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: Final rule.

SUMMARY: PHMSA, in coordination with the Federal Railroad Administration (FRA), is amending the Hazardous Materials Regulations to suspend authorization of liquefied natural gas (LNG) transportation in rail tank cars pursuant to a final rule published on July 24, 2020, pending the earlier of either completion of a companion rulemaking evaluating potential modifications to requirements governing rail tank car transportation of LNG, or June 30, 2025.

DATES: This final rule is effective on [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

FOR FURTHER INFORMATION CONTACT: Alexander Wolcott, 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:

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I. Overview

PHMSA, in coordination with FRA, is suspending recent amendments to the Hazardous Materials Regulations (HMR; 49 CFR parts 171-180) authorizing transportation of "Methane, refrigerated liquid," commonly known as liquefied natural gas (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 Regulatory Identification Number (RIN) 2137-AF54, and determines whether any modifications are necessary. Transportation of LNG by rail tank car has not occurred since the July 24, 2020,

publication of a final rule authorizing transportation of LNG in rail tank cars[1] and there is considerable uncertainty regarding whether any would occur in the time it takes for PHMSA to consider potential modifications to existing, pertinent HMR requirements. However, this 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, 2025, whichever is earlier, thereby: (1) avoiding potential risks to public health and safety or environmental consequences (to include direct and indirect greenhouse gas (GHG) emissions[2]) that are being evaluated in the companion rulemaking under RIN 2137-AF54; (2) allowing for the completion of ongoing testing and evaluation efforts undertaken in collaboration with FRA, as well as further consideration of the recommendations from external technical experts of the National Academy of Sciences, Engineering, and Medicine (NASEM); (3) assuring an opportunity for the potential development of any mitigation measures and operational controls for rail tank car transportation of LNG; (4) reducing the potential for economic burdens by ensuring that entities avoid ordering rail tank cars for transporting LNG compliant with current HMR requirements when the companion rulemaking may adopt alternative requirements; and (5) enabling potential opportunities for stakeholders and the public to be apprised of, and comment on, the results of ongoing testing and evaluation efforts.

Towards that end, PHMSA is adding a new special provision 439 that prohibits LNG transportation in rail tank cars until issuance of a final rule concluding the rulemaking proceeding under a companion rulemaking under RIN 2137-AF54, or June 30, 2025, whichever is earlier. Rail transport of LNG may still be permitted as authorized by the conditions of a

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[1] PHMSA final rule "Hazardous Materials: Liquefied Natural Gas by Rail," 85 FR 44994 (Jul. 24, 2020) (July 2020 Final Rule). References within to "this Final Rule" or "the Final Rule" without qualification by reference to "July 2020" are meant to refer to this notice rather than its July 2020 Final Rule.

[2] PHMSA distinguishes between "direct" and "indirect" GHG emissions herein consistent with Council on Environmental Quality (CEQ) guidance. See CEQ, "National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change," 88 FR 1196 (Jan. 9, 2023), which builds upon and updates CEQ's 2016 "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," 81 FR 51866 (Aug. 8, 2016).

PHMSA special permit (SP) under § 107.105, or in a portable International Organization for Standardization (ISO) tank secured to a rail car pursuant to the conditions of an FRA approval under § 174.63. PHMSA is also adopting a modest extension (until June 30, 2025, at the latest) of the sunset for the temporary suspension period identified in its November 2021 notice of proposed rulemaking in this proceeding,[3] consistent with comments received on the NPRM and information obtained after its publication evincing greater uncertainty regarding the near-term commercial viability and potential environmental and safety risks associated with rail tank car transportation of LNG as authorized by the July 2020 Final Rule.

II. Background

A. Historical Regulation of LNG by Rail

LNG is a natural gas that has been cooled and converted to a liquid form for easier and more efficient transportation. In the United States, pipelines have historically delivered most natural gas, although other modes of transportation—such as rail and highway—have accounted for a relatively minor portion of natural gas transportation, typically in the form of LNG. Before PHMSA published the July 2020 Final Rule, rail transportation of LNG would have been limited to UN portable tank shipments (commonly referred to as ISO tank shipments) under an FRA approval and shipments made under SPs issued by PHMSA. This approach reflected the unique safety risks presented by rail transportation of large volumes of LNG and the historically low demand to transport LNG by rail.

B. A New Regulatory Approach and Enabling Research

Executive Order 13868 ("Promoting Energy Infrastructure and Economic Growth")[4] was signed in April 2019 and required PHMSA to treat LNG the same as other cryogenic liquids, authorize LNG to be transported in approved rail tank cars, and to finalize that rulemaking within

[3] PHMSA, "Notice of Proposed Rulemaking - Hazardous Materials: Suspension of HMR Amendments Authorizing Transportation of Liquefied Natural Gas by Rail" 86 FR 61731 (Nov. 8, 2021) (NPRM).
[4] 84 FR 15495 (Apr. 15, 2019).

13 months.[5] In response, PHMSA published a notice of proposed rulemaking titled "Hazardous Materials: Liquefied Natural Gas by Rail"[6] in which it proposed to authorize the transportation of LNG in existing DOT-113C120W specification tank cars. The initial comment period for the NPRM closed on December 23, 2019, and was subsequently extended until January 13, 2020, following PHMSA's issuance to Energy Transport Solutions, LLC (ETS) in early December 2019 of DOT-SP 20534 for the transportation of LNG by rail tank car.[7]

DOT-SP 20534 allowed the transportation of LNG in existing DOT-113 tank cars from Wyalusing, PA, to Gibbstown, NJ, with no intermediate stops. This SP contained safety controls including a requirement to conduct remote sensing for detecting and reporting internal pressure, location, leakage, and (prior to the initial shipment of a tank car under the SP) a requirement to provide training to emergency response agencies that could be affected on the route. DOT-SP 20534 expired by its terms on November 30, 2021, after ETS had not filed an application for renewal until November 29, 2021. After careful consideration, PHMSA denied ETS' application for renewal on March 31, 2023.[8]

In January 2020, PHMSA established a joint LNG Task Force with FRA to undertake testing and evaluation activity on the transportation of LNG that could inform potential future regulatory actions, as appropriate. In order to identify tasks within that effort, the LNG Task Force utilized a risk-based framework focused on knowing the risk, predicting the risk, reducing the risk, and preparing for the risk. Using that framework, the LNG Task Force identified and undertook 15 tasks to synthesize ongoing research and outreach activities. Those tasks included empirical review of international LNG transportation, safety and security route risk assessments,

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[5] The Secretary has delegated such rulemaking duties to the PHMSA Administrator. See 49 CFR 1.97.
[6] 84 FR 56977 (Oct. 24, 2019).
[7] 84 FR 70492 (Dec. 23, 2019) (DOT-SP 20534).
[8] 88 FR 24844, 2846 (Apr. 24, 2023). PHMSA formally informed ETS of the denial of its renewal application by email on March 31, 2023, noting that (1) ETS's renewal application had made no attempt to address the concerns raised in the NPRM in this proceeding, (2) nearly three and a half years after issuance of DOT-SP 20534, ETS had yet to provide evidence that it had procured either new DOT-113C120W9 tank cars or existing DOT-113C120W tank cars, and (3) the origin and destination facilities specified in DOT-SP 20534 had not been built and would need additional authorizations before construction could begin. ETS did not seek judicial review of the denial.

a re-evaluation of the costs and benefits of electronically controlled pneumatic (ECP) brakes, and the validation of emergency responders' opinions and needs. Although the LNG Task Force initially projected completion of its tasks by late 2021, much of its work was interrupted or delayed because of the coronavirus disease 2019 (COVID-19) public health emergency and because of subsequent modification of the scope of its activities. The ongoing efforts of the LNG Task Force are discussed further below.

In parallel with its work under the LNG Task Force, and pursuant to a mandate in the "Further Consolidated Appropriations Act, 2020" (Pub. L. 116-94), PHMSA and FRA partnered with NASEM to conduct a study on the transportation of LNG in rail tank cars through a committee of the Transportation Research Board (TRB).[9] The TRB commenced work in mid-July 2020. Roughly contemporaneous with the TRB beginning its work, PHMSA published the July 2020 Final Rule authorizing the shipment of LNG in new DOT-113C120W9 specification rail tank cars with enhanced outer tank requirements, subject to all applicable requirements and certain new operational controls. The July 2020 Final Rule became effective on August 24, 2020 and was swiftly followed by several petitions for judicial review. Specifically, six 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 the July 2020 Final Rule. All the petitioners asked the court to vacate the July 2020 Final 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 alleged 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

[9] 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 May 15, 2023).

Governments"),[10] as well as disparate impacts on the Tribe in violation of Executive Order 12898 ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations")[11] and Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d *et seq.*). The petitions were subsequently consolidated within a single proceeding in the U.S. Court of Appeals for the District of Columbia Circuit[12] with the court granting PHMSA's motion to place the petitions in abeyance while PHMSA reviewed the July 2020 Final Rule. PHMSA submitted the latest status report in that proceeding in early June 2023. The Court lifted the abeyance on July 18, 2023.[13]

C. Another Hard Look Incorporating NASEM Recommendations and Ongoing Research Efforts

Immediately after taking office, the Biden-Harris Administration issued Executive Order 13990 ("Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis")[14] on January 20, 2021. Executive Order 13990 required 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 Biden-Harris Administration policies to improve public health, protect the environment, prioritize environmental justice, and reduce GHG emissions. The Biden-Harris Administration identified the July 2020 Final Rule in a non-exclusive list[15] of agency actions that would be reviewed in accordance with Executive Order 13990. Additionally, section 7 of Executive Order 13990 revoked Executive Order 13868, along with several other executive orders and executive actions, and directed agencies to promptly take steps, consistent with applicable law, to rescind

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[10] 65 FR 67249 (Nov. 9, 2000).
[11] 59 FR 7629 (Feb. 16, 1994).
[12] Under docket no. 20-1317 (consolidated with docket nos. 20-1318, 20-1431, & 21-1009).
[13] On May 17, 2023, Petitioners filed a Joint Motion to Lift Abeyance and requested the D.C. Circuit Court to direct the parties to submit a proposed briefing schedule. PHMSA, through the Department of Justice, filed a response opposing the motion to lift the abeyance on June 6, 2023. The Petitioners filed a reply on June 13, 2023.
[14] 86 FR 7037 (Jan. 25, 2021).
[15] 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 May 16, 2023).

any rules or regulations that had been issued "implementing or enforcing" those executive orders and executive actions.

