

PENNDOT e-Notification



Bureau of Business Solutions and Services Highway/Engineering Apps Division

STLRFD

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Release of Version 1.6.0.0

The Department's LRFD Steel Girder Design and Rating Program (STLRFD) has been revised as described on the attached Summary of April 2008 Revisions – Version 1.6.0.0.

The new program has been placed on PENNDOT servers for use by the Districts. Consultants and others, who have a current license agreement for STLFRD Version 1.5.0.0, can obtain the updated version for a license update fee of \$500 for private organizations and \$50 for local governmental agencies and educational institutions. Updates for STLRFD Version 1.4.0.0 or earlier require an additional fee documented on the [STLRFD update fee details](#) page. No update fee is required for Federal and State Transportation Agencies. The forms for Software Update Request and Request for PennDOT's Engineering Software License can be downloaded from the web site at <http://penndot.engrprograms.com>.

Please direct any questions concerning the above to:

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Attachment

Archived copies of all previously distributed e-Notifications can be obtained from the PENNDOT LRFD and Engineering Programs website at <http://penndot.engrprograms.com/home> and clicking on "e-Notification" and then "Mailing List Archives."

SUMMARY OF APRIL 2008 REVISIONS—VERSION 1.6.0.0

Since the release of STLRFD Version 1.5.0.0 several revision requests and user requested enhancements have been received. This release of STLRFD Version 1.6.0.0 contains the following revisions and enhancements.

Input Revisions

1. An internal limit requiring all rolled beams considered for design to be greater than 18" deep has been removed (Request 236).
2. The lower limit on user-input transverse stiffener spacing has been increased to 0.65 ft (0.2 m). Input values less than 0.65 ft but greater than 0 ft will be flagged as warnings, but will be allowed. Users are no longer allowed to enter spacings of 0 ft (Request 326).
3. The upper limit of 500 ft (155 m) on the span length command has been changed to a Chief Bridge Engineer warning, meaning that the program will continue to run if a span length over 500 ft is entered (Request 328).
4. Loads entered by the user via the CLD (concentrated load) or DPC (deck pour concentrated) commands will no longer be mirrored for symmetrical beams if the load happens to coincide with the girder symmetry point (Request 386).

Specification Related Revisions

5. The program has been enhanced for rolled beam runs, to perform a web crippling check and a web local yielding check per DM4 6.10.8.2.1 at all concentrated load locations and at all reaction locations (Requests 195, 386).
6. A check of the control of deck cracking by distribution of the deck reinforcement has been added. Additional input has been added to allow the user to more completely define the deck reinforcement at interior supports (SST command) (Request 365).
7. The flexure/shear interaction ratings have been removed from the program since the interaction is already covered when computing shear ratings (Request 308).
8. A potential endless loop in computing the depth of web in compression has been resolved (Request 358).

9. For program runs of continuous girders, the span-to-depth checks on the ECONOMIC FEASIBILITY CHECKS output report now use the ratios for continuous spans rather than simple spans (Request 359).
10. Both sides of field splice locations are now treated as noncompact, with flexural capacities being calculated accordingly. Previously, the left side of the splice would sometimes be incorrectly treated as compact (Request 378).

Output Revisions

11. The DEAD LOAD WEB FLEXURAL STRESS LIMITS and DEAD LOAD WEB SHEAR LIMITS output reports have been removed for composite girders since they contain information also contained on the UNCURED SLAB WEB SPECIFICATION CHECK output report. The DEAD LOAD WEB output reports have been retained for noncomposite girders since the stresses and shears on the report for noncomposite girders include live load as well. For noncomposite girders, these reports have been renamed to WEB FLEXURAL STRESS LIMITS and WEB SHEAR LIMITS (Request 291).
12. The ECONOMIC FEASIBILITY CHECKS output report no longer prints when the user turns it off via the OSC input. Previously, the report would print even when a request was made not to print it (Request 352).
13. The factored Service-II, -IIA and -IIB stresses are now printing on the FACTORED ANALYSIS RESULTS output report, and the flexural ratings are now being computed in terms of stress (Requests 354 and 370).
14. The column headings on the GROSS SECTION PROPERTIES output report have been changed to better explain the output (Request 355).
15. An extra analysis point to the right of the end of the previous span at interior supports is no longer printing. This information was redundant with the analysis at the beginning of the next span (Request 356).
16. The titles of the section property output reports that do not contain gross section properties have been updated to state that they contain net section properties (Request 357).

Live Load Distribution Factor Revisions

17. The description of how the program calculates deflection distribution factors has been clarified in the User's Manual (Request 239).

18. When computing the deflection distribution factor, the program no longer counts the pedestrian load as an additional lane when determining the multiple presence factor (Request 247).
19. The program has been modified to correctly apply the MOMENT DF1 to negative live loads for cases where the distribution factors consider sidewalks (Request 293).

Cross Section Revisions

20. The web depth for analysis points in a varying depth range that fall entirely within a gross cross section range is now computed correctly (Request 299).
21. The program now includes the deck reinforcement when computing section properties for use with the factored shear flow calculations on the web-to-flange weld capacity output report (Request 347).
22. A program crash that occurred when a plate transition point falls immediately at a contraflexure point has been resolved (Request 360).
23. The method that the program uses internally to define analysis points to the left and right of a transition location has been modified to avoid program crashes when adjacent analysis points are too close to a transition (Requests 367, 368 and 379).

Users Manual Revisions

24. Several editorial issues with the User's Manual have been resolved (Request 336).
25. The descriptions of the right fascia on the CDF command have been corrected (Request 373).
26. The description of the concentrated load (CLD) command has been clarified with respect to when bearing stiffener checks are done at concentrated load points (Request 380).