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DEPARTMENT OF TRANSPORTATION

Pipeline and Hazardous Materials Safety Administration

49 CFR Part 172

[Docket No. PHMSA-2021-0058 (HM-264A)]

RIN 2137-AF55

Hazardous Materials: Suspension of HMR Amendments Authorizing Transportation of Liquefied Natural Gas by Rail

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

ACTION: Notice of proposed rulemaking.

SUMMARY: PHMSA, in coordination with the Federal Railroad Administration (FRA), proposes to amend the Hazardous Materials Regulations to suspend authorization of liquefied natural gas (LNG) transportation in rail tank cars pursuant to a final rule published in July 2020, pending the earlier of either completion of a separate rulemaking under RIN 2137-AF54 evaluating potential modifications to requirements governing rail tank car transportation of LNG, or June 30, 2024.

DATES: Comments must be received by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. To the extent possible, PHMSA will consider late-filed comments as a final rule is developed.

ADDRESSES: You may submit comments by any of the following methods:

- *Federal Rulemaking Portal*: http://www.regulations.gov. Follow the online instructions for submitting comments.
- *Fax*: 1-202-493-2251.

- *Mail*: Docket Management System; U.S. Department of Transportation, Docket Operations, M-30, Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590-0001.
- *Hand Delivery*: U.S. Department of Transportation, Docket Operations, M-30, Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590-0001 between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Instructions: Include the agency name and docket number PHMSA-2021-0058 (HM-264A) or RIN 2137-AF55 for this rulemaking at the beginning of your comment. Note that all comments received will be posted without change to http://www.regulations.gov including any personal information provided. If sent by mail, comments must be submitted in duplicate. Persons wishing to receive confirmation of receipt of their comments must include a self-addressed stamped postcard.

Docket: For access to the dockets to read background documents or comments received, go to http://www.regulations.gov or the DOT Docket Operations Office (*see* **ADDRESSES**).

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. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." Submissions containing CBI should be sent to Lily Ballengee, U.S. Department of Transportation, 1200 New Jersey Avenue SE,

Washington, DC 20590-0001. Any commentary that PHMSA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

FOR FURTHER INFORMATION CONTACT: Lily Ballengee, Transportation Specialist, Standards and Rulemaking Division, Office of Hazardous Materials Safety, (202) 366-8553, 1200 New Jersey Avenue, SE, Washington, DC 20590-0001.

SUPPLEMENTARY INFORMATION:

Table of Contents

I. Overview

PHMSA, in coordination with FRA, proposes to suspend recent amendments to the Hazardous Materials Regulations (HMR; 49 CFR parts 171–180) authorizing transportation of "Methane, refrigerated liquid," commonly known as LNG in DOT-113C120W9 specification rail tank cars while it conducts a thorough evaluation of the HMR's regulatory framework for rail transportation of LNG in a companion

rulemaking under RIN 2137-AF54, and determines if any modifications are necessary. Transportation of LNG by rail tank car has not occurred and there is considerable uncertainty regarding whether any would occur in the time it takes for PHMSA to consider potential modifications to the existing, pertinent HMR requirements. However, PHMSA's proposed temporary suspension of the HMR provisions authorizing transportation of LNG in rail tank cars guarantees no such transportation will occur before its companion rulemaking has concluded or June 30, 2024, whichever is earlier, thereby: (1) avoiding any risks to public health and safety or environmental consequences (to include direct and indirect greenhouse gas (GHG) emissions[1]) that are being evaluated in the companion rulemaking and in ongoing research efforts undertaken in collaboration with FRA and external technical experts; (2) assuring timely implementation of any mitigation measures and operational controls for rail tank car transportation of LNG identified in the companion rulemaking or those ongoing research efforts; (3) reducing the potential for economic burdens by ensuring that entities avoid ordering rail tank cars compliant with the current requirements when the companion rulemaking may adopt alternative requirements; and (4) enabling meaningful opportunity for consideration of the perspectives of diverse stakeholders.

PHMSA proposes to add a new special provision 439 that prohibits LNG transportation in rail tank cars until issuance of a final rule concluding the rulemaking proceeding under RIN 2137-AF54, or June 30, 2024, whichever is earlier. Therefore, if the temporary suspension is adopted in a final rule, the HMR will not authorize the transportation of LNG in rail tank cars until completion of the companion rulemaking or

[1] PHMSA distinguishes between "direct" and "indirect" GHG emissions herein consistent with the meaning of those terms in pertinent Obama-Administration Council on Environmental Quality (CEQ) guidance. *See* CEQ, "Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews" at 16 & n. 42 (Aug. 1, 2016); CEQ, "National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions" 86 FR 10252 (Feb. 19, 2021) (encouraging agencies to use CEQ's 2016 guidance until CEQ issues an updated version of that guidance).

June 30, 2024, whichever is earlier. Rail transport of LNG may still be permitted on an *ad hoc* basis as authorized by the conditions of a PHMSA special permit (§ 107.105), or in a portable tank secured to a rail car pursuant to the conditions of an FRA approval (§ 174.63).

II. Background

A. *LNG by Rail Final Rule*

On May 7, 2018, PHMSA accepted a petition for rulemaking[2] from the Association of American Railroads (AAR) to allow the transportation of LNG by rail in DOT-113 tank cars and began drafting a notice of proposed rulemaking (NPRM) in consultation with FRA. On April 10, 2019, Executive Order 13868 ("Promoting Energy Infrastructure and Economic Growth")[3] was published, which directed the Secretary of Transportation to propose regulations that "treat LNG the same as other cryogenic liquids and permit LNG to be transported in approved rail tank cars" and finalize that rulemaking within 13 months.[4] In October 2019, PHMSA issued the LNG by Rail NPRM, which proposed to amend the HMR to allow LNG to be transported in existing DOT-113 tank cars and sought comments (due within 60 days) on the potential need for additional operational controls.[5]

On December 5, 2019, PHMSA issued a DOT special permit (SP) 20534 to Energy Transport Solutions, LLC (ETS) to allow the transportation of LNG in existing DOT-113 tank cars from Wyalusing, PA, to Gibbstown, NJ, with no intermediate stops.[6] DOT-SP 20534 includes several safety control measures, including a requirement to

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[2] Docket No. PHMSA-2017-0020-0002.
[3] 84 FR 15495 (Apr. 15, 2019).
[4] The Secretary has delegated such rulemaking duties to the PHMSA Administrator. *See* 49 CFR 1.97.
[5] 84 FR 56964 (Oct. 24, 2019).
[6] DOT-SP 20534 expires by its terms on November 30, 2021. However, ETS may request a renewal in accordance with § 107.109. *See* https://cms7.phmsa.dot.gov/approvals-and-permits/hazmat/file-serve/offer/SP20534.pdf/2017088295/SP20534.

conduct remote sensing for detecting and reporting internal pressure, location, and leakage, and a requirement to provide training to emergency response agencies that could be affected prior to the initial shipment of a tank car under the SP. ETS applied for the SP before the LNG by Rail NPRM was initiated. After issuing the SP, PHMSA re-opened the comment period on the proposed rule until January 13, 2020.[7]

On July 24, 2020, PHMSA published a final rule in the *Federal Register* revising the HMR to allow for the bulk transport of LNG in rail tank cars.[8] In the LNG by Rail final rule, the Final Environmental Assessment (FEA), and the Final Regulatory Impact Analysis (RIA), PHMSA evaluated the potential benefits of rail tank car transportation of LNG and weighed them against the potential public safety and environmental risks.[9] PHMSA coordinated with FRA to determine that those potential risks from rail tank car transportation of LNG would be at safe levels if such transportation were: (1) in DOT-113C120W specification rail tank cars—indicated by the new specification suffix "9" (DOT-113C120W9)—with enhanced outer tank requirements; (2) subject to all applicable then-extant requirements of the HMR; and (3) subject to certain additional operational controls. The LNG by Rail final rule increased the thickness of DOT-113 outer tank shells from 7/16 to 9/16 inch (a 28.5 percent increase) and mandated use of stronger TC-128 Grade B normalized steel. With respect to this increase in tank shell thickness and strength, PHMSA noted that "[w]hen divided by the large number of carloads that would be carried during a DOT-113's 50-year service life, the 9/16th inch TC-128B normalized steel outer tank is highly cost-effective in that it will mitigate the consequences of derailment involving LNG by reducing the number of tanks punctured in the unlikely event of an accident."[10] The LNG by Rail final rule also required operational

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[7] 84 FR 70491 (Dec. 23, 2019).
[8] 85 FR 44994 (Jul. 24, 2020) (LNG by Rail final rule).
[9] *See, e.g., id.* at 45024; FEA, Docket No. PHMSA-2018-0025-0478; RIA, Docket No. PHMSA-2018-0025-0479.
[10] *Id.* at 45005.

controls for transportation of LNG by rail tank car, including routing analysis, improved train braking, and remote monitoring. PHMSA noted that the operational controls added in the final rule were expected to reduce the likelihood of an incident and reduce potential damages if an incident were to occur.[11] The LNG by Rail final rule went into effect on August 24, 2020.

