

July 12, 2024

The Honorable Pete Buttigieg
Secretary
US Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

The attached letter from the NTSB Chair provides information about the Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (for example, R-24-001). We encourage you to submit your response to ExecutiveSecretariat@nts.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.



NTSB Executive Secretariat-LRM
Office of the Managing Director
National Transportation Safety Board
490 L'Enfant Plaza SW
Washington, DC 20594
Email: ExecutiveSecretariat@nts.gov

National Transportation Safety Board

Office of the Chair

Washington, DC 20594



July 12, 2024

The Honorable Pete Buttigieg
Secretary
US Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Dear Secretary Buttigieg:

This letter provides information about the National Transportation Safety Board's (NTSB) June 25, 2024, report *Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023*. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- Failure of wayside monitoring systems to diagnose a hot wheel bearing in time for mitigation to prevent a derailment;
- Inadequate emergency response training for volunteer first responders;
- Delayed transmittal of train consist information necessary to protect first responders and the public;
- Illegible hazardous materials placards that prevented emergency responders from immediately identifying hazards;
- Continued use of DOT-111 tank cars with documented poor derailment performance and lading retention in hazardous materials service;
- Tank car certification process insufficient to ensure that tank car fittings are compatible with lading;
- Misleading written hazard information that adversely affected the vent and burn decision; and

- Flawed communication and decision-making leading up to the vent and burn.

Accordingly, the NTSB makes the following safety recommendation to the Secretary of Transportation. Additional information regarding this recommendation can be found in the noted section of the report.

- Require the Federal Railroad Administration to issue regulations for inward-facing recorders that include image and audio recordings as recommended by the National Transportation Safety Board in R-24-10 and R-24-11. If necessary, obtain legislative authority to act on this recommendation. (R-24-1) (See section 2.6.)

In the same report, we also classified the following safety recommendation:

- Require the Federal Railroad Administration to issue regulations for inward-facing recorders that include image and audio recordings as recommended by the National Transportation Safety Board in R-10-1 and R-10-2. (R-19-7)

Safety Recommendation R-19-7 is classified Closed–Superseded in section 2.6 of this report. This recommendation is superseded by Safety Recommendation R-24-1.

The NTSB is vitally interested in this recommendation because it is designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement this recommendation. When replying, please refer to the safety recommendation by number (Safety Recommendation R-24-1 and classified Safety Recommendation R-19-7). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

Sincerely,

[Original Signed]

Jennifer Homendy
Chair

July 12, 2024

The Honorable Amit Bose
Administrator
Federal Railroad Administration
Washington, DC 20590-0001

The attached letter from the NTSB Chair provides information about the Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (for example, R-24-002 through R-24-011). We encourage you to submit your response to ExecutiveSecretariat@nts.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.



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National Transportation Safety Board

Office of the Chair

Washington, DC 20594



July 12, 2024

The Honorable Amit Bose
Administrator
Federal Railroad Administration
Washington, DC 20590

Dear Administrator Bose:

This letter provides information about the National Transportation Safety Board's (NTSB) June 25, 2024, report *Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023*. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- Failure of wayside monitoring systems to diagnose a hot wheel bearing in time for mitigation to prevent a derailment;
- Inadequate emergency response training for volunteer first responders;
- Delayed transmittal of train consist information necessary to protect first responders and the public;
- Illegible hazardous materials placards that prevented emergency responders from immediately identifying hazards;
- Continued use of DOT-111 tank cars with documented poor derailment performance and lading retention in hazardous materials service;
- Tank car certification process insufficient to ensure that tank car fittings are compatible with lading;
- Misleading written hazard information that adversely affected the vent and burn decision; and

- Flawed communication and decision-making leading up to the vent and burn.

Accordingly, the NTSB makes the following safety recommendations to the Federal Railroad Administration. Additional information regarding these recommendations can be found in the noted sections of the report.