In response to Executive Order 13990, DOT published a notice on May 5, 2021, soliciting comment on potential candidates for review under Executive Order 13990 from among existing rules and other DOT actions.[16] DOT received one comment pertaining to the July 2020 Final Rule from the Transportation Trades Department of the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO). The commenter requested a reexamination of the July 2020 Final Rule as it believed that rulemaking "neglected to include meaningful safety measures to adequately address the inherent risks to this type of operation."[17]

The TRB issued its Phase I Report on June 15, 2021,[18] which reviewed the plans and progress of the LNG Task Force and evaluated the relevance, completeness, and quality of those efforts. 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." However, the TRB noted that the COVID-19 public health emergency resulted in delays in initiation and completion of several tasks. The TRB 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 the transportation of LNG in rail tank cars. Specifically, it expressed concern on the incomplete status of tasks pertaining to full-scale impact testing, portable tank pool fire testing, worst-case scenario analysis, and quantitative risk assessment. The Phase I Report made several recommendations including proposing that PHMSA and FRA make changes to the planned portable fire tank testing, assess the potential for cryogenic damage cascading to adjacent tanks, enhance the modeling for worst-case scenarios, evaluate explosion hazards from a spill of LNG

[16] 85 FR 23876 (May 5, 2021).
[17] Docket No. DOT-OST-2021-0036-0025.
[18] 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.

resulting in vapor dispersion in an environment with confined or congested spaces, and add loading and unloading operations to the risk assessment. PHMSA subsequently modified its LNG Task Force testing activity in response to the Phase I Report recommendations by, among other things, undertaking each of the following: enhanced impact testing directed toward evaluating post-weld, heat-treated seams from a DOT-113C120W9-specification tank car; enhanced worst-case scenario modeling; performing an enhanced quantitative risk assessment; modification of ISO tank pool fire testing protocols to better simulate release conditions; and enhanced train dynamic simulations to better capture effects from use of distributed power and buffer car placement within a train consist transporting LNG.

On November 8, 2021, PHMSA published the NPRM in this rulemaking proceeding. In that NPRM, PHMSA reviewed pertinent economic data, TRB's Phase I Report recommendations, and the status of ongoing work of the LNG Task Force en route to proposing a temporary suspension of the transportation of LNG by rail tank car until the earlier of either June 30, 2024, or the publication of a companion rulemaking under RIN 2137-AF54. PHMSA's proposal reflected its understanding that uncertainties acknowledged in the July 2020 Final Rule — e.g., regarding the near-term commercial viability of rail tank car transportation of LNG, as well as potential safety and environmental benefits and risks of rail tank car transportation — had only increased since issuance, thereby "casti[ng] doubt on the continued validity of the balance between potential benefits and public safety and environmental risks underpinning the [July 2020 Final Rule]."[19] PHMSA therefore proposed a temporary suspension of the July 2020 Final Rule to allow time for PHMSA to review the results of the (then-forthcoming) TRB Phase II Report, complete ongoing LNG Task Force testing and evaluation activities, and (based on the results of those efforts) modify HMR requirements as appropriate within the companion rulemaking under RIN2137-AF54. The comment period closed on December 23, 2021.

[19] 86 FR at 61735-36.

PHMSA received over 10,500 comments from private individuals, environmental groups, government officials, the rail industry, and other stakeholders. See Section III for further details.

The TRB issued its Phase II Report on September 9, 2022.[20] The Phase II Report involved a more comprehensive assessment than that undertaken in connection with the Phase I Report regarding topics relevant to the safe movement of LNG by rail tank car pursuant to both SPs and the HMR following issuance of the July 2020 Final Rule. Specifically, it examined bulk shipments of LNG by other modes of transportation (including vessel and highway) to identify the basic principles used in those modes for safety assurance. It also examined the effectiveness of regulatory requirements and industry practices (e.g., pertaining to speed and routing, as well as other operational controls applicable to high-hazard flammable trains) intended to assure the safe transportation of bulk rail shipments of other hazardous materials.

The Phase II Report also made recommendations on necessary near- and long-term actions to improve the understanding of the risks associated with transporting LNG by rail tank car, mitigate those risks, and prevent and prepare for potential incidents. The first recommendation suggested launching an LNG safety assurance initiative before LNG tank cars are put in service. The safety assurance initiative would actively monitor initial plans for and early patterns of LNG traffic activity, including the locations and routes of shipments, the number and configuration of tank cars in trains, and reports of incidents involving a tank car or train carrying LNG. The second and final recommendation suggested that PHMSA and FRA should review the DOT-113C120W9 tank car specification to ensure that it adequately accounts for the cryogenic and thermal properties of LNG that could contribute to a tank release in the event of a rail incident and potential cascading impacts therefrom. The TRB's elaboration on its second recommendation emphasized the value in assessing each of the following: the capacity of the pressure relief devices on the new DOT-113C120W9-specification tank cars to vent a

[20] NASEM, "Preparing for LNG by Rail Tank Car: A Readiness Review" (Sep. 2022) (Phase II Report), https://www.nap.edu/read/26719/chapter/1.

sufficient amount of LNG when the tank car is engulfed in an LNG fire in derailment conditions, including a rollover event; the effects of adding more and different types of insulation in the annular space to ensure sufficient performance of the multilayer insulation system when the tank car is exposed to heat flux and direct flame impingement from an LNG fire; and the potential for the outer tank of the DOT-113C120W9 tank car to experience cryogenic brittle failure and loss of vacuum insulation when exposed to an LNG pool fire. PHMSA subsequently adjusted its LNG Task Force testing activity in response to the Phase II Report recommendations by modifying its ongoing worst-case analysis modeling and quantitative risk assessment efforts to address the DOT-113C120W9-specification design element concerns raised by the TRB. In light of the new information received from the TRB reports and PHMSA's completed research and ongoing tests, PHMSA suspends the regulations adopted in the July 2020 Final Rule to allow PHMSA sufficient time to complete its analysis to reconsider the determinations made in the July 2020 Final Rule.

The LNG Task Force has completed most of its testing and evaluation activities (as modified in response to the TRB Phases I and II Reports). Of those remaining activities, PHMSA expects to complete its enhanced quantitative risk analysis and worse case analysis modeling no later than Q3-2023. This analysis has taken longer than expected because it was modified first to address concerns in the TRB Phase I Report in June 2021 and then again in response to the TRB Phase II Report issued in September 2022. PHMSA is in the process of contracting for performance of each of the following remaining tasks: (1) enhanced impact testing directed toward evaluating post-weld, heat-treated seams from a DOT-113C120W9-specification tank car in response to the TRB Phase I Report; and (2) enhanced train dynamic simulations to better capture effects from use of distributed power and buffer car placement within a train consist transporting LNG in response to the TRB Phase I Report.

D. East Palestine, OH Derailment

On February 3, 2023, a mixed-consist freight train operated by Norfolk Southern Railway—comprised of two head-end locomotives, 149 railcars, and 1 distributed power locomotive—derailed in East Palestine, Ohio. Thirty-eight railcars derailed, including 11 tank cars carrying combustible liquid and flammable gas hazardous materials, though none of the railcars were carrying LNG. The derailment resulted in a fire impacting the derailed tank cars and damaging 12 additional railcars that had not derailed. Included in the derailment and fire were five DOT-105 specification tank cars containing vinyl chloride—a hazardous material classified as a Division 2.1 flammable gas. These DOT-105 specification tank cars were not punctured in the derailment. PHMSA is working with the National Transportation Safety Board to learn all it can from this incident and determine whether the lessons learned should inform rail transportation of other hazardous commodities such as LNG.

III. Discussion of Comments to the NPRM and Adoption of a Temporary Suspension of the July 2020 Final Rule

The comment period for the NPRM in this proceeding closed on December 23, 2021. PHMSA received over 10,500 sets of comments to the rulemaking docket through and after the formal comment period; consistent with § 106.70, PHMSA considers late-filed comments to the extent possible. PHMSA considered all comments received in the development of this Final Rule. The comments submitted to this docket may be accessed via http://www.regulations.gov. The following table categorizes the commenters. Please note that some commentors submitted multiple comments.

Commenter	Count	Description and examples of category
Non-Government Organizations	18	Environmental Groups; Emergency Response Organizations; Other.
Government Officials	8	Local; State; Federal; Tribal.
Private Individuals	10,126	

Commenter	Count	Description and examples of category
Industry Stakeholders	3	Trade Associations; Shippers.
Table of Commenters to the NPRM		

Comments received could generally be summarized as advancing one or more of the following positions:

- Comments requesting an immediate, permanent ban of LNG by rail;
- Comments requesting the removal of the June 30, 2024, sunset date;
- Comments of general support for the NPRM;
- Comments alleging chilling of near-term demand for LNG transportation by rail tank car pursuant to the July 2020 Final Rule;
- Comments alleging that LNG by rail improves safety;
- Comments alleging environmental benefits from LNG by rail;
- Comments alleging PHMSA is overstepping its authority by attempting to regulate oil and gas production;
- Comments alleging PHMSA did not meet its evidentiary burden under the APA for temporary suspension of the July 2020 Final Rule;
- Comments alleging that PHMSA's proposal will have miscellaneous adverse consequences for regulated entities, the U.S. economy, and national security; and
- Comments beyond the scope of this rulemaking.