On August 20, 2020, the Puyallup Tribe of Indians filed an administrative appeal of the LNG by Rail final rule, alleging, *inter alia*, that the rulemaking disproportionately exposed its members to environmental hazards (including those associated with climate change) and that PHMSA's engagement with the Tribe on the rulemaking was inadequate. PHMSA denied the Tribe's administrative appeal on November 13, 2020.[12]

B. *Pending Petitions for Review of the LNG by Rail Final Rule*

The LNG by Rail final rule is the subject of several petitions for judicial review. A group of 6 environmental groups, a coalition of attorneys general for 14 States and the District of Columbia, and the Puyallup Tribe of Indians filed separate petitions for review challenging PHMSA's LNG by Rail final rule. All of the petitioners ask the court to vacate the rule, alleging violations of the Hazardous Materials Transportation Act (HMTA; 49 U.S.C. 5101–5127), the Administrative Procedure Act (APA; 5 U.S.C. 553 *et seq.*), and the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*). The Puyallup Tribe also alleges violations of the Tribal consultation protocols under the National Historic Preservation Act (54 U.S.C. 300101 *et seq.*) and Executive Order 13175 ("Consultation and Coordination with Indian Tribal Governments"),[13] as well as disparate impacts on the Tribe in violation of Executive Order 12898 ("Federal Actions

[11] *Id.* at 45008.
[12] Docket No. PHMSA-2018-0025-0637.
[13] 65 FR 67249 (Nov. 9, 2000).

to Address Environmental Justice in Minority Populations and Low-Income Populations")[14] and Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d *et seq.*).

The petitions have been consolidated within a single proceeding in the U.S. Court of Appeals for the D.C. Circuit. On March 16, 2021, the court granted PHMSA's unopposed motion to place the petitions in abeyance while PHMSA reviewed the LNG by Rail final rule pursuant to Executive Order 13990 ("Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis").[15]

C. *PHMSA/FRA LNG Task Force*

PHMSA established a joint LNG Task Force with FRA in January 2020 as part of its ongoing research efforts on the transportation of LNG. The LNG Task Force helped to identify areas of research that could inform potential future regulatory activity, as appropriate. To assist in identifying appropriate tasks within that effort, the LNG Task Force employed a risk-based framework directed toward:

- "knowing the risk" by improving DOT's knowledge of the types and extent of risk posed by LNG by rail transportation, with a focus on research and testing;
- "predicting the risk" by leveraging modeling and simulation software and tools to analyze LNG by rail operations and potential risk outcomes;
- "reducing the risk" by relating the possible strategies and technologies that decrease the risk of transporting LNG by rail tank cars, especially through track inspection and operational factors; and
- "preparing for the risk" by focusing on the emergency response community to ensure that—should an incident occur and the risks of LNG materialize—

[14] 59 FR 7629 (Feb. 16, 1994).
[15] 86 FR 7037 (Jan. 25, 2021).

emergency responders have the awareness, training, and resources to keep themselves and the public safe.

The LNG Task Force ultimately identified and undertook 15 tasks to synthesize ongoing research and outreach activities. Those tasks are listed in Table 1 below.

Table 1: LNG Task Force Methodology for Addressing LNG by Rail Risk

Know the Risk	Predict the Risk	Reduce the Risk	Prepare for the Risk
• Empirical Review of International LNG Rail Transportation • LNG Loading / Unloading Safety Evaluation • Quantitative Risk Assessment of LNG Transportation • Full-Scale Impact Testing on DOT-113 • LNG UN T75 Portable Tank Fire-Testing	• Evaluate Likely Number of Punctures and Derailment Simulation Models • Develop Worst-Case Scenario Model • Safety / Security Route Risk Assessment • Train Energy and Dynamics Simulator (TEDS) • Modal Conversion Between LNG by Truck and Rail	• Re-Evaluate Costs and Benefits of ECP Brakes • Evaluation of Train Operational Controls • Automated Track Inspection	• Validate Emergency Responder Opinions and Needs • Develop LNG Educational and Outreach Plan

The LNG Task Force initially projected completion of the above tasks by late 2021. However, much of the LNG Task Force's work was interrupted by the coronavirus disease 2019 (COVID-19) public health emergency. Consequently, several tasks—including full-scale impact testing, puncture and derailment simulation modeling, and LNG portable tank pool fire testing—are not expected to be completed until sometime in 2022.

D. *Transportation Research Board Study*

Pursuant to the "Further Consolidated Appropriations Act, 2020" (Pub. L. 116-94), PHMSA and FRA partnered with the National Academy of Sciences, Engineering, and Medicine (NASEM) to conduct a study on the transportation of LNG in rail tank cars through a committee of the Transportation Research Board (TRB).[16] The TRB committee commenced work in mid-July 2020.

The TRB study consists of two phases, with each phase culminating in a report with findings and recommendations:

- Phase I reviews the plans and progress of the LNG Task Force to develop a report containing findings regarding the relevance, completeness, and quality of its efforts, and to offer recommendations for addressing any shortcomings.
- Phase II involves a more comprehensive assessment of topics relevant to the safe movement of LNG by rail tank car pursuant to both SP and the HMR. The Phase II Report will contain recommendations to Congress, PHMSA, FRA, industry, emergency responders, and other relevant stakeholders on necessary near- and long-term actions to improve understanding of the risks associated with transporting LNG by rail tank car, mitigate those risks, and prevent and prepare for potential incidents.

The TRB committee issued its Phase I Report on June 15, 2021.[17] Although the Phase I Report generally praised the LNG Task Force's "comprehensive as planned" program for making effective use of a "number of long standing and high quality research and testing programs," the TRB committee noted that the COVID-19 public health

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[16] In that legislation, Congress earmarked funds for the NASEM study for the express purpose of "inform[ing] rulemaking." NASEM maintains a website dedicated to the TRB committee's work that contains the TRB committee's charter, work product, meeting agendas, and other supporting material. *See* NASEM, "Safe Transportation of Liquefied Natural Gas by Railroad Tank Car," https://www.nationalacademies.org/our-work/safe-transportation-of-liquefied-natural-gas-by-railroad-tank-car (last visited Jun. 16, 2021).

[17] NASEM, "Preparing for LNG by Rail Tank Car: A Review of a U.S. DOT Safety Research, Testing, and Analysis Initiative" (Jun. 2021) (Phase I Report), https://www.nap.edu/read/26221/chapter/1.

emergency resulted in delays in initiation and completion of several tasks. The TRB committee also noted that the interdependency of many of those outstanding tasks complicated its and the LNG Task Force's work in developing a complete understanding of the risks associated with transportation of LNG in rail tank cars. It expressed particular concern regarding the incomplete status of tasks pertaining to full-scale impact testing, portable tank pool fire testing, worst-case scenario analysis, and quantitative risk assessment.[18] The TRB committee also emphasized pending tasks necessary to understand the potential risks to public and worker safety arising from releases during loading, unloading, and transloading of LNG tank cars, as well as in overcoming limited emergency planning and response training and resources.

The Phase I Report provided recommendations[19] for improving the assumptions, rationale, and methodology employed by the LNG Task Force in executing the outstanding tasks. The recommendations include that PHMSA and FRA should make several changes to the planned portable fire tank testing—including using LNG as the pool fire fuel and not liquefied petroleum gas—and assess the potential for cryogenic damage cascading to adjacent tanks. The report also recommends PHMSA and FRA enhance the modeling for worst-case scenarios—such as using a train speed of 50 miles-per-hour (mph) instead of 40 mph—and evaluate explosion hazards from a spill of LNG resulting in vapor dispersion in an environment with confined or congested spaces. Additionally, the report recommends PHMSA and FRA add loading and unloading operations and train assembly classification to the risk assessment for transport of LNG by rail as compared to highway.

The TRB committee plans to complete its work under Phase II in mid-2022.[20]

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[18] *Id.* at 5–6.
[19] *Id.*
[20] *Id.* at 13.

E. *Executive Order 13990*

Section 2(a) of Executive Order 13990 requires the review of agency regulations and other actions promulgated or adopted between January 20, 2017, and January 20, 2021, that are candidates for suspension, modification, or rescission because of inconsistency with Administration policies to improve public health, protect the environment, prioritize environmental justice, and reduce GHG emissions. The White House identified the LNG by Rail final rule in a non-exclusive list[21] of agency actions that would be reviewed in accordance with Executive Order 13990. Additionally, section 7 of Executive Order 13990 revokes Executive Order 13868, along with several other executive orders and executive actions, and directs agencies to promptly take steps, consistent with applicable law, to rescind any rules or regulations that had been issued "implementing or enforcing" those executive orders and executive actions.

On May 5, 2021, DOT issued a notice soliciting comment on potential candidates for review under Executive Order 13990 from among existing rules and other DOT actions.[22] DOT received one comment pertaining to the LNG by Rail final rule. In that comment, the Transportation Trades Department of the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) called for re-examination of the LNG by Rail final rule because it believes that rulemaking "neglected to include meaningful safety measures to adequately address the inherent risks to this type of operation."[23]

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[21] U.S. White House, "Fact Sheet: List of Agency Actions for Review," https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/20/fact-sheet-list-of-agency-actions-for-review/ (last visited Jun. 16, 2021).
[22] 85 FR 23876.
[23] Docket No. DOT-OST-2021-0036-0025.