- Research the effectiveness of current bearing defect detection systems, identify minimum standards to protect railroad personnel and the public, and make public the results of this research. (R-24-2) (See section 2.2.4.)
- Use the results of the research described in R-24-2 to develop and establish minimum requirements for bearing defect detection systems, including criteria for bearing alert and alarm thresholds and maximum distances between wayside detectors. (R-24-3) (See section 2.2.4.)
- Establish requirements for the installation, inspection, and maintenance of wayside bearing defect detectors to protect the reliability of these devices and improve the safety of railroad operations. (R-24-4) (See section 2.2.4.)
- Use the results of the research described in R-24-2 to develop and establish rules governing railroads' operational responses to bearing alerts and alarms. (R-24-5) (See section 2.2.4.)
- Monitor the progress of the Association of American Railroads' (AAR) action on R-24-20 and use your regulatory authority to ensure that the AAR addresses weaknesses in its tank car service equipment approval process. (R-24-6) (See section 2.4.3.1.)
- Distribute the public versions of your 2007 vent and burn reports to emergency responder associations, including the International Association of Fire Chiefs, the International Association of Fire Fighters, and the National Volunteer Fire Council. (R-24-7) (See section 2.5.4.)
- Update and re-publish your 2007 vent and burn reports to include clear instructions to consult the shipper when considering a vent and

burn, more comprehensive guidance on what products are candidates for a vent and burn along with what chemical and other hazards may result, and an updated process flow chart incorporating lessons from the East Palestine vent and burn; the re-published reports should identify the questions an incident commander should ask when considering a vent and burn, distinguish the meaning of the answers, and identify the resources necessary to make an informed decision. (R-24-8) (See section 2.5.4.)

- Make the updated versions of the 2007 vent and burn reports described in R-24-8 available to emergency responder associations, including the International Association of Fire Chiefs, the International Association of Fire Fighters, and the National Volunteer Fire Council. (R-24-9) (See section 2.5.4.)
- Require the installation, in all controlling locomotive cabs and cab car operating compartments, of crash and fire protected inward- and outward-facing audio and image recorders capable of providing recordings to verify that train crew actions are in accordance with rules and procedures that are essential to safety as well as train conditions. The devices should have a minimum 12-hour continuous recording capability with recordings that are easily accessible for review, with appropriate limitations on public release, for the investigation of accidents or for use by management in carrying out efficiency testing and systemwide performance monitoring programs. If necessary, obtain legislative authority to act on this recommendation. (R-24-10) (See section 2.6.)
- Require that railroads regularly review and use in-cab audio and image recordings (with appropriate limitations on public release), in conjunction with other performance data, to verify that train crew actions are in accordance with rules and procedures that are essential to safety. If necessary, obtain legislative authority to act on this recommendation. (R-24-11) (See section 2.6.)

In the same report, we also classified the following safety recommendations:

- Require the installation, in all controlling locomotive cabs and cab car operating compartments, of crash- and fire-protected inward- and outward-facing audio and image recorders capable of providing recordings to verify that train crew actions are in accordance with

rules and procedures that are essential to safety as well as train conditions. The devices should have a minimum 12-hour continuous recording capability with recordings that are easily accessible for review, with appropriate limitations on public release, for the investigation of accidents or for use by management in carrying out efficiency testing and systemwide performance monitoring programs. (R-10-1)

Safety Recommendation R-10-1 is classified Closed–Superseded in section 2.6 of the report. This recommendation is superseded by Safety Recommendation R-24-10.

- Require that railroads regularly review and use in-cab audio and image recordings (with appropriate limitations on public release), in conjunction with other performance data, to verify that train crew actions are in accordance with rules and procedures that are essential to safety. (R-10-2)

Safety Recommendation R-10-2 is classified Closed–Superseded in section 2.6 of the report. This recommendation is superseded by Safety Recommendation R-24-11.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendation by number (Safety Recommendations R-24-2 through -11 and classified Safety Recommendations R-10-1 and -2). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

Sincerely,

[Original Signed]

Jennifer Homendy
Chair

July 12, 2024

Mr. Tristan Brown
Deputy Administrator
Pipeline and Hazardous Materials Safety Administration
1200 New Jersey Ave. SE
Washington, DC 20590

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July 12, 2024

Mr. Tristan Brown
Deputy Administrator
Pipeline and Hazardous Materials Safety Administration
1200 New Jersey Avenue SE
Washington, DC 20590

Dear Mr. Brown:

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As a result of this investigation, we identified the following safety issues:

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- Inadequate emergency response training for volunteer first responders;
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- Continued use of DOT-111 tank cars with documented poor derailment performance and lading retention in hazardous materials service;
- Tank car certification process insufficient to ensure that tank car fittings are compatible with lading;
- Misleading written hazard information that adversely affected the vent and burn decision; and

- Flawed communication and decision-making leading up to the vent and burn.

