA best design a rulemaking to update its part 193 regulations for LNG facilities to be deregulatory and lead to cost savings for the industry?

Issued in Washington, DC, on April 28, 2025, under authority delegated in 49 CFR 1.97.

Benjamin D. Kochman,

Acting Administrator.

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