III. Basis for Suspension

A. *Development of a More Complete Understanding of the Risks and Benefits Associated with Rail Tank Car Transportation of LNG*

The LNG by Rail rulemaking considered incorporating within the HMR regulatory requirements to protect the public, property, and the environment from unreasonable risks from transportation of LNG in rail tank cars. As such, PHMSA—in consultation with FRA—determined that existing HMR requirements including the modified DOT-113 tank car and new operational requirements prescribed in the LNG by Rail final rule, along with expected compliance with widely-accepted, voluntary industry standards such as AAR Circular OT-55 for shipments of LNG in rail tank cars, would reduce risk to safety, property, and the environment to acceptable levels in light of the potential benefits of that rulemaking.[24] That decision reflected consideration of LNG's hazardous properties and the safety record of the DOT-113 tank car.[25]

However, PHMSA acknowledged in the LNG by Rail final rule that additional further data and knowledge (for example regarding potential benefits as well as safety and environmental risks) could make appropriate further mitigations for shipping LNG by rail tank car.[26] The LNG by Rail final rule, RIA, and FEA were candid about uncertainty in the future market demand for transportation of LNG by rail tank car, potential direct and indirect GHG emissions associated with authorizing LNG by rail tank car, and the adequacy of emergency planning and response resources.[27] PHMSA sought to mitigate potential risks that were affected by those uncertainties by adopting certain

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[24] *See, e.g.*, 85 FR 45003 (discussing reduction in risks from tank car enhancements, mandatory operational controls, and voluntary industry practices) *and* 45024 (discussing potential economic and other benefits from the LNG by Rail final rule).
[25] 85 FR 44998.
[26] *See, e.g.,* 85 FR 44995 ("PHMSA recognizes that there is ongoing and potential future research related to the transportation of LNG by all modes. The Agency will continue to use this research to inform potential future regulatory activity, as appropriate.").
[27] 85 FR 45016 (describing market demand uncertainties) and 45019 – 21 (describing ongoing efforts to improve emergency planning and emergency response training and resources); Docket No. PHMSA-2018-0025-0478 at 35 (discussing uncertainties regarding GHG emissions impacts of that rulemaking).

requirements in the LNG by Rail final rule suggested by comments in the rulemaking docket.[28] PHMSA also stated that it may adjust the HMR's regulatory framework governing rail tank car transportation of LNG as more information became available from its oversight activities.[29] In fact, PHMSA had already begun work within the LNG Task Force on a comprehensive set of tasks directed toward refining PHMSA's knowledge of the risks of rail tank car transportation of LNG when it issued the LNG by Rail final rule. PHMSA also expected that it would have the benefit of the TRB committee's study on LNG by rail that Congress had directed for the express purpose of informing pertinent PHMSA rulemakings. Lastly, PHMSA understood it would have time to amend the HMR to integrate insights from those research activities, as it could take time to build a fleet of dedicated DOT-113C120W9 tank cars, as stated in the RIA.[30]

Uncertainty regarding the potential benefits and safety and environmental risks of rail transportation of LNG under the HMR has persisted longer than PHMSA anticipated when it issued the LNG by Rail final rule, and has in fact increased as a result of the release of the TRB Phase I Report on June 15, 2021. Uncertainty has persisted longer than expected because the COVID-19 public health emergency has delayed the completion of research efforts to confirm and enhance PHMSA and FRA's knowledge of public safety and environmental risks attendant in rail tank car transportation of LNG. As explained in the TRB Phase I Report, several of the tasks that had been scheduled for completion by early 2021 will not be completed before late 2021 or 2022. Delivery of the TRB Phase I Report was expected March 31, 2021, but the report was issued June 15, 2021.

Uncertainty also has increased because, while the TRB committee generally commended PHMSA and FRA's efforts under the LNG Task Force, the TRB committee

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[28] 85 FR 44996.
[29] 85 FR 44995.
[30] Docket No. PHMSA-2018-0025-0479 at 19.

identified a number of information gaps in its and the LNG Task Force's work that PHMSA was not aware of when it issued the LNG by Rail final rule. The gaps concern testing and the evaluation of public safety and environmental risks (e.g., relating to full-scale impact testing, pool fire testing, worst-case analysis, and quantitative risk assessment)—including testing on which PHMSA had relied in the LNG by Rail final rule.[31] The data gaps identified by the TRB committee might have been resolved by this point in time, but they currently remain unresolved because of the disruptions caused by the COVID-19 public health emergency. Further, the committee identified opportunities to improve the work of the LNG Task Force in understanding the risks to the public, workers, and the environment from rail tank car transportation of LNG, which potentially could further reduce uncertainties in the future and put PHMSA in a better position to evaluate risks as it moves forward with its companion rulemaking. The TRB committee also emphasized the need for a robust understanding of the potential risks to public and worker safety arising from releases during loading, unloading, and transloading of LNG tank cars, and improved emergency planning and response training and resources, further underscoring the importance of PHMSA taking additional time to ensure it fully understands and considers uncertainties.

The COVID-19 public health emergency and other developments have also exacerbated uncertainties in near- and long-term market demand for rail transportation of LNG bounding the potential benefits and risks to public safety and the environment from the LNG by Rail final rule. The FEA supporting the LNG by Rail final rule acknowledged the complexity of the economics driving whether demand for natural gas transport outside the pipeline network as LNG would be met through the transportation in tank cars under the LNG by Rail final rule or by alternatives (one or more of highway

[31] *See* 85 FR 45006 (full-scale impact testing), 45012 (pool fire testing), and 45013 (quantitative risk assessment).

transportation of LNG via MC-338 insulated cargo tanks, rail transportation of LNG pursuant to SP, or rail transportation of LNG via portable tank pursuant to FRA approval).[32] The COVID-19 public health emergency has complicated that calculus further by causing economic disruption throughout the natural gas industry, impacting LNG infrastructure investment directly.[33] Additionally, since the LNG by Rail final rule became effective, LNG markets have seen a number of announcements portending potentially fundamental supply and demand changes in international LNG markets.[34] Consequently, PHMSA believes there is more uncertainty now than when the LNG by Rail final rule was issued regarding whether, when, and where rail tank car transport of LNG—and by extension, any potential benefits and public safety/environmental risks—will materialize.

PHMSA believes the increased uncertainty regarding the potential benefits and safety and environmental consequences of rail transportation of LNG pursuant to the LNG by Rail final rule warrants temporary suspension while PHMSA evaluates (under RIN 2137-AF54) whether and under what circumstances the HMR should allow rail transportation of LNG. As explained above, research activity that PHMSA had expected would corroborate its understanding of the safety and environmental risks attendant in rail transportation of LNG has been delayed, while TRB's peer review of testing cited in the LNG by Rail final rule has raised additional questions.[35] Uncertainties in the

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[32] Docket No. PHMSA-2018-0025-0478 at 11, 26-29.
[33] *See, e.g.*, Kravtosova & DiSavinio, Reuters, "LNG Investments Vanish in 2020 as Coronavirus Slashes Oil and Gas Prices," (Sep. 9, 2020), https://www.reuters.com/article/us-lng-exports-investment-analysis/lng-investments-vanish-in-2020-as-coronavirus-slashes-oil-and-gas-prices-idUSKBN2602PY.
[34] *See*, *e.g.*, DiSavinio, Reuters, "For LNG Developers, Another Year of Cancelled Projects" (May 18, 2021), https://www.reuters.com/business/energy/lng-developers-another-year-canceled-projects-2021-05-18/; Shiryaevskaya, Stapczynski & Ratcliffe, Bloomberg, "King of LNG Undercuts Rivals to Keep Dominating World Market" (May 19, 2021), https://www.bloomberg.com/news/articles/2021-05-19/king-of-lng-undercuts-rivals-in-bid-to-dominate-global-market; Stapczynski. Bloomberg, "Global LNG Market Faces Shakeup from Japan's Green Shift" (Jul. 26, 2021), https://www.bloomberg.com/news/articles/2021-07-26/japan-s-green-ambitions-threaten-the-lng-market-it-helped-create.
[35] PHMSA also notes that, even as there is less certainty regarding the potential benefits associated with the LNG by Rail final rule, there is greater scientific certainty that one of those potential benefits would entail significant environmental consequences. Specifically, the LNG by Rail final rule touted the potential for

underlying economic dynamics driving the potential benefits and public safety and environmental risks considered in the LNG by Rail final rule have increased (e.g., the quantity of LNG that will move by rail, the routes involved, and whether new transportation capacity would induce more natural gas extraction). PHMSA believes these increased uncertainties cast doubt on the continued validity of the balance between potential benefits and public safety and environmental risks underpinning the LNG by Rail final rule.