Based on the comments received in response to the NPRM, the recommendations in the TRB Phases I and II Reports, the ongoing LNG Task Force testing and evaluation activities, and pertinent information regarding the near-term commercial prospects for rail tank car transportation of LNG, PHMSA has concluded that a temporary suspension of the July 2020 Final Rule's authorization for rail tank car transportation of LNG in new DOT-113C120W9-specification tank cars is appropriate. PHMSA finds that, consistent with the analysis in the NPRM, these resources indicate that the uncertainties described in the July 2020 Final Rule (e.g., regarding whether, when and how LNG by rail tank car transportation will occur, and the safety and environmental risks and benefits of such transportation) have only increased since its issuance, calling into question the balance between potential benefits and public safety and environmental risks PHMSA understood itself to be striking in that rulemaking. In contrast (and as explained at greater length below in this Section III responding to comments received on the

NPRM) a temporary suspension will ensure each of the following: (1) avoidance of potential safety risks to public and worker safety and the environment while PHMSA completes its companion rulemaking under RIN 2137-AF54; (2) HMR authorization of rail tank car transportation of LNG pursuant to that companion rulemaking reflects the best science by accounting for ongoing LNG Task Force testing and evaluation activities as informed by the TRB Phases I and II Report recommendations; (3) consideration of additional public comment from diverse stakeholders in that companion proceeding; and (4) minimizing the potential for economic burdens by ensuring that entities avoid ordering rail tank cars for LNG service compliant with the requirements of the July 2020 Final Rule when the companion rulemaking may alter those requirements.[21] See 86 FR at 61732, 67135-36. As noted in the NPRM, stakeholders seeking to transport LNG by rail during the suspension period may seek (on an ad hoc basis) either SPs from PHMSA or approvals from FRA.

Lastly, the Final Rule extends the duration of the temporary suspension an additional year (until June 30, 2025, at the latest) beyond the sunset date (June 30, 2024) proposed in the NPRM. This extension—which is consistent with comments received from stakeholders[22] on the NPRM discussed in section III.B below—is warranted due to delays in completion of the LNG Task Force activity (discussed in section III.C below) that will inform the companion rulemaking under RIN 2137-AF54. Also, economic information discussed in section III.D below shows that the commercial prospects for rail tank car transportation pursuant to the July 2020 Final Rule have become even more uncertain than they were when the NPRM issued in November 2021.

A. Comments Requesting an Immediate, Permanent Ban of LNG by Rail

PHMSA received numerous comments requesting the immediate, permanent ban of all LNG by rail in lieu of the temporary suspension as proposed in the NPRM. Many of these

[21] The temporary suspension provided for in this Final Rule applies only to rail transportation of LNG tank cars—it does not prohibit use of the new DOT-113C120W9 tank car in connection with other hazardous, cryogenic liquids.
[22] PHMSA received no comments that specifically requested the June 2024 sunset date for the suspension; commenters either sought no suspension or a permanent suspension.

comments were part of write-in campaigns comprising approximately 6,650 comments in an initial campaign during the formal comment period, and an additional 3,500 comments in a second campaign coordinated by the National Resource Defense Council (NRDC) after the East Palestine derailment in early 2023 (NRDC Coordinated Write-in Campaign Comments). Other comments were stand-alone comments submitted by non-governmental organizations (e.g., environmental advocacy organizations); Federal, State, and local government officials; and private citizens.

Many of these comments attributed the need for an immediate, permanent ban on the risk to public safety and the environment from LNG's material properties — specifically, pointing to its flammability, explosive potential, and GHG contributions — in the event of a release. Of particular concern for many commenters were the risks of a boiling liquid expanding vapor explosions (BLEVEs) or asphyxiation in the event of a release of LNG during an accident or incident. Some commenters elaborated on their safety concerns by highlighting the potential limitations (e.g., of personnel and equipment resources and training) of emergency response personnel to respond to an incident involving rail transportation of LNG in their jurisdictions. Other commenters alleged that the new DOT-113C120W9 tank car specification was inadequate or untested for rail transportation of LNG and that a more robust safety history — coupled with more robust, mandatory operational controls (such as limits on train length, tank car weight, and maximum allowable speed) than required in the July 2020 Final Rule — would be necessary to ensure safety. Other commenters cited safety and environmental justice concerns for those who live along rail lines that would carry LNG, stating that "bomb trains" would threaten the safety of those who live in these communities — many of which communities may be densely-populated or historically disadvantaged. Other commenters called for an immediate ban of LNG transportation by rail given methane's status as a potent GHG and the Biden-Harris Administration's commitments to reducing GHG emissions. And commenters from the NRDC campaign called for a ban on LNG by rail in the "in the wake of the devastating train derailment

in East Palestine, Ohio."[23] Lastly, some commenters contended that if the "…rule was already bad enough to reconsider, it should be repealed outright."[24]

PHMSA Response

PHMSA acknowledges the concerns raised by these stakeholders and agrees that any risks related to the transportation of LNG by rail should be examined closely and properly mitigated to ensure safety for the public and the environment. Accordingly PHMSA is suspending LNG transportation by rail tank car pursuant to the July 2020 Final Rule until the conclusion of the companion rulemaking under RIN 2137-AF54 or June 30, 2025, whichever is earlier. This will provide PHMSA an opportunity to conduct a thorough evaluation of the HMR's regulatory framework for rail transportation of LNG based on the information received from the LNG Task Force testing and evaluation efforts, TRB Phases I and II Reports, and stakeholders' written comments. PHMSA also encourages those stakeholders to consider submitting comments in response to any future notice of proposed rulemaking issued by PHMSA in the companion rulemaking under RIN 2137-AF54.

B. Comments Requesting the Removal of the June 30, 2024, Sunset Date

PHMSA received comments requesting removal of the sunset date of June 30, 2024, proposed in the NPRM so that the proposed suspension would be in effect until the companion rulemaking under RIN 2137-AF54 has concluded. Delaware Riverkeeper Network (DRN) commented that in the NPRM, PHMSA justified the sunset date by indicating that the TRB Phase II Report was expected in mid-2022 and that PHMSA needed time to incorporate those results and publish a rule. DRN argued that "this rationale begs the question–why not wait until PHMSA *actually* incorporates the results of the Phase II Report and concludes the rulemaking process?" They further stated that "the unpredictability of the COVID-19 pandemic indicates that timelines are not as predictable as they were pre-2019."[25]

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[23] NRDC Coordinated Write-in Campaign Comments.
[24] Beyond Extreme Energy with 198 methods Comment at 1.
[25] DRN Comment at 2.

The International Association of Fire Fighters (IAFF) suggested an objective-based approach whereby the suspension would only be lifted if certain criteria have been met. IAFF further urged "…the FRA to establish specific criteria to be attained prior to the lifting of the proposed suspension."[26] Similarly, comments from the AFL-CIO and others supported suspending LNG by rail tank car until LNG Task Force testing and evaluation efforts are complete, stating they "…support PHMSA's suspension of the implementation of the rule until a time when the agencies have completed a more thorough safety review."[27] Other commenters proposed longer suspension periods than had been proposed in the NPRM.

PHMSA Response

PHMSA in the NPRM specifically sought comments on the proposed suspension date, including the sunset date, and whether PHMSA should modify the proposed expiration of the suspension period.[28] PHMSA appreciates and acknowledges the points made by commenters and, consistent with the discussion in the introduction to section III above, is extending the sunset date for the suspension period an additional year such that rail tank car transportation of LNG pursuant to the July 2020 Final Rule will be suspended until the earlier of either (1) a final rule concluding the companion rulemaking under RIN 2137-AF54, or (2) June 30, 2025. This one-year extension beyond the sunset date (June 30, 2024) proposed in the NPRM will give PHMSA adequate time to complete LNG Task Force testing and evaluation activities (and delays in receipt of the TRB Phases I and II Reports) that had been delayed because of the COVID-19 public health emergency and additional scoping and contracting issues, and thereafter integrate those results into each of a notice of proposed rulemaking and final rulemaking in the companion rulemaking under RIN 2137-AF54.

C. Comments of General Support for the NPRM

[26] IAFF Comment at 2.
[27] TDD Comment at 1
[28] 86 FR at 61737.

PHMSA received numerous comments in support of the NPRM's proposed suspension, including comments from Governor Jay Inslee of Washington State; the Attorneys General of Maryland, New York, Connecticut, Delaware, Illinois, Massachusetts, Michigan, Minnesota, New Jersey, Oregon, Pennsylvania, Rhode Island, Vermont, Washington, and the District of Columbia; and the Puyallup Tribe of Indians. Many commenters who supported the temporary suspension proposed in the NPRM also urged PHMSA to subsequently ban LNG in the companion rulemaking under RIN 2137-AF54. Commenters supporting the NPRM's proposed suspension of the July 2020 Final Rule generally articulated the same safety and environmental concerns as those calling for an immediate, permanent bans of rail tank car transportation of LNG discussed in section III.A above.

PHMSA Response

PHMSA acknowledges the thousands of comments submitted in support of the NPRM. Although some of those commenters also urged PHMSA to permanently ban rail tank car transportation of LNG in the companion rulemaking under RIN 2137-AF54, PHMSA submits that it will need to complete (and review the results of) the LNG Task Force testing and evaluation efforts before it will be in a position to speak to the contents of a forthcoming notice of proposed rulemaking in that companion rulemaking. PHMSA encourages stakeholders to consider submitting comments in response to any future notice of proposed rulemaking issued by PHMSA in the companion rulemaking under RIN 2137-AF54.

