



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

<b>GROUP</b>	<b>F</b>
<b>EXHIBIT</b>	
31	

Agency / Organization

**Oxy Vinyls, LP**

Title

**Application for Approval and Certificate of  
Construction, OCPX80179 and OCPX80235,  
July 16, 1990**

TRN 20

APPLICATION FOR APPROVAL and CERTIFICATE OF CONSTRUCTION

APPROVAL REQUESTED OF:  Precedent  AAR Tank Car  
Applicant: TRINITY INDUSTRIES, INC P.O. BOX 568867 DALLAS, TX 75356-8887  
Committee Ballot AAR NO. A906054 B  
Applicant's No. 9031  
DATE: 7-16-90

APPLICATION FOR APPROVAL OF:  Construction  Conversion  Alterations  Welded  Repairs (Other)  
Reporting Marks and Car Numbers: OCPX [redacted] Number of Cars [redacted]

- 1. Tank Specification DOT 105A300W
- 2. Stencilled Specification DOT 105J300W
- 3. Commodity VINYL CHLORIDE
- 4. Initial Commodity 7.60 lb/gal. ( kg/L)  
( @ 68 ° F )
- TANK SHELL:
- 5. Full Water Cap'y 24,876 gal. ( L )
- 6. Dome Cap'y or Outage \* gal. ( L )
- 7. Material TC128B NORM. Lining NONE  
Head thickness 9/16 MIN. in. ( mm )  
Shell thickness 9/16 in. ( mm )
- 8. Inside Diameter 119 in. ( mm )
- 9. Head / Main 2:1 ELLIP. in. ( mm )  
Radii / Knuckles N.A. in. ( mm )
- 10. Test Pressure 300 psi ( kPa )
- 11. Insulation 3-1/2 in. ( mm ) Kind  
Thermal Conductivity 0.256 Btu-in./hr.-ft.<sup>2</sup>.°F ( kJ · mm/h · m<sup>2</sup> · °C )

- SAFETY RELIEF DEVICES:
- 12. Type VALVE Number 1  
Start to Discharge 247.5 psi ( kPa )
  - 13. Flow Cap'y. (Air) Actual 31820 cfm ( m<sup>3</sup>/s )
  - 14. Flow Cap'y. (Air) Req'd. 18751 cfm ( m<sup>3</sup>/s )
  - 15. Tank Surface Area 1469 ft<sup>2</sup> ( m<sup>2</sup> )
- CAR STRUCTURE:
- 16. Underframe Type STUB SILL
  - 17. Estimated Light Wt. 83,300 lb ( kg )
  - 18. Center of Gravity Loaded 89.9 in ( mm )
  - 19. Rail Load Limit 263,000 lb ( kg )
  - 20. Truck Capacity, Tons 100
  - 21. AAR Clearance Diagram Pl. C  
0.65" FIBERFRAX WITH 4" FIBERGLASS  
COMPRESSED TO 3-1/2" TOTAL THICKNESS.

NOTES: \* OUTAGE PER DOT 173.314; 87% MAXIMUM PERMITTED FILLING DENSITY. \*\* TRUCK CENTERS = 37'-1-1/2".  
COMMODITY STENCIL: "VINYL CHLORIDE" IN 4" MINIMUM HEIGHT LETTERS.

The Following Drawings Apply	Drawing Number	Precedent/Certificate	
		Drawing Number	Application/Certificate
22. General Arrangement	D-40429A		
23. Arrangement, Tank	D-42512C SH.1		
24. Reinforced Openings	D-42512B SH.2		
25. BOLSTER AND DRAFT SILL ARRANGEMENT	D-140496D		
26. Fittings Arrangement	D-44534C SH.1 &		
27. Manway Assembly	D-44534A SH.2		
28. Protective Housing	D-340032B		
29. Venting, Loading and Discharge Valves	D-143559A		
30. Safety Relief Devices	D-44534C SH.1		
31. Heater Systems	A-34247		A879008
32. Gaging Devices	NONE		
33. Bottom Outlet Valve	B-612		A869013
34. JACKET ANCHOR	NONE		
35. MANWAY COVER	D-46344		A896059A
36. CALCULATIONS	D-243777		
	D-343915		

- REVISIONS:
- 7-31-90 REV. A: REVISE DRAWINGS D-42512 SH.1&2.
  - 9-26-90 REV. B: REVISE DRAWINGS D-40429A, D-42512B SH.1, D-42512A SH.2, D-44534 SH.1&2, D-340032A.

APPLICATION BY WILLIAM R. BITTING  
I certify that the foregoing conforms to all applicable DOT and AAR requirements, including Specifications, Regulations, Rules of Interchange and the DOT Railroad Safety Appliance Standards.  
SIGNATURE [redacted]  
TITLE DESIGN ENGR. - RAIL PRODUCTS DIVISION

APPROVAL AAR Tank Car Committee Date Approved 10/19/90 [redacted] Secretary [redacted]  
(Signature) on behalf of Tank Car Committee

CERTIFICATE OF CONSTRUCTION: The cars enumerated below conform to the above approved description and to all applicable DOT and AAR requirements, including Specifications, Regulations, Rules of Interchange and the DOT Railroad Safety Appliance Standards. Copy of this Certificate of Construction will be furnished to the owner and others required by 49 CFR Part 178.5 before these cars are placed in service.

Initials and Car Numbers: OCPX [redacted]  
Form AAR 4-2 Revised 10-17-85  
Date: [redacted]  
By: [redacted]  
Title: [redacted]  
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