A temporary suspension, however, will give PHMSA and FRA the opportunity to complete a comprehensive evaluation of the benefits and risks of rail tank car transportation of LNG in the companion rulemaking before any LNG moves by rail under the HMR. Although—as explained below—PHMSA and FRA understand that rail tank car transportation of LNG is neither occurring nor expected to occur in the near future, temporary suspension of the LNG by Rail final rule ensures avoidance of potential risks to public and worker safety and the environment from such transportation while that parallel rulemaking proceeds. Suspension would also ensure HMR authorization of rail transportation of LNG reflects the "best science" available,[36] including additional information obtained from the ongoing and delayed research efforts of the LNG Task Force, the forthcoming TRB Phase II Report expected in mid-2022, and continuing developments in scientific understanding of the near-term risks of climate change from

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increased natural gas (methane) production as a potential *benefit* of that rulemaking. *See, e.g.,* 85 FR 44995. However, more recent science has underscored the urgency of limiting such additional production for avoiding the worst consequences from anthropogenic climate change from indirect emissions associated with production and transportation activity. *See*, *e.g.*, "Sixth Assessment Report – Working Group I: Physical Science Basis" at TS-68, 6-11, 6-73 (Aug. 2021), https://www.ipcc.ch/report/ar6/wg1/#FullReport (last visited Aug. 19, 2021) (explaining the urgency of reducing GHG emissions—in particular, short-term contributors such as methane); Intl. Energy Agency, "Net Zero by 2050: A Roadmap for the Global Energy Sector" at 99 (May 2021) (noting the urgency of avoiding new natural gas production fields in order to meet net-zero policy goals).

[36] *See* "Presidential Memorandum on Restoring Trust in Government Through Scientific Integrity and Evidence-Based Policymaking" (Jan. 27, 2021), https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/memorandum-on-restoring-trust-in-government-through-scientific-integrity-and-evidence-based-policymaking/ (requiring Federal agencies to make "evidence-based decisions" informed by the "best available science and data" in their regulatory activity).

enhanced natural gas transportation investments. Suspension would allow consideration of additional public comment, particularly on issues such as public and worker safety, environmental risks, and environmental justice, as well as on any additional testing or other information generated by PHMSA, FRA, and the TRB.

Therefore, PHMSA proposes to add a new special provision 439 prohibiting LNG transportation in rail tank cars until issuance of a final rule concluding the rulemaking proceeding under RIN 2137-AF54, or June 30, 2024, whichever is earlier.

B. *No Material Adverse Impact on Reliance Interests*

PHMSA does not expect temporary suspension of transporting LNG by rail tank car will have a material adverse impact on serious reliance interests. Despite issuance of the LNG by Rail final rule in July 2020, LNG has not been transported in rail tank cars, and PHMSA is unaware of any planned movements in the near future. The development of the necessary infrastructure—in particular, construction of DOT-113C120W9 tank cars—to transport LNG by rail under the HMR demands significant financial investment, long-term commitment, and considerable planning. The DOT-113C120W9 tank car was introduced for LNG transport and would be impractical for use with other hazardous materials because another, more feasible specification (i.e., DOT-113C120W) is already available for other Class 2 cryogenic flammable liquids that are authorized to be transported by rail. Therefore, a dedicated LNG tank car fleet would need to be built, and there may be construction delays because of limited capacity in the rail car manufacturing industry. At this time, PHMSA is unaware of any orders having been placed for manufacture of new DOT-113C120W9 tank cars.

Nor are PHMSA and FRA aware of near-term plans to transport LNG in existing DOT-113 rail tank cards under DOT-SP 20534. ETS, the holder of DOT-SP 20534, is a

subsidiary of New Fortress Energy Inc. (NFE) according to documents filed with the U.S. Securities and Exchange Commission (SEC). NFE develops and operates energy infrastructure, including LNG terminals, power generation facilities, and natural gas logistics infrastructure, and provides supply and logistics services to customers both domestically and internationally. NFE noted in its Q2-2021 Form 10-Q: Quarterly Report filed in August with the SEC that it has not yet issued a final notice to proceed to its engineering, procurement, and construction contractors for its liquefaction facility in Wyalusing, PA—an origination-point for the route authorized by PHMSA in DOT-SP 20534.[37] Further, noting the volatility of the current LNG market, NFE admits "there can be no assurances that [it] will complete the Pennsylvania Facility or be able to supply [its] Facilities with LNG produced at [its] own Liquefaction Facilities." PHMSA also understands that NFE's Wyalusing, PA, facility is the subject of a pending, contested petition for Declaratory Order filed with the Federal Energy Regulatory Commission (FERC) that may determine whether that facility requires a FERC certificate before operating as an LNG export terminal.[38]

Nevertheless, while PHMSA does not expect the transport of LNG by rail tank car in the near future for the reasons discussed above, shippers may continue to seek authorization to transport LNG by rail in rail tank cars pursuant to a DOT SP issued by PHMSA or in portable tanks subject to an approval by FRA. PHMSA's SP procedures thoroughly explain the information applicants must include in their application and PHMSA's process, which includes public docketing, an opportunity for public comment, and an explanation for why an application is granted or denied.[39] The procedures also

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[37] New Fortress Energy Inc. 10-Q Quarterly Report for Quarter Ending June 30, 2021, (Aug. 6, 2021), https://sec.report/Document/0001140361-21-027401/. PHMSA also notes that ETS is required by ¶12 of DOT-SP 20534 to provide periodic reports on the status of efforts to manufacture and deliver tank cars intended for use pursuant to that SP.

[38] *See* FERC Docket No. CP20-524 (in re Petition for Declaratory Order of Bradford County Real Estate Partners LLC). Should FERC declare that an export facility certificate is needed, it could take an additional two years (or longer) to obtain that certificate from FERC.

[39] 49 CFR part 107, subpart B.

include an opportunity for reconsideration and an appeal process, after which a decision is the final administrative action.[40] FRA's approval process has similar procedures. Indeed, FRA recently received a petition from Alaska Railroad Corporation to extend an FRA approval to ship LNG by rail in portable tanks. In response to the requested extension, FRA published a notice of conditional approval and initiated a 60-day comment period ending on August 23, 2021, to ensure that FRA had opportunity to consider any additional views or information that stakeholders provided.[41] As PHMSA is unaware of any potential near-term movement of LNG by rail tank cars and any potential shippers could avail themselves of the SP (for the potential transportation of LNG by rail tank car) or FRA approval processes (for the potential transportation of LNG by portable tank on rail cars), PHMSA expects the proposed suspension of LNG by rail transportation to have a minimal economic impact. For more information, see discussion of the cost analysis in accordance with Executive Order 12866 ("Regulatory Planning and Review").[42]

However, PHMSA solicits comment from stakeholders on potential economic, public safety, and environmental benefits and adverse impacts of the proposed rulemaking. PHMSA also solicits comments on the length of its proposed suspension period and whether PHMSA should modify its proposed expiration date. PHMSA notes that it selected the proposed date (June 30, 2024) for expiration of the temporary suspension to give PHMSA adequate time to incorporate the results of the forthcoming TRB Phase II Report—expected in mid-2022—within its companion rulemaking under RIN 2137-AF54.

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[40] 49 CFR part 107, subpart B.
[41] FRA, "Notice of Conditional Approval," 86 FR 33472 (Jun. 24, 2021).
[42] 58 FR 51735 (Oct. 4, 1993).

IV. Regulatory Analyses and Notices

A. *Statutory/Legal Authority*

This NPRM is published under the authority of the Federal Hazardous Materials Transportation Act (HMTA; 49 U.S.C. 5101–5127). Section 5103(b) of the HMTA authorizes the Secretary of Transportation to "prescribe regulations for the safe transportation, including security, of hazardous materials in intrastate, interstate, and foreign commerce." The Secretary has delegated the authority granted in the HMTA to the PHMSA Administrator at 49 CFR 1.97(b).

B. *Executive Order 12866 and DOT Regulatory Policies and Procedures*

Executive Order 12866 ("Regulatory Planning and Review")[43] requires that "agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating." Agencies should consider quantifiable measures and qualitative measures of costs and benefits that are difficult to quantify. Further, Executive Order 12866 requires that "agencies should select those [regulatory] approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach." Similarly, DOT Order 2100.6A ("Rulemaking and Guidance Procedures") requires that regulations issued by PHMSA and other DOT Operating Administrations should consider an assessment of the potential benefits, costs, and other important impacts of the proposed action and should quantify (to the extent practicable) the benefits, costs, and any significant distributional impacts, including any environmental impacts.

Executive Order 12866 and DOT Order 2100.6A require that PHMSA submit "significant regulatory actions" to the Office of Management and Budget (OMB) for

[43] Ibid.

review. This rulemaking is considered a significant regulatory action under section 3(f)(4) of Executive Order 12866 because the temporary suspension of the LNG by Rail final rule could raise novel legal or policy issues. This NPRM has, therefore, been reviewed by OMB.