D. Comments Alleging Chilling of Near-Term Demand for LNG Transportation by Rail Tank Car Pursuant to the July 2020 Final Rule

PHMSA received several comments[29] on the NPRM's observations of increased uncertainty regarding whether there will be near-term demand for rail tank car transportation of LNG pursuant to the July 2020 Final Rule. Specifically, CSX noted in its comments that it had

[29] CSX Comments at 1; PHMSA, Doc. No. PHMSA-2021-0058-7064, "Summary of CSX Listening Session" (Feb. 17, 2022); Landry, et al. Comments at 1, 4.

several projects in development to transport LNG by rail in or before 2024, and that "[t]he continued investment in and pursuit of those projects, which require design, permitting, and construction with long lead times, would be impaired if the July 2020 Final Rule were suspended *indefinitely*, delaying them potentially for years and harming CSX's reliance interests and imposing costs and lost business opportunities on CSX and its partners" (emphasis added). CSX subsequently met with PHMSA on February 17, 2022, and elaborated on their written comments by noting that those projects had been shelved and that the issuance of the NPRM was the occasion for those decisions. The Attorney General for the State of Louisiana, Jeff Landry, joined by State Attorneys General from Alabama, Alaska, Arizona, Arkansas, Florida, Georgia, Idaho, Indiana, Kentucky, Mississippi, Missouri, Montana, Nebraska, New Hampshire, Ohio, South Carolina, South Dakota, Texas, Utah, Virginia, West Virginia, and Wyoming (Landry, et. al.) similarly contend that "the proposed rule itself *is* the cause of the regulatory uncertainty of which it complains" (emphasis in original) in that it "discourages companies from making any capital investment in LNG by rail, specifically the DOT-113C120W9 specification tank cars that the 2020 Rule authorized."

PHMSA Response

PHMSA finds these comments unconvincing statements of the near-term commercial viability of rail tank car transportation of LNG pursuant to the July 2020 Final Rule. The suspension proposed in the NPRM and adopted in this Final Rule is not "indefinite" as characterized by CSX; rather, it is time-limited to the earlier of a date certain (June 2025) or to the completion of the milestone of issuing a final rule in the companion rulemaking under RIN 2137-AF54. Even if the NPRM affected one or more of CSX's nascent projects exploring rail tank car transportation of LNG, CSX or other entities could have applied for, and may still apply for, an alternative regulatory vehicle (e.g., an SP under § 107.105,[30] or an FRA approval for rail

[30] Applications for a Special Permit submitted under § 107.105 must demonstrate that such Special Permit will achieve at least an equivalent level of safety as to what is provided under the HMR, and in particular, should address any outstanding safety questions or concerns including those raised in this rulemaking.

transportation via portable tank) to allow work to proceed on those projects during the suspension period. PHMSA is unaware of CSX, its collaborators in those projects, or any other entities having pursued alternatives. Indeed, in its written comments and again during its February 17, 2022, meeting with PHMSA, CSX personnel acknowledged that the choice of package (i.e., the particular DOT-specification rail tank car or ISO tank) employed in rail transportation of LNG is merely one decision within a multi-step, multi-year project development and execution chain involving, among other things, the construction of origin facilities and off-loading facilities, and the acquisition of one or more enabling Federal and State permits. The projects CSX and others may have been pursuing were prolonged, highly contingent processes in which there are multiple potential bases for material delay or cessation of a project throughout the development cycle. That said, PHMSA understands the shelving of CSX's or any other entities' projects following the proposal of a time-limited, temporary suspension for which there could be alternative rail transportation methods evinces less an alleged "chilling" of investment than the significant uncertainty discussed in the NPRM regarding whether there would be any commercially viable projects for rail transportation of LNG in the near-term.

And PHMSA understands that a variety of forces have created--and will continue to create throughout the suspension period-- headwinds for the near-term commercial viability of any project for rail transportation of LNG. The NPRM explained that the near-term commercial prospects for LNG by rail (which the July 2020 Final Rule had acknowledged were uncertain at its issuance) had grown even more uncertain due to near-term structural changes in international markets including (1) massive investment in greatly increased export capacity by competing providers such as Qatar, and (2) reduced demand for LNG customers seeking to reduce their GHG emissions.[31] The comments submitted by CSX, other industry stakeholders, and Landry, et. al. did not attempt to rebut this evidence, or PHMSA's finding that the near-term commercial

[31] 86 FR at 61735-36.

uncertainty for rail transportation of LNG had increased. Further, the structural headwinds for rail transportation of LNG are likely to accelerate in the near future, as the U.S. Energy Information Administration (EIA) predicts that the capacity of pipeline-supplied U.S. LNG export terminals are expected to increase significantly beginning around 2025 which some analysts note could depress the offtake prices for LNG in the international export market — which could divert demand for LNG exports that could have been serviced by LNG by rail.[32] Further, the supply shocks of the conflict in Ukraine have highlighted both in the United States and abroad the volatility of natural gas prices and fragility of international LNG market supply, accelerating movement among historical consumers of natural gas toward renewable energy and reduced reliance on LNG exports.[33] Meanwhile, domestic consumption of natural gas in the United States is expected to fall in the next decade due to increasing electrification driven by consumer preferences and Federal and State policy initiatives to reduce GHG emissions.[34] Durably high commodity (e.g., steel) prices and interest rates[35] would also tend to discourage capital investment in the manufacture of a new fleet of DOT-113C120W9-specification tank cars for dedicated commercial LNG service.

PHMSA finds this recent evidence, coupled with the evidence discussed in the NPRM, augurs uncertainty regarding the commercial prospects for rail transportation of LNG that will continue beyond the originally proposed suspension period and into the longer suspension period adopted in this final rule.[36] Following the conclusion of the (temporary) suspension period,

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[32] EIA, "U.S. LNG Export Capacity to Grow as Three Additional Projects Begin Construction," (Sept. 6, 2022), https://www.eia.gov/todayinenergy/detail.php?id=53719 (last visited May 12, 2023). See also A. Shiryaevskaya et al., Bloomberg, "World Gas Supply Shifts from Shortage to Glut with Demand Muted" (Apr. 16, 2023); L. Hampton, Reuters, "Wave of New LNG Export Plants Threatens to Knock Gas Prices" (Mar. 14, 2023).

[33] See Intl. Energy Agency (IEA), World Energy Outlook: 2022 at 3, 25-26 (Oct. 2022); The Economist "War and Subsidies Have Turbocharged the Green Transition" (Feb. 13, 2023); Inst. for Energy Economics and Financial Analysis, Global LNG Outlook: 2023-2027 at 4-5 (Feb. 15, 2023).

[34] See EIA, Annual Energy Outlook 2023 at 25 (Mar. 2023)

[35] N. Ruggiero, S&P Global Commodity Insights, U.S. Steel Sentiments Hit New High for 2023 As Mills Increase Finished Prices" (Mar. 13, 2023); R. Druzin, Argus Media, "U.S. Steel Price Driven Up by Multiple Factors" (Mar. 14, 2023); M. Derby, Reuters, "Premature for Fed to Call End to Rate Hikes with Inflation Still High, Williams Says (May 9, 2023).

[36] Amidst the limited domestic and international commercial prospects discussed here, it is hardly surprising that rail transportation of LNG has occurred by neither (1) existing DOT-113C120W tank cars pursuant to DOT-SP 20534

stakeholders would be able to evaluate whether the commercial prospects for rail tank car transportation of LNG pursuant to the July 2020 Final Rule merit pursuing.

E. Comments Contending that the LNG by Rail Improves Safety

PHMSA received several comments arguing temporary suspension of the July 2020 Final Rule would forfeit safety benefits.[37] Some of those comments pointed to the physical properties (e.g., auto-ignition temperatures) of LNG they assert make its rail transportation inherently safer than transportation of natural gas in other physical states. Others contended that, absent the July 2020 Final Rule, industry would be forced to utilize other modes of transportation of natural gas—in particular, highway transportation via MC-338 cargo tanks—which would entail more frequent accidents and incidents than rail transportation. Some comments generally praised the DOT-113C120W9-specification tank car approved for use in transporting LNG in the July 2020 Final Rule because it was an improvement on the proven, existing DOT-113C120W-specification tank cars that PHMSA had approved for use in rail tank car transportation of LNG via SP. Lastly, RSI asserted that by discouraging investment in DOT-113C120W9 tank cars for LNG service, PHMSA was discouraging construction of those enhanced tank cars for use in transporting other cryogenic liquid hazardous materials.

PHMSA Response

PHMSA finds these contentions unconvincing. As presented, each of those arguments suggest that any potential benefits of rail tank car transportation of LNG will be lost if PHMSA suspends the July 2020 Final Rule as proposed in the NPRM. But that binary understanding confuses the *temporary, time-limited* suspension proposed in the NPRM and adopted in this final rule with a *permanent* or *indefinite* ban on rail tank car transportation of LNG. A temporary suspension would mean that any safety benefits would only be unavailable for the suspension

issued by PHMSA to ETS in 2019, nor (2) ISO tanks pursuant to an FRA approval issued to the Alaska Railroad Company in 2015.

[37] CSX Comments at 1; Landry, et al. Comments at 1, 4, 5; RSI Comments at 2, 4; "Comments of U.S. House of Representatives Committee on Transportation and Infrastructure – Republican Minority Members" at 2-3 (Dec. 22, 2021) (House T&I Minority Comments).

period—i.e., until the end of June 2025 (at the latest). See 86 FR at 61737-38. Further, any such potential, time-limited comparative advantage turns on whether any rail transportation of LNG pursuant to the July 2020 Final Rule would in fact have occurred during the suspension period, but, as explained above, market conditions now and in the near future do not support demand to transport LNG in rail tank cars. That demand, which was uncertain at issuance of the July 2020 Final Rule has become only more uncertain since given the commercial headwinds facing the development of that market.[38] Further, any time-limited comparative advantage from leaving the July 2020 Final Rule undisturbed would also be mitigated by the availability of other regulatory vehicles (FRA approvals and PHMSA SPs) that entities can pursue during the suspension period.

