



NATIONAL TRANSPORTATION SAFETY BOARD
Investigative Hearing

Norfolk Southern Railway general merchandise freight train 32N
derailment with subsequent hazardous material release and fires,
in East Palestine, Ohio, on February 3, 2023

GROUP	H
EXHIBIT	
1	

Agency / Organization

FRA

Title

**FRA – VCM Tank car approval
sample summary**

VCM Tank car approval sample summary.

TILX 402025

AAR Form 4-2 AAR No. L166086 and applied fitting arrangement drawing F-020-T16043 Rev B sheets 1, 2, and 3 was provided.

However, AAR Form 4-2 AAR No. L166086 list the fittings arrangement drawing F-020-T16043 SH. 1, 2 & 3 No Revision.

AAR Form 4-2 AAR No. L166086 and applied Tank Arrangement Drawing D-52473 Rev C sheets 1, 2, and 3 was provided.

However, AAR Form 4-2 AAR No. L166086 list the tank arrangement drawing D- 52473 SH. 1B.

AAR Form 4-2 AAR No. L166086 and applied anchorage, including calculation drawing D-640435 SH. 1C & 2C was provided.

However, (1) AAR Form 4-2 AAR No. L166086 list the anchorage, including calculation drawing D-640435 SH. 1C & 2C with prior approval listed as L166070.

(2) AAR Application No. listed on this drawing is L156068.

AAR Form 4-2 with AAR No. L166086 list fittings arrangement F-020-T16043 SH. 1, 2 & 3, list drawing Midland A-37247 with prior approval PRD 072003 on line 47, application submitted 7/14/2016, application approve date by TCC 8/30/2016.

However, (1) Fittings Arrangement drawing provided F-020-T16043 Rev B SH. 1, SH. 2, and SH. 3 is not approved on AAR Form 4-2 AAR No. L166086

(2) AAR Form 4-7 AAR No. PRD072003 list drawing number A-37000 in line 6 and Rev E in line 7.

(3) Drawing A-37247 was not provided by car owner and it doesn't match the reference drawing on PRD072003.

(4) Drawing A-37247 is not the drawing listed on the AAR Form 4-7 AAR No. PRD072003

GATX 95098

Car was found equipped with three Midland 720 2" angle valves and they do not match the original AAR TCC approved 4-2 and fittings arrangement drawing.

The 4/4/2007 Exhibit R-1 Report of Alteration performed by VOPAK – Hockley, TX reported by Millennium Rail Inc. – Hockley, TX to remove three Jamesbury AZFRA 2" angle valves and apply three Midland A-720 2" angle valves.

However, (1) No list of procedures and materials.

(2) No list of pertinent approved fittings arrangement drawing(s) or AAR certificate number.

(3) No Car Owners Representative signature and title.

(4) No Date approved by Car Owner.

(5) The 12/17/2021 GATX Final Service Inspection Document performed by Facility Station Stencil GAGA lists 3 Neles-Jamesbury 2" angle valves that were rebuilt, torqued, and leak tested.

Car was found equipped with a Midland A-34247 pressure relief valve and GATX Final Service Inspection Document lists the Reclosing PRD (valves) – Midland A-34247, Single Location, CSI 5350 (VITON GFS), S/N JG42RA being rebuilt, installed, and leak tested on 12/17/2021. The Original Certificate of Construction F916110 dated 6/19/1992 line #12 states 1 safety relief valve with a start-to-discharge pressure of 225psi which is also identified on the approved fittings arrangement drawing D-44638 SH.1 & 2.

However, No record of AAR TCC approved Form AAR 4-2, fittings arrangement drawing, or Exhibit R-1 for the alteration involving the removal of Midland A-34225 safety relief valve with start-to-discharge pressure of 225psi with the Midland A-34247 safety relief valve with a start-to-discharge pressure of 247.5psi.

Exhibit R-1 Report dated 03/17/14 for an Alteration performed by Facility GAHT on the thermowell check valve.

However, (1) No list of procedures and materials.

(2) No list of pertinent approved drawing(s), drawing number(s), and AAR certificate number.

(3) No management representative signature.

AAR Form 4-2 with AAR No. F916110 with AAR TCC approved date of 2/7/1992, certified date of 6/19/1992 in line item #3 is states See Notes. See Notes states: "“PROPYLENE OXIDE AND PRODUCTS AUTHORIZED IN DOT 173 FOR WHICH THERE ARE NO SPECIAL COMMODITY REQUIREMENTS AND NONREGULATED COMMODITIES COMPATIBLE WITH THIS CLASS OF CAR.” Additionally, Propylene Oxide UN1280 is a Hazard Class 3 PGI material.

However, (1) Current service, Vinyl Chloride is a Hazard Class 2.1 which 49 CFR §173.314 (j) specifically states special commodity requirements for materials having a primary or secondary Division 2.1 (flammable gas) hazard.

(2) No AAR Form 4-2 or Exhibit Form R-1 for change of commodity was provided for this tank car.

OCPX 80235

Exhibit R-1 for Relief Device Sizing to remove Midland A-34247-VA and apply Midland A-37247-XS-A5XY-VA.

However, (1) No list of procedures.

(2) No list of materials.

(3) No pertinent approved AAR Form 4-2 or approved fittings arrangement.

(4) No Car Owners Representative signature or title.

(5) No Date approved by Car Owner.

(6) M-1002, CIII, Appendix D is not a procedure it is a standard.

AAR Form 4-2 AAR No. A906054B references Fittings Arrangement Drawing D-44534C SH. 1 which list Item 3 part No 075-70243-02 for a QTY of 3 for Valve, Angle, 2" Flange T & G, Midland A720-VA

However, (1) 2020 qualification records provided show 3 Midland Model A-724-OX-CVGFS Midland valves with serial numbers: GE022-RA, GE021-RA, GE019-RA were bench tested on 3/5/2020 by Midland facility (no station stencil provided) in Houston, TX and then installed by Watco Mechanical on 3/18/2020 at station stencil MRT in Hockley, TX.

(2) No Alteration AAR Form 4-2 or approved fittings arrangement drawing for these valves on this car.

OCPX 80370

AAR Form 4-2 AAR No L066049A which states applied fitting arrangement drawings D-54133 SH. 1A, 2A, & 3A

However, (1) The drawings all reference AAR Application No. 056052A.

(2) SH.1 is Rev B.

(3) SH. 2 is Rev A but has notes referencing SH. 1 with a different Revision.

OCPX 80179, 80235 and 80370

Numerous accounts of missing or incorrect information on the AAR Form 4-2

(e.g., wrong revision levels for drawings listed, drawings with revision levels and dates after original approval)