Accordingly, the NTSB makes the following safety recommendations to the Pipeline and Hazardous Materials Safety Administration. Additional information regarding these recommendations can be found in the noted sections of the report.

- Require that placards be able to survive fires and accidents and remain legible during such emergencies long enough to fulfill their functions as described in the Emergency Response Guidebook. (I-24-1) (See section 2.3.3.)
- Obtain the necessary legislative authority and accelerate the deadline for removing specification DOT-111 tank cars from flammable liquids service. (R-24-12) (See section 2.4.2.)
- Establish a tank car replacement schedule whereby non-pressure tank cars in any hazardous materials service must meet or exceed the safety standards of the DOT-117 specification; if necessary, obtain legislative authority to act on this recommendation. (R-24-13) (See section 2.4.2.)
- Revise the definition of high-hazard flammable train to account for differences in survivability between tank car specifications and to include hazardous materials other than flammable liquids, such as combustible liquids and Division 2.1 flammable gases, that can contribute to cascading hazardous materials releases; if necessary, obtain legislative authority to act on this recommendation. (R-24-14.) (See section 2.4.4.)
- Distribute the Federal Railroad Administration's most current guidance on the vent and burn method to emergency response agencies by referencing it in the next edition of the Emergency Response Guidebook (R-24-15) (See section 2.5.4.)

In the same report, we also classified the following safety recommendation:

- With the assistance of the Federal Railroad Administration, require that railroads immediately provide to emergency responders accurate, real-time information regarding the identity and location of all hazardous materials on a train. (R-07-4)

Safety Recommendation R-07-4 is classified Closed–Acceptable Action in section 2.3.2 of this report.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendation by number (Safety Recommendation I-24-1, Safety Recommendations R-24-12 through -15, and classified Safety Recommendation R-07-4). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

Sincerely,

[Original Signed]

Jennifer Homendy
Chair

July 12, 2024

The Honorable Mike DeWine
Governor of Ohio
Riffe Center, 30th Floor
77 S. High Street
Columbus, OH 43215

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable cause of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for any accident or event investigated by the agency. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The attached letter from the NTSB Chair provides information about the NTSB's June 25, 2024, report Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023. The details of this accident investigation and the resulting safety recommendation may be found in the attached report, which can also be accessed at <http://www.nts.gov>. For more information about NTSB and our recommendation process, please see the attached one-page summary.

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Washington, DC 20594



July 12, 2024

The Honorable Mike DeWine
Governor of Ohio
Riffe Center
30th Floor
77 S. High Street
Columbus, OH 43215

Dear Governor DeWine:

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

We are providing the following information to urge the State of Ohio to act on the safety recommendation in this letter because we believe your organization can help reduce the risk of future accidents. For more information about the NTSB and our recommendation process, please see the attached one-page summary.

This letter also includes information about our June 25, 2024, report *Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023*. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- Failure of wayside monitoring systems to diagnose a hot wheel bearing in time for mitigation to prevent a derailment;
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- Tank car certification process insufficient to ensure that tank car fittings are compatible with lading;
- Misleading written hazard information that adversely affected the vent and burn decision; and
- Flawed communication and decision-making leading up to the vent and burn.

Accordingly, the NTSB makes the following safety recommendation to the State of Ohio. Additional information regarding this recommendation can be found in the noted section of the report.

- Amend your firefighter training statute and revise your volunteer firefighter certification standards to meet the NFPA 1010 standard for professional firefighters. (R-24-16) (See section 2.3.1.)

The NTSB is vitally interested in this recommendation because it is designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement this recommendation. When replying, please refer to the safety recommendation by number (Safety Recommendation R-24-16). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

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Sincerely,

[Original Signed]

Jennifer Homendy
Chair

July 12, 2024

Ms. Peggy Clark
Director
Columbiana County Emergency Management Agency
215 S. Market Street
Lisbon, Ohio 44432

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The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendation by number (for example, R-24-017 and R-24-018). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

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July 12, 2024

Ms. Peggy Clark
Columbiana County Emergency Management Agency
215 S. Market Street
Lisbon, OH 44432

Dear Ms. Clark:

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We are providing the following information to urge the Columbiana County Emergency Management Agency to act on the safety recommendations in this letter because we believe your organization can help reduce the risk of future accidents. For more information about the NTSB and our recommendation process, please see the attached one-page summary.