Uncertainty regarding whether the July 2020 Final Rule's authorization of rail transportation in DOT-113C120W9-specification tank cars ensures adequate protection of public safety has only increased since the time of issuance of each of the July 2020 Final Rule and the NPRM proposing its suspension. The July 2020 Final Rule itself acknowledged that its authorization of rail transportation of LNG in the new DOT-113C120W9 tank car did not turn only on the tank car itself; rather, a number of other factors (including, but not limited to, the material properties of LNG and natural gas, the quantity of LNG that will be moved by rail, the routes involved, the availability of emergency response planning resources, etc.) affected the risks involved in rail tank car transportation of LNG. See 86 FR at 61734.[39] Subsequently, the TRB Phase I Report highlighted gaps (discussed in section II.C above) within the LNG Task

[38] The NPRM also explains there is also significant uncertainty regarding the commercial prospects of mode-switching (from rail tank car to MC-338 cargo tanks carried by truck) given that such mode-switching would sacrifice (potentially significant) economies of scale offered by rail tank car transportation of LNG. See 86 FR at 61737. This observation was not addressed by any of the comments submitted by the House T&I Minority, Landry, et al., RSI, or CSX.

[39] PHMSA disagrees with Landry, et al. that PHMSA's authorization of rail transportation of LNG in existing, less robust DOT-113C120W tank cars pursuant to DOT-SP 20534 reveals PHMSA's concerns regarding safety of the DOT-113C120W9 tank car as pretextual. Landry, et al. Comments at 4. The conditions it imposed — a defined, limited duration, a single route, and various operational controls — facilitate understanding and bounding of safety and environmental risks notwithstanding transportation within a legacy DOT-113C120W tank car. In contrast, the July 2020 Final Rule's nationwide, perpetual authorization of rail tank car transportation of LNG in a new tank car specification could entail a fundamentally different risk profile than DOT-SP 20534 or any other special permits that PHMSA may issue authorizing (on an ad hoc basis) rail tank car transportation of LNG. In addition, no LNG was ever shipped under DOT-SP 20534, which has now expired and which PHMSA has declined to renew.

Force testing efforts undertaken to improve confidence in the safety benefits of rail transportation of LNG. TRB's subsequent Phase II Report identified additional areas warranting additional research and evaluation to ensure the safety of rail transportation of LNG in the DOT-113C120W9-specification tank car. Although PHMSA has revised the LNG Task Force's testing and evaluation activities in response to the TRB Phases I and II Report recommendations, that work continues; and even after completing the activities PHMSA must evaluate the results and determine whether and how to make permanent modifications to the HMR governing rail transportation of LNG. Further, the comments submitted in response to the NPRM proposing suspension of the July 2020 Final Rule show a lack of consensus among stakeholders regarding whether some of the critical safety challenges known when PHMSA issued the July 2020 Final Rule have been addressed. For example, a comment submitted by IAFF on the NPRM noted that "the capabilities of fire fighters and emergency medical responders to safely and effectively respond to hazmat incidents involving LNG rail cars has not improved since our 2019 comments" notwithstanding any PHMSA and FRA outreach and engagement efforts in the interim.[40]

Additionally, comments touting the inherent safety advantages of rail tank car transportation of liquefied natural gas miss the larger safety issue toward which much of the LNG Task Force testing evaluation activity is directed. Natural gas in liquid form, undisturbed within a DOT-113C120W9 tank car is a very stable material that will not combust unless it vaporizes which only happens if the material warms. Further, any vapor present in the outage of the tank car will be of a concentration that is too high to combust. Rather, the principal safety concern — highlighted by PHMSA in the July 2020 Final Rule, in the NPRM and comments thereon, and in TRB's evaluation of safety risks associated with rail transportation of LNG — pertains to consequences should either there be a release of LNG to atmosphere, or a tank car be

[40] IAFF, Doc. No. PHMSA-2021-0058-6442, "Comments Regarding Suspension of Hazardous Materials Regulations Amendments Authorizing Transportation of Liquefied Natural Gas (LNG) by Rail" at 1-2 (Dec. 23, 2021).

exposed to harsh conditions during an incident or accident. LNG releases can expose personnel and materials to extreme cold (as low as -120ºC or -260º F) and can be an asphyxiant within a confined space. When released to the atmosphere (as a result of a puncture of the inner and outer tanks during an accident or incident), liquid methane will convert to a gas that has a relatively low auto-ignition point (about 540ºC or 1000º F) in addition to being highly combustible when exposed to an ignition source such as fire or electrical sparking. When methane ignites, it burns at very high temperatures (about 1330ºC, or 2426ºF), potentially resulting in exposure of personnel and materials — including (potentially) undisturbed DOT-113C120W9 tank cars adjacent to an LNG pool fire to significant radiant heat hazards. Although PHMSA had undertaken (via the LNG Task Force) a robust testing regime to develop a fulsome understanding of those potential, significant hazards of LNG when transported by rail tank car in parallel with the development and issuance of the July 2020 Final Rule, the subject matter expert recommendations within each of the TRB's Phases I and II Reports underscore the value in obtaining that understanding from completing enhanced testing and evaluation activities *before* LNG begins moving in DOT-113C120W9 rail tank cars pursuant to the July 2020 Final Rule. A temporary suspension gives the LNG Task Force and PHMSA an opportunity to complete that critical work.

PHMSA also disagrees that suspension of the July 2020 Final Rule would discourage investment in enhanced, DOT-113C120W9-specification tank cars for use in rail transportation of any cryogenic liquid hazardous materials—not just LNG. PHMSA acknowledges that the HMR (at 49 CFR Part 179 Subpart F) contemplates use of DOT-113C120W9-specification tank cars for transportation of other materials authorized for transportation in the DOT-113 series tank cars in that DOT-113C120W9 tank cars will also meet and exceed the minimum DOT-113C120W standard. However, factors influencing whether to invest in new DOT-113C120W9-specification tank cars for use in transporting those other cryogenic liquids are very different from the factors driving decision making on investing in those tank cars for LNG service. For

example, those other cryogenic liquid hazardous materials would likely be destined for more mature domestic and international markets than the (currently) speculative domestic and international market for LNG transported by rail tank car. Perhaps for this reason, PHMSA is aware of at least one entity having submitted an order for construction of new DOT-113C120W9-specification tank cars for cryogenic ethylene service — even as, over three years after the July 2020 Final Rule issued, PHMSA is unaware of a single order from a commercial entity for a new DOT-113C120W9 specification tank car for LNG service.[41]

For the reasons discussed above and in section III.D, PHMSA concludes that uncertainty on critical issues regarding the safety profile of rail tank car transportation of LNG pursuant to the July 2020 Final Rule has increased since its issuance—and will persist through the suspension period adopted in this final rule until PHMSA and FRA have had an opportunity to complete and review the results of the LNG Task Force's testing and evaluation activities and implement any necessary regulatory amendments in the companion rulemaking under RIN2137-AF54.

F. Comments Alleging Environmental Benefits from LNG by Rail

PHMSA received several comments arguing temporary suspension of the July 2020 Final Rule would forfeit important environmental benefits. Comments describe several mechanisms for such environmental benefits including potential reduction in flaring from oil and gas production activities and reduced GHG emissions compared to highway transportation of the same volume of LNG in MC-338 cargo tanks.[42]

PHMSA Response

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[41] In addition, DOT-113C120W9-specification tank cars constructed for cryogenic ethylene (or other cryogenic liquid) service could not be converted for LNG service easily or immediately: each tank car would have to be cleaned and purged; the physical configuration of critical, installed components of each tank car (e.g., pressure relief valve piping, valves, and other service equipment) would have to be changed; and the re-configured tank car would have to obtain a design certification from the American Association of Railroads Tank Car Committee. Mechanically converting one car—separate from the approval process for the Tank Car Committee—could take several months to over a year.

[42] House T&I Minority Comments at 2-3; Landry, et al. Comments at 5-7; CSX Comments at 1-2; RSI Comments at 2, 5.

For largely the same reasons discussed in section III.E above, PHMSA finds these arguments unconvincing. The statements in those comments regarding the environmental benefits of the July 2020 Final Rule were offered without any evidentiary support and little analysis, frustrating evaluation against the comments submitted in response to the NPRM attributing potential environmental harms (including those pertaining to commodity releases and lifecycle and indirect GHG emissions) to rail tank car transportation of LNG. As explained in the NPRM, both environmental benefits and risks of rail tank car transportation of LNG are a function of whether, when, and where viable market opportunities for such transportation develops. The July 2020 Final Rule acknowledged considerable uncertainty regarding those questions—and as explained in the section III.D above, the commercial prospects for rail tank car transportation of LNG are more speculative now than in July 2020 or even when the NPRM in this proceeding issued in November 2021.

These considerations are particularly relevant to the mechanisms for environmental benefits identified in those comments charactering the environmental benefits of the July 2020 Final Rule. Whether a market will emerge during the suspension period (or for that matter, may ever emerge) for capture of methane that would be otherwise be flared from oil and gas production operations and transported by rail tank car is not a straightforward proposition. In addition to the non-trivial capital investment for rail tank cars, such an approach would require, among other things, liquefaction equipment at the production site and gasification equipment at the destination and enabling Federal or state regulatory authorizations — and each of those elements may need to be procured sooner at break-even or lower cost than alternatives such as capture and transportation via pipeline or MC-338 cargo tank carried by truck (or, by extension, by rail tank car via FRA approval or PHMSA SP). And even if such a market opportunity would have arisen, meaningful evaluation of the GHG emissions benefits would inevitably involve myriad assumptions (e.g., accident/incident rates for rail and highway transportation; lifecycle emissions from construction and operation of the tank cars and related equipment; potential

indirect effects such as emissions associated with upstream production induced by newly-available takeaway capacity) that increase uncertainty regarding GHG impacts. Similarly, modal shifting between highway transportation of LNG via MC-338 cargo tank and rail tank car may not be as easy or as desirable as those comments assume. As discussed above in section III.D, highway transportation sacrifices economies of scale that is among the principal advantages of rail tank car transportation of LNG.

