

All Rating Vehicles May Not Be Processed if AASHTO LRFR Specification is Overridden For Stringer or Floorbeam Members

Applies to the following products:

- BrDR, version 7.6
- BrR, version 7.6

Description

An issue has been discovered that could affect LRFR load rating results for stringer and floorbeam members if an override specification is selected and if at least one vehicle is included in the 'Permit load rating' category.

The screenshot displays the software interface for defining stringer and floorbeam members. On the left is a project tree showing the hierarchy from Components to Alternative #1 (E) (C). The main window is divided into several panels:

- Stringer Definition:** Shows the 'Name' as 'Stringer Def1'. Below it is a table with columns: Analysis method type, Analysis module, Selection type, Spec version, and Factors.

Analysis method type	Analysis module	Selection type	Spec version	Factors
ASR	AASHTO ASR	System Default	MBE 3rd 2024i, Std 17th	N/A
LRFR	AASHTO LRFR	System Default	MBE 3rd 2024i, Std 17th	2002 AASHTO Std. Specifications
LRFR	AASHTO LRFR	Override	MBE 3rd 2022i, LRFD 9th	2018 (2022 Interim) AASHTO LRFR Spec.
- Analysis Settings:** Shows 'Rating' selected over 'Design review'. The 'Rating method' is set to 'LRFR'. Other options include 'Line Girder' for analysis type and 'DL, LL and Spec-Checking' for analysis option.
- Vehicle selection:** A list of vehicles is shown, including Standard (EV2, EV3, H 15-44, H 20-44, HL-93 (SI), HL-93 (US), HS 15-44, HS 20 (SI), HS 20-44), Lane-Type Legs, LRFD Fatigue Truck (US), and NRL. A red callout points to this list with the text 'Permit load vehicles'.
- Vehicle summary:** A tree view showing 'Rating vehicles' with sub-items like 'Design load rating', 'Legal load rating', and 'Permit load rating'. Under 'Permit load rating', there are sub-items for 'Type 3-3', 'Type 3S2', and 'Adjacent vehicle'.

Under this scenario, the program is not properly setting the override specification, the impact of which is that the load rating results for all vehicles in all categories may not be processed. Load rating results will not be processed for vehicles with names that alphanumerically follow the first permit vehicle name.

Furthermore, if a permit lane load is entered, the effects of this lane load will not be included even if only one vehicle is specified within the 'Permit load rating' category.

The screenshot displays the 'Analysis Results - Alt1' window. The left sidebar shows a project tree with 'Stringer Def1' selected. The main window shows a log of analysis events and a table of rating results. A red callout box highlights the 'Type 3-3' row in the table, indicating that the 'Type 3S2' vehicle under the 'Permit load rating' category was not processed.

Live Load	Live Load Type	Rating Method	Rating Level	Load Rating (Ton)	Rating Factor	Location (ft)	Location Span-(%)	Limit State
HL-93 (US)	Truck + Lane	LRFR	Inventory	51.91	1.442	19.96	1 - (100.0)	STRENGTH-I Steel Flexure Stress
HL-93 (US)	90%(Truck Pair) + Lane	LRFR	Inventory	59.40	1.650	19.96	1 - (100.0)	STRENGTH-I Steel Flexure Stress
HL-93 (US)	Tandem + Lane	LRFR	Inventory	66.05	1.835	19.96	1 - (100.0)	STRENGTH-I Steel Flexure Stress
SU7	Axle Load	LRFR	Legal	89.95	2.321	19.96	1 - (100.0)	STRENGTH-I Steel Flexure Stress
Type 3-3	Axle Load	LRFR	Permit	202.03	5.051	19.96	1 - (100.0)	STRENGTH-II Steel Flexure Stress

Workaround

Other than using the 'System Default' AASHTO LRFR specification for the stringer or floorbeam member definition, there is no workaround to this issue.

Long-term Resolution

This issue will be corrected in the next release, v7.7.