This letter also includes information about our June 25, 2024, report *Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023*. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- Failure of wayside monitoring systems to diagnose a hot wheel bearing in time for mitigation to prevent a derailment;

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- Tank car certification process insufficient to ensure that tank car fittings are compatible with lading;
- Misleading written hazard information that adversely affected the vent and burn decision; and
- Flawed communication and decision-making leading up to the vent and burn.

Accordingly, the NTSB makes the following safety recommendations to the Columbiana County Emergency Management Agency. Additional information regarding these recommendations can be found in the noted sections of the report.

- Adopt a policy to, upon receipt of a train consist, immediately provide it to the incident commander and all appropriate response agencies and departments. (R-24-17) (See section 2.3.2.)
- Update your Emergency Operations Plan, Hazardous Materials Response Plan, and Hazard Mitigation Plan, as appropriate, with lessons learned from the East Palestine derailment and fire, including, at a minimum, coordination among response agencies, communications, requests for and distribution of the train consist, staging and availability of equipment and other resources, and training for emergency responders. (R-24-18) (See section 2.3.2.)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendation by number (Safety Recommendations R-24-17 and -18). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

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Sincerely,

[Original Signed]

Jennifer Homendy
Chair

July 12, 2024

Mr. Ian Jefferies
President and Chief Executive Officer
Association of American Railroads
425 3rd St., SW
Washington, DC 20024

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable cause of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for any accident or event investigated by the agency. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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July 12, 2024

Mr. Ian Jeffries
President and Chief Executive Officer
Association of American Railroads
425 Third Street SW
Washington, DC 20024

Dear Mr. Jeffries:

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We are providing the following information to urge the Association of American Railroads to act on the safety recommendations in this letter because we believe your organization can help reduce the risk of future accidents. For more information about the NTSB and our recommendation process, please see the attached one-page summary.

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- Inadequate emergency response training for volunteer first responders;
- Delayed transmittal of train consist information necessary to protect first responders and the public;
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- Continued use of DOT-111 tank cars with documented poor derailment performance and lading retention in hazardous materials service;
- Tank car certification process insufficient to ensure that tank car fittings are compatible with lading;
- Misleading written hazard information that adversely affected the vent and burn decision; and
- Flawed communication and decision-making leading up to the vent and burn.

Accordingly, the NTSB makes the following safety recommendations to the Association of American Railroads. Additional information regarding these recommendations can be found in the noted sections of the report.

- Develop a database of bearing failures and replacements and make it available to railroads, regulators, and investigators to help determine and address failure risk factors. (R-24-19) (See section 2.2.5.)
- Revise the Manual of Standards and Recommended Practices, M-1002, Specifications for Tank Cars, to establish criteria and procedures for manufacturers of tank car service equipment to demonstrate compatibility of pressure relief devices and other Association of American Railroads-approved service equipment with intended loadings. (R-24-20) (See section 2.4.3.1.)

- Revise the definition of key train in Circular OT-55 to designate as a key train any train containing tank cars transporting hazardous materials that do not meet the DOT-117 standard. (R-24-21) (See section 2.4.5.)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendation by number (Safety Recommendations R-24-19 through -21). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

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Sincerely,

[Original Signed]

Jennifer Homendy
Chair

July 12, 2024

Ms. Sarah Lee, CAE
Chief Executive Officer
National Volunteer Fire Council
712 H Street, NE
Suite 1478
Washington, DC 20002

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The attached letter from the NTSB Chair provides information about the NTSB's June 25, 2024, report Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023. The details of this accident investigation and the resulting safety recommendation may be found in the attached report, which can also be accessed at <http://www.nts.gov>. For more information about NTSB and our recommendation process, please see the attached one-page summary.

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National Transportation Safety Board

Office of the Chair

Washington, DC 20594



July 12, 2024

Ms. Sarah Lee, CAE
Chief Executive Officer
National Volunteer Fire Council
712 H Street NE
Suite 1478
Washington, DC 20002

Dear Ms. Lee:

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We are providing the following information to urge the National Volunteer Fire Council to act on the safety recommendations in this letter because we believe your organization can help reduce the risk of future accidents. For more information about the NTSB and our recommendation process, please see the attached one-page summary.

This letter also includes information about our June 25, 2024, report *Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023*. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- Failure of wayside monitoring systems to diagnose a hot wheel bearing in time for mitigation to prevent a derailment;

- Inadequate emergency response training for volunteer first responders;
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- Tank car certification process insufficient to ensure that tank car fittings are compatible with lading;
- Misleading written hazard information that adversely affected the vent and burn decision; and
- Flawed communication and decision-making leading up to the vent and burn.