For the reasons discussed above, PHMSA concludes that uncertainty regarding the potential environmental benefits and harms from rail tank car transportation of LNG pursuant to the July 2020 Final Rule will continue throughout the suspension period adopted in this Final Rule. This persistent uncertainty on a critical potential benefit identified for the July 2020 Final Rule militates in favor of its temporary suspension as the LNG Task Force completes its testing and evaluation activity and PHMSA implements any necessary regulatory amendments in the companion rulemaking under RIN 2137-AF54.

G. Comments Alleging PHMSA Is Overstepping its Authority by Attempting to Regulate Oil and Gas Production

PHMSA received comments alleging that PHMSA's proposed suspension of the July 2020 Final Rule overstepped its statutory authority under the HMTA by attempting to discourage oil and gas production activity.[43]

PHMSA Response

Those arguments mischaracterize PHMSA's intentions and misapprehend pertinent law.[44] Indeed, PHMSA nowhere in either the NPRM or in this Final Rule identifies decreasing oil and gas production activity as an explicit goal of its suspension of the July 2020 Final Rule. Instead,

[43] Landry, et al. Comments at 1, 4.

[44] This argument is also in tension with exhortations elsewhere in the Landry, et al. comments for PHMSA to consider policy issues (pertaining to U.S national security and consumers' home heating bills) that are arguably more "attenuated" and less "tethered" to PHMSA's authority under the HMTA. See Landry, et al. Comments at 1, 7-10. Indeed, Landry, et al. also urges PHMSA to consider the indirect relationship between the rulemaking and production activity by claiming that rail tank car transportation could yield reductions in flaring from oil and gas production activities. Id. at 7.

Landry, et al. divines that intention from a reference to "[induced] natural gas extraction" within a list of several considerations in the NPRM that are probative to the safety and environmental risks attendant to rail tank car transportation of LNG.[45] But PHMSA's acknowledgement in the NPRM of the common-sense proposition that new oil and gas production activity — and any attendant environmental benefits as well as risks (including release to atmosphere of methane lost during extraction and transportation) associated with those activities — could be a reasonably foreseeable consequence of authorizing new takeaway capacity is consistent with its obligations under NEPA. See 86 FR 61735-36 & n. 35. It is also consistent with the reasoning supporting the July 2020 Final Rule, which (along with its supporting documentation) explicitly identified potential indirect effects on each of upstream production activity and downstream fuel switching from coal as justifications for that rulemaking.[46]

Nor, moreover, would any indirect effect on production activity from PHMSA's exercise of its authority under the HMTA to regulate interstate rail transportation of hazardous material implicate, as suggested by Landry, et al., the "major questions" concerns articulated in Utility Air Regulatory Group v. EPA (573 U.S. 302 (2014)), and in West Virginia v. EPA (597 U.S. (2022)). Neither case disturbed the longstanding tolerance of minor, incidental, or accidental effects when an agency takes actions within the core of its statutory responsibilities. And here, PHMSA is doing just that: imposing a temporary suspension of a recent (July 2020) exercise of its authority under the HMTA to prescribe regulations governing interstate transportation by rail of hazardous materials to temporarily restore the status quo ex ante preceding the July 2020 Final Rule. Lastly, given that (as explained in section III.D above) there is considerable uncertainty regarding the commercial viability of rail tank car transportation of LNG, the limited-duration suspension adopted in this Final Rule hardly resembles the fact sets before the Supreme Court in

[45] Landry, et al. Comments at 4 (citing 86 FR at 61736).
[46] See 85 FR at 44995. See also Final Regulatory Impact Assessment, Doc. No. PHMSA-2018-0025-0479, at 4, 32-33 & n. 48; Final Environmental Assessment, Doc. No. PHMSA-2018-0025-0478 at 35-36, 52.

either of the above decisions in which EPA was said to have "discover[ed] . . . an unheralded power to regulate 'a significant portion of the American economy.'"

H. Comments Alleging PHMSA Did Not Meet its Evidentiary Burden under the APA for Temporary Suspension of the July 2020 Final Rule.

PHMSA also received comments claiming that the NPRM did not make the required showing under the APA for suspension of currently-effective regulations.[47] Landry, et al. in particular characterizes controlling precedent as establishing a uniquely high burden for temporary suspension of existing regulations. PHMSA must, in their view, provide "a detailed justification of new facts that contradict facts underlying . . . prior policy", as well as "a more 'reasoned explanation' to justify suspension of a regulation" than merely the "inauguration of a new President." PHMSA must also demonstrate an "awareness that it is changing position." Landry, et al. ultimately concluded that PHMSA "had not provided any . . . explanations" demonstrating compliance with those purported requirements.

PHMSA Response

These criticisms misapprehend controlling precedent. Indeed, PHMSA does not understand the cited decisions to stand for the proposition suggested in those comments that "reasoned decision-making" in the context of suspension of currently effective regulations necessarily entails a heightened evidentiary burden. Rather, the Supreme Court explicitly stated that the evidentiary burden for agency action is not heightened when that action is a change. F.C.C. v. Fox Studios, 556 U.S. at 502, 514-15 (2009). And although agencies suspending currently effective regulations must acknowledge a change in their position, address any tensions between conflicting factual findings, and confront any serious reliance interests on the old policy, those common-sense expectations do not constitute a different, uniquely higher evidentiary standard for suspending a currently-effective regulation; rather, those are the sort of

[47] House T&I Minority Comments at 2 & n.8; Landry, et al. Comments at 3-4.

issues an agency may need to address (as applicable) when adopting *any* change in its regulations. See Motor Veh. Mfrs. Ass'n v. State Farm Ins., 463 U.S. 29, 51-52 (1983).

Nor did Landry, et al.'s comments provide any analysis explaining how PHMSA had run afoul of judicial guardrails for suspending currently-effective regulations. They simply asserted that PHMSA had failed to "explain[]" its compliance with pertinent APA requirements. But the NPRM acknowledged that it proposed a change in position from the July 2020 Final Rule: it stated in multiple places that rail tank car transportation of LNG authorized by the July 2020 Final Rule would be temporarily suspended. See, e.g., 86 FR at 61731-32. Further, PHMSA described at length its rationale and the evidence relied on in making that change. Specifically, information (including the TRB Phase 1 Report, COVID-related delays in the execution of LNG Task Force testing and evaluation efforts that had been expected to corroborate the conclusions in the July 2020 Final Rule, and potential fundamental shifts in the domestic and international market dynamics) that had emerged following issuance of the July 2020 LNG Final Rule cast doubt on the validity of PHMSA's understanding of the potential benefits and risks on which that rulemaking's policy decisions rested. See 86 FR at 61735-36. And (as explained in section III.D above) because uncertainty on these considerations has only increased since the NPRM's issuance in November 2021, PHMSA has now decided to impose that suspension with a marginally longer (but still time-limited) duration. Lastly, this decision does not rest, as Landry, et al. suggests, on specious reasoning that "no policy is better than the old policy solely because a new policy might be put in place. . . "; rather, temporary suspension ensures that no rail car transportation of LNG pursuant to the July 2020 Final Rule will occur during the time needed for PHMSA to develop confidence regarding its potential risks and benefits within the companion rulemaking under RIN 2137-AF54.

I. Comments Alleging that PHMSA's Proposal Will Have Miscellaneous Adverse Consequences for Regulated Entities, the U.S. Economy, and National Security

PHMSA also received a handful of comments warning of miscellaneous adverse effects from the NPRM's proposed suspension of the July 2020 Final Rule.[48] Certain members of the U.S. House Transportation and Infrastructure Committee and Landry, et al. caution suspension of the July 2020 Final Rule could increase household energy expenses and compromise U.S. energy independence and geopolitical influence. Meanwhile RSI warns that the NPRM's invocation of economic uncertainty and "hypothetical concerns" as considerations when tailoring HMR requirements could portend shifting regulatory requirements for the transportation of other hazardous materials. RSI also contends that a more appropriate tool for addressing PHMSA's concerns with the July 2020 Final Rule would be to exercise its authority under § 107.339 to obtain emergency orders from a U.S. District Court to address "imminent hazards."

PHMSA Response

PHMSA finds these comments unconvincing. The claim that temporary suspension of the July 2020 Final Rule could affect U.S. household energy prices or the geopolitical balance of power strains credulity given that no DOT-113C120W9 tank cars intended for commercial LNG service have been sold and the commercial viability of such rail tank car transportation is increasingly uncertain. Additionally, RSI's concern that PHMSA could invoke changing market dynamics to modify longstanding HMR requirements for other hazardous materials is misplaced. Unlike other hazardous materials, the rail tank car transportation of LNG is not a mature market — in fact, as discussed elsewhere in this Final Rule, no such market has emerged in over three years since the July 2020 Final Rule issued and a market may not emerge at all. Nor does PHMSA's decision to temporarily suspend the July 2020 Final Rule hardly address merely "hypothetical concerns"; rather, (as discussed in sections III.E and F above) the potential safety and environmental hazards associated with LNG could be significant, and it is PHMSA's responsibility under the HMTA to evaluate and adjust the HMR to ensure its transportation by rail tank car is conducted in a manner that protects public safety and the environment.

[48] House T&I Minority Comments at 1, 3; Landry, et al. Comments at 7-8; RSI Comments at 3.

Additionally, PHMSA's decision in this Final Rule to adjust pertinent HMR requirements on a time-limited basis and before any rail tank car transportation of LNG commences (or is likely to commence), minimizes the risk of stranded investments or lost business opportunities for regulated entities should PHMSA's ongoing evaluation of the safety and environmental risks and benefits merit imposing additional or conflicting safety requirements in the companion rulemaking under RIN 2137-AF54.