As discussed at greater length above, PHMSA does not expect that the proposed temporary suspension of the amendments adopted in the LNG by Rail final rule will have material, adverse impacts. Should the proposed rule be adopted such that HMR authorization to move LNG by rail tank car is temporarily suspended, no LNG could move under the HMR in a rail tank car until PHMSA completes its companion rulemaking under RIN 2137-AF54, or June 30, 2024, whichever is earlier. Notwithstanding the considerable uncertainties regarding the market demand for rail tank car transportation of LNG, PHMSA expects little or no LNG transportation by rail tank car would have moved during the proposed suspension period for the reasons explained above; therefore, PHMSA expects little or no direct economic impact of a temporary suspension. Indeed, PHMSA's temporary suspension may in fact reduce economic burden by discouraging a shipper from ordering rail tank cars compliant with the LNG by Rail final rule when the companion rulemaking (under RIN 2137-AF54) may adopt different requirements. Additionally, should any potential shippers need to transport LNG by rail tank car during the suspension period, they could avail themselves of the PHMSA SP or FRA approval processes for such transport. Further, as explained below, temporary suspension guarantees avoidance of potential adverse public safety and environmental impacts (including, but not limited to, contribution of direct and indirect GHG emissions) that could have arisen from rail tank car transportation of LNG under the HMR. Lastly, PHMSA notes that the limited duration of its proposed suspension would also mitigate any adverse economic, public safety, or environmental impacts that could arise.

PHMSA acknowledges that, in the (unlikely) event demand for rail tank car transportation under the LNG by Rail final rule would materialize during the suspension period in the absence of this rule, the proposed temporary suspension could result in procedural or compliance costs, lost business opportunities, and safety and environmental risks. Obtaining and complying with the conditions imposed within PHMSA-issued DOT SPs and FRA approvals authorizing rail transportation of LNG would incur costs due to regulatory uncertainty, as well as delay and compliance burdens. Each of those consequences would entail higher procedural or compliance costs, which could in turn result in lost business opportunities, or at minimum, diminish the business benefits of rail transportation of LNG.[44] Further, the DOT SP and FRA approval alternatives would entail unique public safety and environmental risks, which are a function of the conditions imposed by each of PHMSA and FRA in each authorization.

Alternatively, the unavailability of HMR authorization for rail tank car transportation of LNG could prompt shipping LNG by highway via MC-338 insulated cargo tanks. This alternative may involve higher costs than rail transportation, as each MC-338 cargo tank (which has approximately half the capacity of a DOT-113 tank car) would have to be shipped individually, likely forfeiting the economies of scale from rail transportation via tank car (under the LNG by Rail final rule or a DOT SP) or ISO tank (under an FRA approval). For this reason, PHMSA does not expect shippers to opt for LNG transportation via MC-338 cargo tank as a substitute for rail tank car transportation pursuant to the LNG by Rail final rule. To the extent that transportation via MC-338 cargo tank does occur, it would entail different environmental risks (including, but not limited to, greater risk of accidents and more direct GHG emissions than rail

[44] *See, e.g.*, Docket No. PHMSA-2018-0025-00478 at 5, 30 (noting that the grantee of DOT-SP 20534 has indicated that it was unlikely to employ ISO tanks for rail transportation of LNG because of the high costs of that approach) *and* 35 (noting the potential for LNG by Rail final rule to create new business opportunities).

transportation of the same volume of LNG) than the transportation of LNG by rail tank car.[45]

Therefore, PHMSA expects that, in the event that the proposed suspension of the LNG by Rail final rule has any adverse economic impact, it would consist largely of lost business opportunities as a result of higher procedural or compliance costs and lower economies of scale from alternatives to rail transportation under the LNG by Rail final rule. Any such adverse economic impacts are expected to be unlikely and time-limited. Further, any lost business opportunities could be offset by avoided safety and environmental risks if the suspension reduces the transportation of LNG (i.e., if it prevents transportation or production of LNG that would otherwise occur).

Because temporary suspension of the LNG by Rail final rule entails limited risk of adverse economic impact even as it guarantees avoidance of potential public safety and environmental impacts (including significant environmental risks such as indirect GHG emission contributions to climate change), PHMSA submits the proposed HMR amendments herein. PHMSA solicits comment from stakeholders on potential impacts of the proposed rulemaking.

C. *Executive Order 13132*

PHMSA analyzed this rulemaking in accordance with the principles and criteria contained in Executive Order 13132 ("Federalism")[46] and its implementing Presidential Memorandum ("Preemption").[47] Executive Order 13132 requires agencies to assure meaningful and timely input by State and local officials in the development of regulatory policies that may have "substantial direct effects on the states, on the relationship

[45] *Id.* at 33–34, 56 (discussing higher direct GHG emissions from highway transportation) *and* 37–38 (discussing higher risk of crashes from highway transportation).
[46] 64 FR 43255 (Aug. 10, 1999).
[47] 74 FR 24693 (May 22, 2009).

between the national government and the states, or on the distribution of power and responsibilities among the various levels of government."

This rulemaking may preempt State, local, and Native American Tribe requirements, but does not propose any regulation that has substantial direct effects on the States, the relationship between the national government and the States, or the distribution of power and responsibilities among the various levels of government.

The Federal hazmat law contains an express preemption provision at 49 U.S.C.5125(b) that preempts State, local, and Tribal requirements on certain covered subjects, unless the non-federal requirements are "substantively the same" as the Federal requirements, including the following:

(1) the designation, description, and classification of hazardous material;

(2) the packing, repacking, handling, labeling, marking, and placarding of hazardous material;

(3) the preparation, execution, and use of shipping documents related to hazardous material and requirements related to the number, contents, and placement of those documents;

(4) the written notification, recording, and reporting of the unintentional release in transportation of hazardous material; and

(5) the design, manufacture, fabrication, inspection, marking, maintenance, recondition, repair, or testing of a packaging or container represented, marked, certified, or sold as qualified for use in transporting hazardous material in commerce.

This rule addresses subject items (2) and (5) above, which are covered subjects, and therefore, non-federal requirements that fail to meet the "substantively the same" standard are vulnerable to preemption under the Federal hazmat law. Moreover, PHMSA will continue to make preemption determinations applicable to specific non-federal

requirements on a case-by-case basis, using the obstacle, dual compliance, and covered subjects tests provided in Federal hazmat law.

This rule also incorporates certain FRA requirements under the former Federal Railroad Safety Act of 1970, as repealed, revised, reenacted, and recodified (FRSA; 49 U.S.C. 20106), and the former Safety Appliance Acts, as repealed, revised, reenacted, and recodified (SAA; 49 U.S.C. 20301–20302, 20306) that may potentially preempt certain State requirements. Such FRSA and SAA requirements would apply to certain operators and offerors of LNG by Rail tank cars, including operational requirements for distributed power or two-way end-of-train (EOT) power braking systems.

D. *Executive Order 13175*

PHMSA analyzed this rulemaking in accordance with the principles and criteria contained in Executive Order 13175 and DOT Order 5301.1 ("Department of Transportation Policies, Programs, and Procedures Affecting American Indians, Alaska Natives, and Tribes"). Executive Order 13175 and DOT Order 5301.1 require DOT Operating Administrations to assure meaningful and timely input from Native American Tribal government representatives in the development of rules that significantly or uniquely affect tribal communities by imposing "substantial direct compliance costs" or "substantial direct effects" on such communities or the relationship and distribution of power between the Federal government and Native American Tribes.

In addition to the petitions filed by the environmental groups and State attorneys general mentioned above, the Puyallup Tribe also challenged the LNG by Rail final rule and alleged violations of the Tribal consultation protocols under the National Historic Preservation Act and Executive Order 13175 and disparate impacts on the Tribe in violation of Executive Order 12898 and Title VI of the Civil Rights Act of 1964.

PHMSA assessed the impact of this rulemaking and expects that it will not significantly or uniquely affect Tribal communities or Native American Tribal governments. This rulemaking does not impose substantial compliance costs on Native American Tribal governments, nor does it mandate Tribal action. Insofar as PHMSA expects the rulemaking would not adversely affect the safe transportation of hazardous materials generally, PHMSA does not expect it would entail disproportionately high adverse risks for Tribal communities. PHMSA submits that the proposed rulemaking could in fact reduce risks to Tribal communities, as it could avoid the release of hazardous materials by railroad in the vicinity of Tribal communities. For these reasons, PHMSA does not expect the funding and consultation requirements of Executive Order 13175 and DOT Order 5301.1 to apply. However, PHMSA solicits comment from Native American Tribal governments and communities on potential impacts of the proposed rulemaking.

E. *Regulatory Flexibility Act and Executive Order 13272*

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires agencies to consider whether a rulemaking would have a "significant economic impact on a substantial number of small entities" to include small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations under 50,000. The Regulatory Flexibility Act directs agencies to establish exceptions and differing compliance standards for small businesses, where possible to do so and still meet the objectives of applicable regulatory statutes. Executive Order 13272 ("Proper Consideration of Small Entities in Agency Rulemaking")[48] requires agencies to establish procedures and policies to promote compliance with the Regulatory Flexibility Act and to "thoroughly review

[48] 67 FR 53461 (Aug. 16, 2002).

draft rules to assess and take appropriate account of the potential impact" of the rules on small businesses, governmental jurisdictions, and small organizations. The DOT posts its implementing guidance on a dedicated webpage.[49]

This rulemaking has been developed in accordance with Executive Order 13272 and DOT's procedures and policies to promote compliance with the Regulatory Flexibility Act to ensure that potential impacts of draft rules on small entities are properly considered. As explained above, PHMSA expects that the temporary suspension of the LNG by Rail final rule proposed herein will not have a significant economic impact generally, much less a significant economic impact on a substantial number of small entities. However, PHMSA solicits comments on the anticipated economic impacts to small entities.