Accordingly, the NTSB makes the following safety recommendations to the National Volunteer Fire Council. Additional information regarding these recommendations can be found in the noted sections of the report.

- Identify barriers to adequate fire and emergency response training for volunteer firefighters, particularly for situations where hazardous materials are present, and publish actions states, municipalities, and the private sector can take to provide the flexibility necessary for volunteer firefighters to obtain training. (R-24-22) (See section 2.3.1.)
- Advise your members of the circumstances of the East Palestine derailment and fire, identify fire departments whose personnel are not trained to the NFPA 1010 standard for professional firefighters, recommend that these departments adopt training that meets this standard, and inform them of funded training opportunities available through private, state, and federal programs. (R-24-23) (See section 2.3.1.)
- Advise your members of the circumstances surrounding the vent and burn at East Palestine, the importance of obtaining information from the shipper when considering a vent and burn, and the availability of federal guidance on when the vent and burn method may be appropriate. (R-24-24) (See section 2.5.4.)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendation by number (Safety Recommendations R-24-22 through -24). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

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Sincerely,

[Original Signed]

Jennifer Homendy
Chair

July 12, 2024

Chief John Butler
President and Board Chair
International Association of Fire Chiefs
8251 Greensboro Drive
Suite 650
McLean, VA 22102

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National Transportation Safety Board

Office of the Chair

Washington, DC 20594



July 12, 2024

Chief John Butler
President and Board Chair
International Association of Fire Chiefs
8251 Greensboro Drive
Suite 650
McLean, VA 22102

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We are providing the following information to urge the International Association of Fire Chiefs to act on the safety recommendations in this letter because we believe your organization can help reduce the risk of future accidents. For more information about the NTSB and our recommendation process, please see the attached one-page summary.

This letter also includes information about our June 25, 2024, report *Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023*. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

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- Tank car certification process insufficient to ensure that tank car fittings are compatible with lading;
- Misleading written hazard information that adversely affected the vent and burn decision;
- Flawed communication and decision-making leading up to the vent and burn.

Accordingly, the NTSB makes the following safety recommendations to the International Association of Fire Chiefs. Additional information regarding these recommendations can be found in the noted sections of the report.

- Advise your members of the circumstances of the East Palestine derailment and fire, identify fire departments whose personnel are not trained to the NFPA 1010 standard for professional firefighters, recommend that these departments adopt training that meets this standard, and inform them of funded training opportunities available through private, state, and federal programs. (R-24-23) (See section 2.3.1.)
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Sincerely,

[Original Signed]

Jennifer Homendy
Chair

July 12, 2024

Mr. Edward A. Kelly
General President
International Association of Fire Fighters
1750 New York Avenue, NW Suite 300
Washington, DC 20006

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National Transportation Safety Board

Office of the Chair

Washington, DC 20594



July 12, 2024

Mr. Edward A. Kelly
General President
International Association of Fire Fighters
1750 New York Avenue NW
Suite 300
Washington, DC 20006

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We are providing the following information to urge the International Association of Fire Fighters to act on the safety recommendations in this letter because we believe your organization can help reduce the risk of future accidents. For more information about the NTSB and our recommendation process, please see the attached one-page summary.

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- Tank car certification process insufficient to ensure that tank car fittings are compatible with lading;
- Misleading written hazard information that adversely affected the vent and burn decision;
- Flawed communication and decision-making leading up to the vent and burn.

Accordingly, the NTSB makes the following safety recommendations to the International Association of Fire Fighters. Additional information regarding these recommendations can be found in the noted sections of the report.

- Advise your members of the circumstances of the East Palestine derailment and fire, identify fire departments whose personnel are not trained to the NFPA 1010 standard for professional firefighters, recommend that these departments adopt training that meets this standard, and inform them of funded training opportunities available through private, state, and federal programs. (R-24-23) (See section 2.3.1.)
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Sincerely,

[Original Signed]

Jennifer Homendy
Chair

July 12, 2024

Mr. Frank Reiner
President
The Chlorine Institute
1300 Wilson Blvd.
Suite 525
Arlington, VA 22209

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National Transportation Safety Board

Office of the Chair

Washington, DC 20594



July 12, 2024

Mr. Frank Reiner
President
The Chlorine Institute
1300 Wilson Boulevard
Suite 525
Arlington, VA 22209

Dear Mr. Reiner:

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We are providing the following information to urge The Chlorine Institute to act on the safety recommendations in this letter because we believe your organization can help reduce the risk of future accidents. For more information about the NTSB and our recommendation process, please see the attached one-page summary.

