

May 28, 2024
File 209.240

Ms. Erica Bickford
Director, Office of Storage & Transportation
NE-82/Forrestal Building
U.S. Department of Energy
1000 Independence Ave., S.W.
Washington, DC 20585.

Subject: DOE Atlas Railcar Consist Conditional Approval: Multiple Car Test, Post Test Analysis, and Final Report Approval

Dear Ms. Bickford,

The AAR Equipment Engineering Committee (EEC) has accepted the performance of the DOE Atlas Car Consist, including the Atlas Car, Buffer Car, and Escort Vehicle, under AAR Standard S-2043. This acceptance includes the following acknowledgements:

- Satisfactory performance during Multiple-Car Tests required by S-2043 paragraph 6.0 (Multiple Car Tests) through paragraph 6.3.4 (Demonstration Run) based on MxV Rail Report P-23-030
- Satisfactory Post-Test Analysis as required by S-2043 paragraph 8.0 (MXV Rail Report P-23-031)
- Satisfactory Final Report required by paragraph S-2043 9.0 (MXV Rail Report P-23-035)

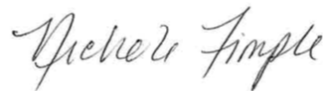
The exceptions noted in TCI Report No. P-23-030 were discussed by the EEC during their May 16, 2024 virtual meeting, and comments can be summarized as follows:

- Stop Distance Tests, test train at maximum and minimum test loads
 - Car to Car Jerk Rates: The exceptions were not a concern for safety.
- Stop Distance Tests, Atlas Car at minimum test load
 - Wheel Slip: The wheel slip exception that occurred on the Atlas Car during an empty car stop test was not a concern for safety, as it only happened on one axle during one out of six minimum test load/emergency application/wet-rail runs. The event did not completely stop the wheelset from rotating, so the event could not have lead to a slid flat. Also noted was that the car had previously demonstrated producing satisfactory brake ratios.
- Buff and Draft Curving Test, Buffer Car
 - Maximum vertical and lateral car body accelerations that exceeded the criteria on the buffer car were very short in duration, were not supported by visual or other data measurements, and are not thought to accurately represent the physics of the situation.

- Tight Curve Test - 10-degree curve at Alps, N.M., Atlas Car truck side L/V Ratio
 - With the results produced, there was no concern for rail roll over, which is the intent of considering L/V ratios. One run out of 33 produced an L/V ratio (0.53) greater than the limit of 0.5, and the distance/duration of that event was very short, just over 6 feet. Additionally, the limit in S-2043 (of 0.5) is a very conservative value relative to this equipment & operation.
- Class 2 and other revenue track - truck side and wheel L/V ratios: For the exceptions identified (listed below) the EEC agreed the ratios were not high enough to cause a roll-over or flange-climb concern.
 - Atlas Car truck side L/V ratio (0.57)
 - REV maximum truck side L/V ratio = (0.55)
 - Atlas Car maximum wheel L/V ratio = 0.82 (0.8)

The EEC hereby conditionally approves the Atlas Consist (the Atlas Car, the Buffer Car, and the Rail Escort Vehicle designs) to enter restricted interchange service for the transport of High Level Radioactive Material. Full approval may be requested once representative cars have accumulated 100,000 miles of service and are satisfactorily retested per the requirements of Standard S-2043.

Sincerely,



Nichole Fimple

NF/jsh

cc: Karen Carriere, MxV Rail
Megan Manis, Procurement Specialist, DOE
Equipment Engineering Committee