F. *Paperwork Reduction Act*

Under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq*.), no person is required to respond to any information collection unless it has been approved by OMB and displays a valid OMB control number. Pursuant to 44 U.S.C. 3506(c)(2)(B) and 5 CFR 1320.8(d), PHMSA must provide interested members of the public and affected agencies an opportunity to comment on information collection and recordkeeping requests.

PHMSA has analyzed this NPRM in accordance with the Paperwork Reduction Act. PHMSA currently accounts for security plan burdens under OMB Control Number 2137-0612, "Hazardous Materials Security Plans." In the LNG by Rail final rule, PHMSA required any rail carrier transporting a tank car quantity of UN1972 (Methane, refrigerated liquid (cryogenic liquid) or Natural gas, refrigerated liquid (cryogenic

[49] DOT, "Rulemaking Requirements Related to Small Entities," https://www.transportation.gov/regulations/rulemaking-requirements-concerning-small-entities (last visited Jun. 17, 2021).

liquid)) to comply with the additional rail transportation safety and security planning requirements. Following publication of the LNG by Rail final rule, PHMSA published both a 60-day[50] and 30-day[51] notice and comment to provide an opportunity for public comment on the estimated increase in burden. PHMSA did not receive comments to either notice. Subsequently, PHMSA submitted the revision to OMB and received approval for the increased burden. As PHMSA proposes a temporary suspension of the authorization to ship LNG by rail tank car, as was codified in the LNG by Rail final rule, PHMSA estimates this rulemaking would result in a decrease in the burden associated with additional rail transportation safety and security planning requirements. The following reflects this estimated decrease in burden:

Decrease in Primary Route Analysis	Change in Number of Railroads	Decrease in Number of Routes	Burden Hours per Route	Decrease in Total Burden Hours	Salary Cost per Hour[52]	Decrease in Total Salary Cost	Decrease in Total Burden Cost
Class I Railroads	0	(2)	80	(160)	$73.98	($11,837)	$0
Class II Railroads	0	(1)	80	(80)	$73.98	($5,919)	$0
Class III Railroads	0	(1)	40	(40)	$73.98	($2,959)	$0
Total	0	(4)		(280)		($20,715)	$0

Decrease in Alternate Route Analysis	Change in Number of Railroads	Decrease in Number of Routes	Burden Hours per Route	Decrease in Total Burden Hours	Salary Cost per Hour[53]	Decrease in Total Salary Cost	Decrease in Total Burden Cost
Class I Railroads	0	(2)	120	(240)	$73.98	($17,756)	$0
Class II Railroads	0	(1)	120	(120)	$73.98	($8,878)	$0
Class III Railroads	0	(1)	40	(40)	$73.98	($2,959)	$0
Total	0	(4)		(280)		($29,593)	$0

[50] 85 FR 46220 (Jul. 31, 2020).
[51] 85 FR 73128 (Nov. 16, 2020).
[52] Occupation labor rates based on 2020 Occupational and Employment Statistics Survey (OES) for "Transportation, Storage, and Distribution Managers (11-3071)" in the Transportation and Warehousing industry. *See* https://www.bls.gov/oes/current/oes113071.htm. The hourly mean wage for this occupation ($50.53) is adjusted to reflect the total costs of employee compensation based on the BLS Employer Costs for Employee Compensation Summary, which indicates that wages for civilian workers are 68.3 percent of total compensation (total wage = wage rate/wage % of total compensation).
[53] Ibid.

Total Annual Decrease in Number of Respondents: 0.

Total Annual Decrease in Number of Response: 8.

Total Annual Decrease in Burden Hours: 680.

Total Annual Decrease in Salary Costs: $50,308.

Total Annual Decrease in Burden Costs: $0.

PHMSA requests comments on the information collection and recordkeeping burden that would be reduced by the temporary suspension of the LNG by Rail final rule. Address written comments to the DOT Docket Operations Office as identified in the ADDRESSES section of this rulemaking. Comments regarding information collection burdens must be received prior to the close of the comment period identified in the DATES section of this rulemaking. Requests for a copy of this information collection should be directed to Steven Andrews or Shelby Geller, (202) 366-8553, ohmspra@dot.gov, Standards and Rulemaking Division (PHH-10), Pipeline and Hazardous Materials Safety Administration, 1200 New Jersey Avenue SE, Washington, DC 20590-0001. If these proposed HMR amendments are adopted in a final rule, PHMSA will submit the revised information collection and recordkeeping requirements to OMB for approval.

G. *Unfunded Mandates Reform Act of 1995*

The Unfunded Mandates Reform Act of 1995 (UMRA; 2 U.S.C. 1501 *et seq.*) requires agencies to assess the effects of Federal regulatory actions on State, local, and Tribal governments, and the private sector. For any NPRM or final rule that includes a Federal mandate that may result in the expenditure by State, local, and Tribal governments, or by the private sector of $100 million or more in 1996 dollars in any given year, the agency must prepare, amongst other things, a written statement that qualitatively and quantitatively assesses the costs and benefits of the Federal mandate.

This proposed rulemaking does not impose unfunded mandates under the UMRA. As explained above, it is not expected to result in costs of $100 million or more in 1996 dollars on either State, local, or Tribal governments, in the aggregate, or to the private sector in any one year, and is the least burdensome alternative that achieves the objective of the rule.

H. *Environmental Assessment*

The National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*), requires that Federal agencies analyze proposed actions to determine whether the action will have a significant impact on the human environment. CEQ implementing regulations (40 CFR parts 1500–1508) require Federal agencies to conduct an environmental review considering (1) the need for the action, (2) alternatives to the action, (3) probable environmental impacts of the action and alternatives, and (4) the agencies and persons consulted during the consideration process. DOT Order 5610.1C ("Procedures for Considering Environmental Impacts") establishes DOT procedures for evaluation of environmental impacts under NEPA and its implementing regulations.

(1) The Need for the Action

PHMSA has determined that the recommendations from the TRB committee, its ongoing research, and recent events stemming from the COVID-19 public health emergency predicate the need to re-evaluate the amendments authorized in the LNG by Rail final rule. Research activity that PHMSA had expected would enhance its understanding of the risks attendant in rail transportation of LNG has been delayed, and uncertainties have increased in whether there will be any potential benefits, and in the underlying economic dynamics bounding those risks (e.g., the quantity of LNG that will move by rail, and the routes involved). Therefore, PHMSA proposes to amend the HMR to suspend authorization of LNG transportation in a rail tank car pending further analysis

and completion of a companion rulemaking that will consider changes to the conditions under which LNG could be moved by rail, to potentially include additional safety, environmental, and environmental justice protections. This action will provide PHMSA an opportunity to review recent actions that could be obstacles to Administration policies promoting public health and safety, the environment, and climate change mitigation; and to evaluate the results of ongoing and delayed research efforts to ensure the safe transportation of LNG by rail tank car.

(2) Alternatives to the Action

In proposing this rulemaking, PHMSA is considering the following alternatives:

No Action Alternative

If PHMSA were to select the No Action Alternative, current regulations authorizing the transport of LNG in rail tank cars would remain in effect and no provisions would be amended or added. Therefore, the HMR would continue to authorize the transportation of LNG in DOT-113C120W9 tank cars with a 9/16-inch outer tank composed of TC-128B normalized steel. The following operational controls and safety measures would also remain in effect:

- Each tank car must be operated in accordance with § 173.319, which includes:
    - testing of relief valves every 5 years
    - annual replacement of rupture discs
    - thermal integrity tests following an average daily pressure rise during any shipment exceeding 3 psig per day
    - other requirements specific to liquids in cryogenic tank cars.
- 49 CFR part 179, subpart F contains detailed design, construction, and operational requirements for DOT-113C120W tank cars with the specification suffix “9” to be used in rail transportation of LNG.
- Trains transporting 20 or more tank cars of LNG in a block, or 35 such tank cars

throughout the train, must be equipped and operated with a two-way EOT device, pursuant to the requirements in 49 CFR part 232, subpart E, or a distributed-power (DP) locomotive as defined in 49 CFR 229.5.