This letter also includes information about our June 25, 2024, report *Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023*. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

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- Misleading written hazard information that adversely affected the vent and burn decision; and
- Flawed communication and decision-making leading up to the vent and burn.

Accordingly, the NTSB makes the following safety recommendations to The Chlorine Institute. Additional information regarding these recommendations can be found in the noted sections of the report.

- Review and revise Pamphlet 171 to ensure that its safety messages about vinyl chloride monomer polymerization in tank cars are accurate and adequately support determining whether a rail accident poses a risk of polymerization. (R-24-25) (See section 2.5.2.)
- Review and revise your Chlorine Emergency Plan training and verification programs to ensure that Level 3 contractors possess or can obtain enough technical knowledge of vinyl chloride monomer (VCM) to accurately assess and respond to chemical hazards like polymerization during a VCM incident. (R-24-26) (See section 2.5.2.)
- Advise your members of the circumstances of the East Palestine derailment and fire and the need for shippers to ensure their expertise is communicated to and shared with the full incident command. (R-24-27) (See section 2.5.3.)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within

90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendation by number (Safety Recommendations R-24-25 through -27). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

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Sincerely,

[Original Signed]

Jennifer Homendy
Chair

July 12, 2024

Mr. Chris Jahn
President & Chief Executive Officer
American Chemistry Council
700 2nd Street, NE
Washington, DC 20002

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National Transportation Safety Board

Office of the Chair

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July 12, 2024

Mr. Chris Jahn
President and Chief Executive Officer
American Chemistry Council
700 Second Street NE
Washington, DC 20002

Dear Mr. Jahn:

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We are providing the following information to urge the American Chemistry Council to act on the safety recommendation in this letter because we believe your organization can help reduce the risk of future accidents. For more information about the NTSB and our recommendation process, please see the attached one-page summary.

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- Delayed transmittal of train consist information necessary to protect first responders and the public;
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- Continued use of DOT-111 tank cars with documented poor derailment performance and lading retention in hazardous materials service;
- Tank car certification process insufficient to ensure that tank car fittings are compatible with lading;
- Misleading written hazard information that adversely affected the vent and burn decision; and
- Flawed communication and decision-making leading up to the vent and burn.

Accordingly, the NTSB makes the following safety recommendation to the American Chemistry Council. Additional information regarding this recommendation can be found in the noted section of the report.

- Advise your members of the circumstances of the East Palestine derailment and fire and the need for shippers to ensure their expertise is communicated to and shared with the full incident command. (R-24-27) (See section 2.5.3.)

The NTSB is vitally interested in this recommendation because it is designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement this recommendation. When replying, please refer to the safety recommendation by number (Safety Recommendation R-24-27). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for

instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

All communications regarding safety recommendations are stored by the NTSB and viewable by the public. Please do not send privileged or confidential communications in response to this recommendation. Responses marked as confidential or privileged (or similar designations) will be considered nonresponsive. In the likely event that your company uses auto-generated and/or preformatted confidentiality statements on letterhead or outgoing e-mails, please include a statement in your letter indicating that the information can be publicly released. If you have concerns about this protocol, please contact us at ExecutiveSecretariat@ntsb.gov.

Sincerely,

[Original Signed]

Jennifer Homendy
Chair

July 12, 2024

Mr. Alan H. Shaw
President and Chief Executive Officer
Norfolk Southern Corporation
650 W Peachtree St NW
Atlanta, GA 30308

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable cause of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for any accident or event investigated by the agency. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The attached letter from the NTSB Chair provides information about the NTSB's June 25, 2024, report Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023. The details of this accident investigation and the resulting safety recommendation may be found in the attached report, which can also be accessed at <http://www.nts.gov>. For more information about NTSB and our recommendation process, please see the attached one-page summary.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendation by number (for example, R-24-028, R-24-029, R-24-030, and R-24-031). We encourage you to submit your response to ExecutiveSecretariat@nts.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

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National Transportation Safety Board

Office of the Chair

Washington, DC 20594



July 12, 2024

Mr. Alan Shaw
President and Chief Executive Officer
Norfolk Southern Railway
650 W. Peachtree Street NW
Atlanta, GA 30308

Dear Mr. Shaw:

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

We are providing the following information to urge Norfolk Southern Railway to act on the safety recommendations in this letter because we believe your organization can help reduce the risk of future accidents. For more information about the NTSB and our recommendation process, please see the attached one-page summary.

