

PENNDOT e-Notification

Bureau of Information Systems
Application Development Division



SPLRFD

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Release of SPLRFD Version 1.2.0.0

PENNDOT's LRFD Steel Girder Splice Design and Analysis Program (SPLRFD) has been revised as described on the attached Summary of October 2007 Revisions – Version 1.2.0.0.

The new version has been placed on PENNDOT servers for use by the Districts. Consultants and others, who have a current license agreement for SPLRFD, can obtain Version 1.2.0.0 by submitting a Software Update Request form with the appropriate update fee. Updates for SPLRFD Version 1.1.0.0 require an update fee of \$300 for consultants and \$50 for governmental agencies and educational institutions. Updates for SPLRFD Version 1.0 or 1.0a require an update fee of \$600 for consultants and \$100 for governmental agencies and educational institutions. No update fee is required for Federal and State Transportation Agencies.

The Software Update Request form can be obtained on the PENNDOT Engineering Software Support website at <http://penndot.engrprograms.com> by clicking on "Ordering/Updating" and, then, "Update Form".

Please direct any questions concerning the above to:

Shyh-hann Ji, P.E.

*PENNDOT Bureau of Information Systems
Application Development Division*
Phone: (717)783-8822 | Fax: (717) 705-5529
e-mail: sji@state.pa.us

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SUMMARY OF OCTOBER 2007 REVISIONS - VERSION 1.2.0.0

Since the release of SPLRFD Version 1.1.0.0 several revision requests and user requested enhancements have been received. The release of SPLRFD Version 1.2.0.0 contains the following revisions and enhancements.

Input Revisions

1. The upper limit on the left and right flange edge distances (FSB command) have been increased from 5" (125 mm) to 8" (200 mm) to accommodate a splice where the flange on one side of the splice is significantly wider than on the other side. (Request 036)
2. The program has been enhanced to permit input commands to exceed 256 characters. Previously the program would truncate any lines exceeding 256 characters (Request 045).
3. The program has been revised to completely process each input command before stopping with an error message. Previously, the program would stop after the first error was found on an input command (Request 053).
4. The program has been revised to print warning messages and continue to run, for Analysis Runs, when the Edge/End Distances that are input are violated. Previously, the program would run but not print any warning messages for Analysis Runs. No revisions were made for Design Runs. The program prints an error message and stops when the Edge/End Distance has been violated for Design Runs (Request 064).

Output Revisions

5. The program was revised to allow a bearing type connection splice to run to completion and ignore printing the slip force output requested by the OSC command. Previously, if the slip force output was specified on the OSC command and the connection type on the CTL command was changed to a bearing connection type, this could cause the program to crash. (Request 059)

Design Loads

6. The program has been enhanced to permit splices to be designed for pedestrian live load only (no design vehicle live load) for use in designing splices for pedestrian bridges. Previously, if there was no live load vehicle and the pedestrian live load moment was of opposite sign from the dead load, the program could crash. (Request 046)
7. The program has been enhanced so that pedestrian loading can be evaluated in a single run of the

program. Previously, pedestrian loading required that two runs of the program be made, once with pedestrian loading specified and once without (Request 047, 050, 063).

8. For simple span bridge splices, the program has been enhanced to permit the user to leave the negative live load moments blank on the DLL and DPL input commands, and to leave the negative factored flexural resistance blank on the GAS command. When all these input items are not entered, the program will now design the splice only for limit states of positive flexure. Previously, the program always designed for both positive and negative flexure limits states. (Request 049)

Calculations

9. The filler plate reduction factor described in DM-4 6.13.6.1.5 has been incorporated into the calculation of factored resistance of bolts in shear. Previously the program ignored the filler plate reduction factor. (Request 12)
10. The program has been enhanced to permit the user to design or analyze a splice for oversize holes as per DM-4 6.13.2.4.1b. If oversize holes are specified a warning message is generated in the output that Approval of the Chief Bridge Engineer is required. Previously the program would only allow input of standard holes. (Request 052)
11. The maximum allowable gage spacing calculation for stitch bolts (AASHTO LRFD 6.13.2.6.3), has been corrected to be computed as 24 times the thickness of the plate. Previously, the program was using 12 times the thickness of the plate (Request 057).
12. The program has been enhanced to try increasing the thickness of the flange splice plate, if the maximum flange gage spacing exceeds the maximum allowable gage distance (based on the flange splice plates), and the maximum allowable gage distance is less than 7.0 inches (175 mm). Previously, the program would not resize the plates if the maximum flange gage spacing exceeded the allowable gage distance (Request 058).
13. A correction was made to the minimum end distance when oversize holes are present as per AASHTO Section 6.13.2.6.5. Previously, when the program computed the minimum end distance it always assumed there were no oversize holes (Request 060, 062).