- The offeror must remotely monitor each tank car while in transportation for pressure and location.
- The offeror must notify the carrier if the tank pressure rise exceeds 3 psig over any 24-hour period.
- Trains transporting any quantity of LNG must comply with the route planning requirements in § 172.820, which requires rail carriers transporting LNG by rail tank car to conduct an annual route analysis considering, at a minimum, 27 risk factors listed in appendix D to part 172.
- Each LNG tank car must have:
    - a reclosing pressure relief device with a start-to-discharge pressure of 75 psig;
    - a non-reclosing pressure relief device set to discharge at the tank test pressure;
    - a maximum permitted filling density (percent by weight) of 37.3 percent;
    - a design service temperature of -162 °C (-260 °F);
    - a maximum pressure when offered for transportation not to exceed 15 psig;
    - a minimum steel thickness, after forming, on the outer tank shell and tank heads of 9/16 inch, which is thicker than the requirement for other DOT-113C120W tank cars; and
    - an outer tank shell constructed of AAR TC-128, Grade B normalized steel plate as specified in § 179.100-7(a), which has a higher tensile strength of 81,000 psi which makes it stronger than that used for the existing DOT-

113 outer shell.

The FEA, which—except for the finding of no significant impact therein—is adopted by reference into this NPRM, examined how the above requirements were imposed to reduce risks to human safety and the environment from the transportation of LNG in rail tank cars and incidents occurring as a result of this transportation.[54] The No Action Alternative would allow the shipment of LNG in rail tank cars, and PHMSA could continue to consider whether additional mitigations are necessary based on the expert recommendations from the TRB Phase I Report and results from ongoing and delayed research efforts.

Proposed Action Alternative

This alternative is the current proposal as it appears in this NPRM, proposing to add a new special provision to the HMR that would suspend the transportation of LNG in rail tank cars while PHMSA undergoes a comprehensive review to ensure the safe transportation of LNG by rail in accordance with ongoing research and incorporation of recommendations from the TRB, as well as the best available economic analysis and climate science. Rail transport of LNG would be permitted only on an *ad hoc* basis as authorized by the conditions of a PHMSA special permit (49 CFR 107.105) or in a portable tank secured to a rail car pursuant to the conditions of an FRA approval (49 CFR 174.63). The proposed amendments included in this alternative are more fully discussed in the preamble and regulatory text sections of this NPRM.

(3) Probable Environmental Impacts of the Action and Alternatives

No Action Alternative

If PHMSA were to select the No Action Alternative, current regulations would remain in place without suspension. As described in the FEA, the No Action Alternative could pose risks to public safety and the environment because the authorization under the

[54] *See* Docket No. PHMSA-2018-0025-0478.

HMR to offer shipments of LNG by rail tank car would remain in place. LNG poses potential hazards as a cryogenic liquefied flammable gas, including cryogenic temperature exposure, fire, and asphyxiation hazards. Transportation of any hazardous material introduces risk to safety and the environment, and each additional tank car theoretically increases the overall risk of an incident occurring and the quantity that could be released in the event of a derailment. While this is true for all hazardous materials transportation, PHMSA seeks to better understand the risks inherent to LNG transportation in the DOT-113C120W9, especially given the LNG by Rail final rule authorized large quantities to be transported at some point in the future. The 2020 FEA explained that transporting LNG in rail tank cars is expected to be safer than transporting LNG by truck on highways—however, it is possible that allowing LNG to be transported in rail tank cars would increase the amount of LNG transported, and therefore a direct comparison of the risks by rail and highway may be misleading. PHMSA will also consider, based on existing rail infrastructure locations and anticipated routes, whether transportation of LNG in rail tank cars could pose disproportionate harm or risk to communities of color or low-income communities. As described in the preamble to this proposed rule, various market and other uncertainties exist regarding specific routes that may be used for the transport of LNG by rail tank car.

No release of LNG vapor to the environment is allowed during the normal transportation of LNG in tank cars whether by roadway or railway. However, methane is odorless, and LNG contains no odorant, making detection of a release resulting from an incident difficult without a detection device. Releases of LNG due to venting or to accidents, without immediate ignition, involving either an MC-338 cargo tank, a portable tank, or a DOT-113C120W9 rail tank car have the potential to create flammable vapor clouds of natural gas because recently gasified LNG does not dissipate in the atmosphere as quickly as ambient-temperature natural gas. Large releases of LNG due to the breach

of the inner tank of these transport vessels could result in a pool fire, vapor fire, and explosion hazards if methane vapors become confined. These flammability hazards pose a risk of higher potential impacts than localized cryogenic hazards.

Some commenters to the LNG by Rail final rule argued that the authorization of LNG by rail would further incentivize the production of natural gas, which is a fossil fuel. Methane has much greater heat trapping potential in the atmosphere than carbon dioxide in the short term. Thus, methane is considered a potent GHG, and comprises a significant portion of the United States' GHG emissions. While methane leaks are highly unlikely during transportation in the DOT-113C120W9 due to tank car design, increased natural gas production could lead to indirect environmental impacts of increased methane emissions released during production, loading and unloading, or at other times during its life cycle. In considering whether the authorization could further incentivize the production of natural gas, PHMSA will consider the scope of existing natural gas production and transportation via natural gas pipeline and other modes of transportation.

The FEA for the LNG by Rail final rule discussed potential environmental benefits that could be associated with the authorization to transport LNG by rail tank car. First, PHMSA discussed that the authorization could allow for the delivery of natural gas to locations dependent on more polluting energy forms, such as coal, diesel, heating oil, or firewood.[55] Use of natural gas in such areas, whether foreign or domestic, could allow for a reduction in polluting and climate-warming emissions. Additionally, the authorization to transport LNG by rail tank car could potentially replace some shipments of LNG by highway. As discussed in the FEA for the LNG by Rail rule, highway

[55] *See, e.g.,* EPA, Press Release, "State of Alaska and Fairbanks North Star Borough receive $14.7 Million EPA grant to improve air quality," (Nov. 2020), https://www.epa.gov/newsreleases/state-alaska-and-fairbanks-north-star-borough-receive-147-million-epa-grant-improve-air ("The Borough will use the grant funds to continue a woodstove changeout and conversion program focused on converting more wood burning appliances to cleaner burning liquid or gas-fueled heating appliances, which have a very low output of particulate pollution and higher fuel efficiency. Wood smoke contributes up to 60 to 80 percent of fine particle pollution levels measured in the Fairbanks North Star Borough.").

transportation is less efficient in comparison to rail transportation when considering fuel use, combustion emissions, and climate change impacts. However, in order to supplement, reduce, or replace highway transportation, rail infrastructure would need to exist between the origin and destination locations or be developed. Finally, the FEA explored industry claims that the authorization could incentivize the capture, storage, and liquefaction of natural gas over venting and flaring of natural gas during oil production and other industrial activities, in areas where natural gas pipeline capacity is unavailable. Facilitating the productive end use of by-product methane could reduce the venting and flaring of natural gas, which causes methane and carbon dioxide emissions. Similar to other above-described benefits, it is difficult to predict the extent to which industries would invest in the equipment, technology, and expertise necessary to pursue natural gas capture, storage, and liquefaction necessary to pursue LNG transportation by rail. A suspension of the authorization to transport LNG by rail could curtail these potential benefits in the near term.

Proposed Action Alternative

Under the Proposed Action Alternative, PHMSA would amend the HMR to suspend authorization of LNG transportation in rail tank cars pending further analysis and completion of a companion rulemaking or June 30, 2024, whichever is earlier. Therefore, the HMR would not authorize shippers to transport bulk quantities of LNG by rail tank car. Instead, LNG by rail would only be permitted pursuant to a DOT SP or in portable tanks subject to FRA approval. The Proposed Action Alternative would avoid the risks that transportation of LNG in rail tank cars, and particularly potential derailments of rail cars transporting LNG, could pose to public safety and the environment. PHMSA would be able to further consider whether the transportation of LNG could pose disproportionate harm or risk to communities of color and communities with low incomes, which have historically borne the brunt of deleterious Federal policy decisions. PHMSA would also

be able to further consider whether shipping LNG in rail tank cars is consistent with public health and safety, environmental protection, and climate change mitigation; and to evaluate the results of ongoing and delayed research efforts and collaboration as part of an accompanying rulemaking under RIN 2137-AF54.

However, as noted in the FEA for the LNG by Rail final rule, the use of MC-338 cargo tanks and portable tanks for LNG could increase over time if rail transport in tank cars were not authorized. Thus, shippers could have to rely on less efficient transportation mechanisms in the interim, as highway transportation requires more vehicles to move the same amount of material as rail transportation—if this occurs, the potential environmental benefits that could result from the transportation of bulk quantities of LNG by rail car discussed above would not be realized in the short term. However, as explained above, PHMSA does not expect that significant quantities of LNG would be shipped in rail tank cars during the suspension period. Further, the loss of economies of scale associated with transport of LNG by rail tank car could inhibit switching to MC-338 cargo tanks.

(4) Agencies and Persons Consulted During the Consideration Process

PHMSA has coordinated with FRA, the Federal Aviation Administration, the Federal Motor Carrier Safety Administration, and the U.S. Coast Guard in the development of this proposed rule. The NPRM has also been made available to other Federal agencies within the interagency review process contemplated under Executive Order 12866. PHMSA solicits, and will consider, comments on the NPRM's potential impacts on safety and the environment submitted by members of the public, State and local governments, Tribal communities, and industry.