In addition, the final rule addresses any potential public safety and environmental risks from rail tank car transportation of LNG via a generic, nationwide, time-limited suspension following notice-and-comment rulemaking is a more appropriate approach than utilizing the emergency order authority recommended by RSI. The July 2020 Final Rule was a legislative rule that itself was the product of notice-and-comment rulemaking, and the APA establishes a presumption that a subsequent legislative rule providing for its modification (to include its temporary suspension) should similarly involve notice-and comment rulemaking. See 5 U.S.C. 553. In addition, PHMSA's emergency order authority may be difficult to assert on a time-limited, precautionary, nationwide basis like the temporary suspension adopted in this Final Rule. Each of PHMSA's § 107.339 emergency order authority and the Secretary's authority to address imminent hazards under 49 U.S.C. 5122(b) are seldom exercised. A finding of "imminent harm" may make it more difficult for any controls addressing that harm to be removed later based on PHMSA's evaluation of whether and how to amend pertinent HMR requirements in a companion rulemaking under RIN 2137-AF54.

J. Comments Beyond the Scope of this Rulemaking

PHMSA received miscellaneous comments beyond the scope of this rulemaking. These comments pertained to concerns regarding PHMSA's process in developing, and reasoning in adopting, the July 2020 Final Rule; concerns with the adequacy of conditions imposed by PHMSA within DOT-SP 20534 issued to ETS in 2019; a requested ban on fracking (the process of hydraulic fracturing to extract oil or gas) and all fossil fuels; and additional miscellaneous

comments unrelated to this rulemaking or rail tank car transportation of LNG. A number of commentors requested repeal of any existing regulatory approvals or regulatory provisions — whether by FRA or PHMSA — authorizing rail transportation of LNG.

PHMSA Response

Although PHMSA appreciates the concerns raised by the commenters that the NPRM's proposal to suspend the transportation of LNG by rail tank car authorized by the July 2020 Final Rule did not go far enough to protect public safety and the environment, PHMSA declines to adopt their far-reaching recommendations in this proceeding. However, PHMSA encourages those stakeholders to consider submitting comments in response to any future notice of proposed rulemaking in PHMSA's companion rulemaking under RIN 2137-AF54, as well as to engage other Federal and State regulatory authorities with jurisdictional responsibilities for the issues they asked PHMSA to address.

IV. Regulatory Analyses and Notices

A. Statutory/Legal Authority

Statutory authority for this final rule is provided by the HMTA. 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 § 1.97(b).

B. Executive Orders 12866 and 14094, and DOT Regulatory Policies and Procedures

Executive Order 12866 ("Regulatory Planning and Review"),[49] as amended by Executive Order 14094 ("Modernizing Regulatory Review"),[50] 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

[49] 58 FR 51735 (Oct. 4, 1993).
[50] 88 FR 21879 (April 11, 2023).

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 review. Executive Order 14094 amended Executive Order 12866, which defines significant regulatory actions. This rulemaking is considered a significant regulatory action under section 3(f) of Executive Order 12866 as amended by Executive Order 14094. This final rule has, therefore, been reviewed by OMB.

PHMSA concludes that the temporary suspension of transporting LNG by rail tank car is not expected to have an economic impact because LNG transport by rail tank car is not expected to occur during the suspension period. As explained in section III.D above, since issuance of the July 2020 Final Rule, the commercial prospects for rail tank car transportation of LNG have become increasingly unlikely. LNG has not been transported in any rail tank cars (whether pursuant to the July 2020 Final Rule, SP issued by PHMSA, or FRA approval), and PHMSA is unaware of any planned movements in the near future. Indeed, the development of the necessary infrastructure — including construction of DOT-113C120W9 tank cars, loading and unloading facilities, vessel handling facilities if sea transport is required, liquification facilities, and regasification facilities — to transport LNG by rail as authorized by the July 2020 Final Rule demands significant financial investment, long-term commitment, and considerable planning

associated with constructing a new LNG tank car fleet (which construction may itself be subject to delays because of limited capacity in the rail car manufacturing industry). PHMSA is unaware of any orders having been placed for the manufacture of new DOT-113C120W9 tank cars for commercial LNG service. This absence of commercial demand occurred despite the highest prices for domestic U.S. natural gas markets and LNG export markets in nearly a decade.[51] Additionally, it appears LNG export prices have risen faster than the domestic price which has resulted in a substantial increase in US LNG exports over the last decade. However, the increase in export capacity does not appear to have translated into increased demand for tank cars, possibly due to the majority of the increase in liquefication capacity occurring at waterfront LNG facilities.[52]

PHMSA expects no economic impact due to the 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 July 2020 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.[53] Further, 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, the limited duration of the suspension will also mitigate any potential adverse economic, public safety, or environmental impacts that could arise in the unlikely event that demand for rail

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[51] See EIA, "Price of U.S. Liquefied Natural Gas Exports", https://www.eia.gov/dnav/ng/hist/n9133us3m.htm (last accessed May 24, 2023); EIA, "Average Cost of Wholesale U.S. Natural Gas in 2022 Highest Since 2008", https://www.eia.gov/todayinenergy/detail.php?id=55119#:~:text=In%202022%2C%20the%20wholesale%20U.S.,on%20data%20from%20Refinitiv%20Eikon (last accessed May 24, 2023).

[52] For approved and under construction U.S. LNG projects see EIA, "U.S. LNG export capacity to grow as three additional projects begin construction", https://www.eia.gov/todayinenergy/detail.php?id=53719 (last accessed June 28, 2023).

[53] As noted earlier in this final rule, PHMSA previously denied an application for renewal of a special permit, in part, on the basis that the application for renewal did not discuss any of the concerns raised in the NPRM in this proceeding. PHMSA will consider all applications for a special permit that meet the requirements set forth in 49 C.F.R. 107, Subpart B and notes that each special permit application is considered on its own merits.

tank car transportation under the July 2020 Final Rule would have materialized during the suspension period in the absence of this final rule.

In addition to the PHMSA SP and FRA approval alternatives, shippers could transport LNG by highway via MC-338 insulated cargo tanks. All of these alternatives for LNG shippers would involve higher costs than rail transportation, but they are available in the unlikely case that market conditions evolve to warrant LNG transportation prior to June 30, 2025, or the completion of the companion rulemaking.[54]

C. Executive Order 13132

PHMSA analyzed this rulemaking in accordance with the principles and criteria contained in Executive Order 13132 ("Federalism")[55] and its implementing Presidential Memorandum ("Preemption").[56] 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 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 contain 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 HMTA 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;

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[54] Id. at 33–34, 56 (discussing higher direct GHG emissions from highway transportation) *and* 37–38 (discussing higher risk of crashes from highway transportation).
[55] 64 FR 43255 (Aug. 10, 1999).
[56] 74 FR 24693 (May 22, 2009).

(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 final 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.

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 Tribes.

In addition to the petitions filed by the environmental groups and State attorneys general mentioned above, the Puyallup Tribe also challenged the July 2020 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 final rule and concluded that it will not significantly or uniquely affect Tribal communities or Tribal governments. This rulemaking does not impose substantial compliance costs on Tribal governments or communities, nor does it mandate Tribal action. Insofar as PHMSA expects the final rule will not adversely affect the safe transportation of hazardous materials generally, PHMSA does not expect it will entail disproportionately high adverse risks for Tribal communities. This final rule could in fact reduce risks to Tribal communities, as it could avoid the release of hazardous materials (in particular, LNG) by railroad in the vicinity of Tribal communities. For these reasons, PHMSA has concluded that the funding and consultation requirements of Executive Order 13175 and DOT Order 5301.1 do not apply.

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")[57] requires agencies to establish procedures and policies to promote compliance with the Regulatory Flexibility Act and to "thoroughly review draft rules to assess and take appropriate account of the potential impact" of

[57] 67 FR 53461 (Aug. 16, 2002).

the rules on small businesses, governmental jurisdictions, and small organizations. The DOT posts its implementing guidance on a dedicated webpage.[58]

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 and ensure that potential impacts of draft rules on small entities are properly considered. Consistent with the analysis above, PHMSA certifies that the temporary suspension of the July 2020 Final Rule will not have a significant economic impact on a substantial number of 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 rulemaking 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 July 2020 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 liquid)) to comply with the additional rail transportation safety and security planning requirements. Following publication of the July 2020 Final Rule, PHMSA published both a 60-day[59] and 30-day[60] notice and comment period 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 implements a temporary suspension of

[58] DOT, "Rulemaking Requirements Related to Small Entities," https://www.transportation.gov/regulations/rulemaking-requirements-concerning-small-entities (last visited Jun. 17, 2021).
[59] 85 FR 46220 (Jul. 31, 2020).
[60] 85 FR 73128 (Nov. 16, 2020).

the authorization to ship LNG by rail tank car pursuant to July 2020 Final Rule, PHMSA estimates this rulemaking would result in a decrease in the burden associated with additional rail transportation safety and security planning requirements imposed by the July 2020 Final Rule. Because this final rule contains revisions to an information collection approved under OMB control number 2137-0612 that are subject to review by OMB under the PRA Act, PHMSA has submitted the revised information collection to OMB and will publish a subsequent Federal Register notice to advise the public when OMB has approved the revisions. 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[61]	Decrease in Total Salary Cost	Decrease in Total Burden Cost
Class I Railroads	0	(2)	80	(160)	$75.88	($12,141)	$0
Class II Railroads	0	(1)	80	(80)	$75.88	($6,071)	$0
Class III Railroads	0	(1)	40	(40)	$75.88	($3,035)	$0
Total	0	(4)		(280)		($21,248)	$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[62]	Decrease in Total Salary Cost	Decrease in Total Burden Cost
Class I Railroads	0	(2)	120	(240)	$75.88	($18,212)	$0
Class II Railroads	0	(1)	120	(120)	$75.88	($9,106)	$0
Class III Railroads	0	(1)	40	(40)	$75.88	($3,035)	$0
Total	0	(4)		(400)		($30,354)	$0

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: $51,598.

Total Annual Decrease in Burden Costs: $0.