This letter also includes information about our June 25, 2024, report *Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023*. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- Failure of wayside monitoring systems to diagnose a hot wheel bearing in time for mitigation to prevent a derailment;

- Inadequate emergency response training for volunteer first responders;
- Delayed transmittal of train consist information necessary to protect first responders and the public;
- Illegible hazardous materials placards that prevented emergency responders from immediately identifying hazards;
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- Tank car certification process insufficient to ensure that tank car fittings are compatible with lading;
- Misleading written hazard information that adversely affected the vent and burn decision; and
- Flawed communication and decision-making leading up to the vent and burn.

Accordingly, the NTSB makes the following safety recommendations to Norfolk Southern Railway. Additional information regarding these recommendations can be found in the noted sections of the report.

- Review and revise your procedures to immediately provide emergency responders with an accurate copy of the train consist upon becoming aware of an accident. (R-24-28) (See section 2.3.2.)
- Update your submissions to the Pipeline and Hazardous Materials Safety Administration's Incident Database to accurately reflect the cause of package failures following the East Palestine derailment. (R-24-29) (See section 2.5.1.)
- Adopt policies to ensure that your emergency response contractors keep detailed records of information used to make decisions involving hazardous materials, and share this information with shippers, relevant chemical associations, and other entities that provide hazardous materials guidance. (R-24-30) (See section 2.5.2.)
- Develop a policy to ensure that expertise communicated to your on-scene representatives and contractors is shared with the full incident command. (R-24-31) (See section 2.5.3.)

In addition, the NTSB reiterates the following recommendation to Norfolk Southern Railway:

- Install in all controlling locomotive cabs and cab car operating compartments crash- and fire-protected inward- and outward-facing audio and image recorders. The devices should have a minimum 12-hour continuous recording capability. (R-13-26)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendation by number (Safety Recommendations R-24-28 through -31 and reiterated Safety Recommendation R-13-26). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

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Sincerely,

[Original Signed]

Jennifer Homendy
Chair

July 12, 2024

Ms. Vicki Hollub
President & Chief Executive Officer
Oxy Vinyls, LP
5 Greenway Plaza
Suite 110
Houston, Texas 77046-0521

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable cause of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for any accident or event investigated by the agency. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendation by number (for example, R-24-032 and R-24-033). We encourage you to submit your response to ExecutiveSecretariat@nts.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

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If you have concerns about this protocol, please contact us at
ExecutiveSecretariat@ntsb.gov.



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National Transportation Safety Board

Office of the Chair

Washington, DC 20594



July 12, 2023

Ms. Vicki Hollub
President and Chief Executive Officer
Oxy Vinyls, LP
14555 Dallas Parkway
Suite 400
Dallas, TX 75254

Dear Ms. Hollub:

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

We are providing the following information to urge Oxy Vinyls, LP to act on the safety recommendations in this letter because we believe your organization can help reduce the risk of future accidents. For more information about the NTSB and our recommendation process, please see the attached one-page summary.

This letter also includes information about our June 25, 2024, report *Norfolk Southern Railway Derailment and Hazardous Materials Release, East Palestine, Ohio, February 3, 2023*. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

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- Tank car certification process insufficient to ensure that tank car fittings are compatible with lading;
- Misleading written hazard information that adversely affected the vent and burn decision; and
- Flawed communication and decision-making leading up to the vent and burn.

Accordingly, the NTSB makes the following safety recommendations to Oxy Vinyls, LP. Additional information regarding these recommendations can be found in the noted sections of the report.

- Update the safety data sheet for vinyl chloride monomer (VCM) to accurately reflect the potential risks of VCM and the hazards that increase such risks. (R-24-32) (See section 2.5.2.)
- Develop a policy to ensure that expertise on chemicals manufactured and offered for transportation by Oxy Vinyls is communicated to and shared with the full incident command during transportation accidents or incidents. (R-24-33) (See section 2.5.3.)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendation by number (Safety Recommendations R-24-32 and -33). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

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Sincerely,

[Original Signed]

Jennifer Homendy
Chair