(5) Proposed Finding of No Significant Impact

The adoption of the Proposed Action Alternative's proposed suspension would prohibit the transportation of LNG in rail tank cars while PHMSA and FRA undertake a

comprehensive analysis of safety and environmental issues associated with the transportation of LNG by rail. As such, PHMSA expects that the HMR amendments in the NPRM would have no significant impact on the human environment. PHMSA expects that the Proposed Action Alternative would allow PHMSA to review new information to evaluate the potential impact on safety, environmental justice, and GHG emissions. Further, based on PHMSA's analysis of these provisions described above and insofar as there has been no significant progress toward the movement of LNG by rail tank car, PHMSA proposes to find that codification and implementation of the proposed rule would not result in a significant impact to the human environment.

PHMSA welcomes any views, data, or information related to environmental impacts that may result from NPRM's proposed requirements, the No Action Alternative, and other viable alternatives and their environmental impacts.

I. *Executive Order 12898*

Executive Orders 12898 ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"),[56] 13985 ("Advancing Racial Equity and Support for Underserved Communities Through the Federal Government"),[57] 13990 ("Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis"),[58] 14008 ("Tackling the Climate Crisis at Home and Abroad"),[59] and DOT Order 5610.2C ("Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations") require DOT agencies to achieve environmental justice as part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects,

[56] 59 FR 7629 (Feb. 16, 1994).
[57] 86 FR 7009 (Jan. 25, 2021).
[58] 86 FR 7037 (Jan. 25, 2021).
[59] 86 FR 7619 (Feb. 1, 2021).

including interrelated social and economic effects of their programs, policies, and activities on minority populations, low-income populations, and other underserved and disadvantaged communities.

PHMSA has evaluated this proposed rule under the above Executive Orders and DOT Order 5610.2C, and expects it would not cause disproportionately high and adverse human health and environmental effects on minority, low-income, underserved, and other disadvantaged populations and communities. The rulemaking is facially neutral and national in scope; it is neither directed toward a particular population, region, or community, nor is it expected to adversely impact any particular population, region, or community. And insofar as PHMSA expects the rulemaking would not adversely affect the safe transportation of hazardous materials generally, PHMSA does not expect the proposed revisions would entail disproportionately high adverse risks for minority populations, low-income populations, or other underserved and disadvantaged communities.

The proposed rulemaking could reduce risks to minority populations, low-income populations, or other underserved and disadvantaged communities. Insofar as the proposed HMR amendments could avoid the release of hazardous materials, the proposed rule could reduce risks to populations and communities—including any minority, low-income, underserved, and disadvantaged populations and communities—in the vicinity of railroad lines. However, as noted in the FEA for the LNG by Rail final rule, access to LNG may result in potential economic benefits for underserved communities because of the efficiencies of transporting LNG by rail, and thereby domestic production, distribution, and consumption of natural gas could increase. These potential economic benefits that could result from the transportation of bulk quantities of LNG by rail car would not be realized by underserved communities in the short term. In addition, to the extent that suspending shipment of LNG by rail tank car could increase demand for

shipping LNG by truck on highways, the proposed HMR amendments could increase risks to environmental justice communities in the vicinity of those highways.

PHMSA solicits comment on potential impacts to minority, low-income, underserved, and other disadvantaged populations and communities of the proposed rulemaking.

J. *Privacy Act*

In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to better inform its rulemaking process. DOT posts these comments, without edit, including any personal information the commenter provides, to http://www.regulations.gov, as described in the system of records notice (DOT/ALL–14 FDMS), which can be reviewed at http://www.dot.gov/privacy. DOT's complete Privacy Act Statement in the *Federal Register* published on April 11, 2000,[60] or on DOT's website at http://www.dot.gov/privacy.

K. *Executive Order 13609 and International Trade Analysis*

Executive Order 13609 ("Promoting International Regulatory Cooperation")[61] requires that agencies must consider whether the impacts associated with significant variations between domestic and international regulatory approaches are unnecessary or may impair the ability of American business to export and compete internationally. In meeting shared challenges involving health, safety, labor, security, environmental, and other issues, international regulatory cooperation can identify approaches that are at least as protective as those that are or would be adopted in the absence of such cooperation.

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[60] 65 FR 19475 (Apr. 11, 2000).
[61] 77 FR 26413 (May 4, 2012).

International regulatory cooperation can also reduce, eliminate, or prevent unnecessary differences in regulatory requirements.

Similarly, the Trade Agreements Act of 1979 (Pub. L. 96-39), as amended by the Uruguay Round Agreements Act (Pub. L. 103-465), prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to the Trade Agreements Act, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standards have a legitimate domestic objective, such as providing for safety, and do not operate to exclude imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards.

PHMSA participates in the establishment of international standards in order to protect the safety of the American public. PHMSA has assessed the effects of this rulemaking to ensure that it does not cause unnecessary obstacles to foreign trade. While the proposal to suspend the transport of LNG by rail tank car has potential to impact the United States' export of bulk LNG internationally, there has been no significant reliance interest or progress toward the near-term movement of LNG by rail tank cars. As such, PHMSA expects the amendments herein to pose a minimal impact to international trade if adopted. Therefore, PHMSA proposes to amend the HMR to suspend authorization of LNG transportation in a rail tank car pending further analysis to ensure potential future regulatory actions to allow bulk transport of LNG by rail promote public health and safety, the environment, and climate change mitigation. Accordingly, this rulemaking is consistent with Executive Order 13609 and PHMSA's obligations under the Trade Agreement Act, as amended.

L. *Executive Order 13211*

Executive Order 13211 ("Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use")[62] requires Federal agencies to prepare a Statement of Energy Effects for any "significant energy action." Executive Order 13211 defines a "significant energy action" as any action by an agency (normally published in the *Federal Register*) that promulgates, or is expected to lead to the promulgation of, a final rule or regulation that (1)(i) is a significant regulatory action under Executive Order 12866 or any successor order and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy (including a shortfall in supply, price increases, and increased use of foreign supplies); or (2) is designated by the Administrator of the Office of Information and Regulatory Affairs (OIRA) as a significant energy action.

Although this proposed rule is a significant action under Executive Order 12866, PHMSA expects it to have an annual effect on the economy of less than $100 million. Further, this action is not likely to have a significant adverse effect on the supply, distribution, or use of energy in the United States. While the proposal to suspend the transport of LNG by rail tank car has potential to impact the supply, distribution, or use of energy in the United States, PHMSA does not anticipate any near-term movement of LNG by rail tank cars. For additional discussion of the anticipated economic impact of this rulemaking, please see discussion of the cost analysis in accordance with Executive Order 12866 ("Regulatory Planning and Review").

List of Subjects in 49 CFR Part 172

Education, Hazardous materials transportation, Hazardous waste, Incorporation by reference, Labeling, Markings, Packaging and containers, Reporting and recordkeeping requirements.

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[62] 66 FR 28355 (May 22, 2001).

In consideration of the foregoing, PHMSA proposes to amend 49 CFR part 172 as follows:

PART 172—HAZARDOUS MATERIALS TABLE, SPECIAL PROVISIONS, HAZARDOUS MATERIALS COMMUNICATIONS, EMERGENCY RESPONSE INFORMATION, TRAINING REQUIREMENTS, AND SECURITY PLANS

1. The authority citation for part 172 continues to read as follows:

   Authority: 49 U.S.C. 5101–5128, 44701; 49 CFR 1.81, 1.96 and 1.97.

2. In § 172.101, amend the Hazardous Materials Table by revising the entry for "Methane, refrigerated liquid *(cryogenic liquid) or* Natural gas, refrigerated liquid *(cryogenic liquid), with high methane content)"* to read as follows:

§ 172.101 Purpose and use of hazardous materials table.

* * * * *

§ 172.101 HAZARDOUS MATERIALS TABLE

Sym-bols	Hazardous materials descrip-tions and proper shipping names	Hazard class or division	Identi-fication Numbers	PG	Label Codes	Special Provisions (§ 172.102)	(8)			(9)		(10)	
							Packaging (§ 173.***)			Quantity limitations (*see* §§ 173.27 and 175.75)		Vessel stowage	
							Excep-tions	Non-bulk	Bulk	Passenger aircraft/rail	Cargo air-craft only	Loca-tion	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
* * * * * * *													
	Methane, refrigerated liquid *(cryogenic liquid) or* Natural gas, refrigerated liquid *(cryogenic liquid, with high methane content)*	2.1	UN1972		2.1	T75, TP5, 439, 440	None	None	318, 319	Forbidden	Forbidden	D	40
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3. In § 172.102, revise paragraph (c)(1) by adding special provision 439 in numerical order to read as follows:

§ 172.102 Special provisions.

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(c) * * *

(1) * * *

439 UN1972 is not authorized for transportation by rail tank car until issuance of either a final rule concluding the rulemaking action proceeding under RIN 2137-AF54, or June 30, 2024, whichever occurs first. For information and the status of RIN 2137-AF54, please refer to the Office of Management and Budget's Office of Information and Regulatory Affairs at www.reginfo.gov.

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Issued in Washington, DC on October 19, 2021, under authority delegated in 49 CFR 1.97.

William S. Schoonover,

Associate Administrator for Hazardous Materials Safety,

Pipeline and Hazardous Materials Safety Administration.

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