G. Unfunded Mandates Reform Act of 1995

[61] Occupation labor rates based on 2022 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 ($52.36) 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 69.0 percent of total compensation (total wage = wage rate/wage % of total compensation).

[62] Ibid.

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 notice of proposed rulemaking 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 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), as amended (42 U.S.C. 4321 *et seq.*),[63] requires federal agencies to consider the environmental impacts of their actions in the decision-making process. NEPA requires Federal agencies to assess the environmental effects of proposed Federal actions prior to making decisions and involve the public in the decision-making process. Agencies must prepare an environmental assessment (EA) for an action for which a categorical exclusion is not applicable and is either unlikely to have significant effects or when significance of the action is unknown. In accordance with these requirements, an EA must briefly discuss: (1) the need for the action; (2) the alternatives considered; (3) the environmental impacts of the action and alternatives; and (4) a listing of the agencies and persons consulted. If, after reviewing the EA and public comments if applicable, in response to a draft EA (DEA), an agency determines that a proposed action will not have a significant impact on the human or natural environment, it can conclude the NEPA analysis with a finding of no significant impact (FONSI).

[63] See also 40 CFR parts 1501 to 1508.

(1) The Need for the Action

PHMSA has determined that the recommendations from the TRB, 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 July 2020 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 is amending 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 this rulemaking, PHMSA considered 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 final environmental analysis (FEA), which—except for the finding of no significant impact therein—is incorporated by reference into this final rule, 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.[64] 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 and Phase II Reports and results from ongoing, delayed testing and evaluation activity by the LNG Task Force.

Selected Action Alternative

This Selected Action Alternative as it appears in this final rule, adding 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 science. Rail transport of LNG would be permitted only as authorized by the conditions of a PHMSA special permit (49 CFR 107.105) that would apply only to the railroad(s) operating under such a permit or in a portable tank secured to a rail car pursuant to the conditions of an FRA approval (49 CFR 174.63). The amendments included in this alternative are more fully discussed in the preamble and regulatory text sections of this final rule.

(3) Probable Environmental Impacts of the Action and Alternatives

[64] See Docket No. PHMSA-2018-0025-0478.

No Action Alternative

If PHMSA selected 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 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 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 that the July 2020 Final Rule authorized large quantities to be transported in rail cars. The July 2020 Final Rule 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 final 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/incidents, 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 on the July 2020 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 July 2020 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.[65] 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

[65] *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.").

could potentially replace some shipments of LNG by highway. As discussed in the FEA for the July 2020 Final Rule, highway 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.

Selected Action Alternative

Under this Selected Action Alternative, PHMSA will 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, 2025, whichever is earlier. Therefore, the HMR will not authorize shippers to transport bulk quantities of LNG by rail tank car. Instead, LNG by rail will only be permitted pursuant to a DOT SP or in portable tanks subject to FRA approval. The Selected Action Alternative will 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 will be able to further consider whether the transportation of LNG could pose disproportionately high or adverse effects on minority and low income communities, which have historically borne the brunt of deleterious Federal policy decisions. PHMSA will also be able to further consider whether shipping LNG in rail tank cars is consistent with public

health and safety, environmental protection, including 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 above and in the FEA for the July 2020 Final Rule, the authorization to transport LNG in DOT-113C120W9 specification tank cars could have yielded some environmental benefits or improvements, which will not be realized during the suspension period. The scope of potential environmental effects of suspending the July 2020 Final Rule depend on whether use of MC-338 for transportation of LNG increases as a result of the suspension of the DOT-113C120W9 or whether environmental benefits of the authorization have been realized that would not occur during the suspension. PHMSA is unaware of any order from a commercial entity for a new DOT-113C120W9-specification tank car for LNG service. Thus, no increased use of MC-338 tank cars for LNG service is expected as a result of this suspension.

In the unlikely event that the use of MC-338 cargo tank cars for LNG transportation increases due to the inability to transport LNG in rail tank cars, a few environmental effects could result. First, highway transportation of LNG requires more diesel engine vehicles and would result in more emissions, including volatile organic compounds, carbon dioxide, nitrogen oxides, sulfur oxides, and particulate matter of 10 microns or less. Next, increased highway congestion also increases the potential for a highway incident involving LNG, depending on the extent of the increase. In the event highway transportation increases as a result of this rule, these environmental effects would be speculative and minor, and PHMSA finds that they are warranted during the suspension period while PHMSA undertakes a full analysis of risks inherent in transporting LNG in rail tank cars.

The July 2020 Final Rule FEA noted that the transportation of LNG could allow natural gas to reach markets that lack this access and could potentially reduce and replace the burning of more polluting and carbon-intensive sources of energy such as coal, wood, and diesel. As noted above, the July 2020 Final Rule has not resulted in these replacements or emissions reductions,

such that the suspension would not reverse any such benefits. The July 2020 Final Rule FEA also explained that authorization to transport LNG in rail tank cars had the potential to reduce the wasteful and carbon-intensive practice of natural gas flaring because it could provide a market for by-product natural gas in areas where natural gas pipeline transportation is not available. The July 2020 Final Rule has not resulted in this benefit, and there is no indication that this benefit would have occurred anytime in the foreseeable future in the event that it remained available. Thus, PHMSA does not anticipate negative environmental effects from the suspension of the July 2020 Final Rule.

(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 rule. The final rule has also been made available to other Federal agencies within the interagency review process contemplated under Executive Order 12866.

(5) Environmental Justice

Executive Order 12898 ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"),[66] directs Federal agencies to take appropriate and necessary steps to identify and address disproportionately high and adverse effects of Federal actions on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. DOT Order 5610.2C ("U.S. Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations") establishes departmental procedures for effectuating Executive Order 12898 promoting the principles of environmental justice through full consideration of environmental justice principles throughout planning and decision-making processes in the development of programs, policies, and activities—including PHMSA rulemaking.

[66] 59 FR 7629 (Feb. 11, 1994).

PHMSA has evaluated this final rule under DOT Order 5610.2C and Executive Order 12898 and has determined it will not cause disproportionately high and adverse human health and environmental effects on minority and low-income populations. The final rule is national in scope; it is neither directed toward a particular population, region, or community, nor is it expected to result in any adverse environmental or health impact to any particular population, region, or community.

This final rule could reduce risks to minority populations, low-income populations, or other underserved and disadvantaged communities. Insofar as these HMR amendments could avoid the release of hazardous materials, the final 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 July 2020 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, these HMR amendments could increase risks to environmental justice communities in the vicinity of those highways.

Further, this rule advances the policy goals of the most recent environmental justice Executive Order 14096 – *Revitalizing Our Nation's Commitment to Environmental Justice for All*,[67] which deepens the Administration's whole-of-government approach to environmental justice to better protect communities from pollution and other environmental justice concerns.

(6) Finding of No Significant Impact

The adoption of the Selected Action Alternative's suspension will prohibit the

[67] 88 FR 25251 (Apr. 21, 2023). Executive Order 14096 supplemented the efforts of Executive Order 12898.

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, the HMR amendments in this final rule will have no significant impact on the human environment. The Selected Action Alternative will 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 finds that codification and implementation of this rule will not result in a significant impact to the human environment.

I. 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 on DOT's website at http://www.dot.gov/privacy or DOT's complete Privacy Act Statement in the *Federal Register* published on April 11, 2000.[68]

J. Executive Order 13609 and International Trade Analysis

Executive Order 13609 ("Promoting International Regulatory Cooperation")[69] 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

[68] 65 FR 19475 (Apr. 11, 2000).
[69] 77 FR 26413 (May 4, 2012).

adopted in the absence of such cooperation. 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 suspension 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 is amending 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.

K. Executive Order 13211

Executive Order 13211 ("Actions Concerning Regulations That Significantly Affect

Energy Supply, Distribution, or Use")[70] 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 action.

Although this rule is a significant action under Executive Order 12866, PHMSA expects it to have an annual effect on the economy of less than $200 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 amendment 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 section IV.B above.

L. Cybersecurity and Executive Order 14028

Executive Order 14028 ("Improving the Nation's Cybersecurity")[71] directed the Federal government to improve its efforts to identify, deter, and respond to "persistent and increasingly sophisticated malicious cyber campaigns." Consistent with Executive Order 14028, the Transportation Security Administration (TSA) in October 2022 issued a Security Directive to reduce the risk that cybersecurity threats pose to critical railroad operations and facilities through implementation of layered cybersecurity measures that provide defense-in-depth.[72] PHMSA has

[70] 66 FR 28355 (May 22, 2001).
[71] 86 FR 26633 (May 17, 2021).
[72] TSA, Security Directive No. 1580/82-2022-01, "Rail Cybersecurity Mitigation Actions and Testing" (Oct. 24, 2022).

considered the effects of the final rule and determined that its regulatory amendments will not materially affect the cybersecurity risk profile for rail transportation of hazardous materials.

List of Subjects in 49 CFR Part 172

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

In consideration of the foregoing, PHMSA is amending 49 CFR chapter I 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 § 172.101 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 the hazardous materials table.

* * * * *

§ 172.101 HAZARDOUS MATERIALS TABLE

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or division	Identification Numbers	PG	Label Codes	Special Provisions (§ 172.102)	(8) Packaging (§ 173.***)			(9) Quantity limitations (*see* §§ 173.27 and 175.75)		(10) Vessel stowage	
							Exceptions	Non-bulk	Bulk	Passenger aircraft/rail	Cargo aircraft only	Location	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, amend paragraph (c)(1) by adding special provision 439 in numerical order to read as follows:

§ 172.102 Special provisions.

* * * * *

(c) * * *

(1) * * *

439 UN1972 is not authorized for transportation by rail tank car until either issuance of a final rule concluding the rulemaking action proceeding under RIN 2137-AF54, or June 30, 2025, 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 August 23, 2023, under authority delegated in 49 CFR 1.97.

Tristan H. Brown,
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Pipeline and Hazardous Materials Safety Administration
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