

PennDOT e-Notification

Bureau of Solutions Management
Highway Applications Division



PSLRFD

No. 022
June 5, 2023

Release of Version 2.16.0.0

The Department's LRFD Prestressed Concrete Girder Design and Rating (PSLRFD) program has been revised as described in the attached "Summary of March 2023 Revisions – Version 2.16.0.0".

The new version has been placed on PennDOT servers for use by the Districts. Consultants and others, who have a current license agreement for **PSLRFD Version 2.15.0.0**, can obtain the updated version by submitting an [Update Request Form](#) along with the **update fee of \$500 for private organizations and \$50 for governmental agencies**. Updates for **PSLRFD Version 2.14.0.0 or earlier** will require an **additional fee**. For update fee details, refer to the [PSLRFD Fee Schedule](#). The update fee is waived for federal and state transportation agencies.

Once payment is received, an e-mail will be sent with download instructions. A valid e-mail address must be provided on the Update Form to receive the download instructions.

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 MARCH 2023 REVISIONS - VERSION 2.16.0.0

Since the release of PSLRFD Version 2.15.0.0 several revision requests and user requested enhancements have been received. This release of PSLRFD Version 2.16.0.0 contains the following revisions and enhancements.

Input Revisions

1. Users can now input minimum load factors for Strength limit states for MC1 and MC2 loads on the LDF command. If not entered by the user, the minimum Strength load factors for MC1 and MC2 will default to 0.0. Any input files with MC1 or MC2 loads may need to be revised to provide minimum load factors other than 0.0. (Request 551)

Output Revisions

2. The Input Summary output report now prints the correct Vertical Row Spacing. Previously, the Distance to 1st Row was being printed for the Vertical Row Spacing. (Request 754)

Distribution Factor Revisions

3. Distribution factors for exterior adjacent beams (box and plank) now use interior adjacent beam properties when computing the distribution factor for interior adjacent beams. The exterior adjacent beam distribution factors are computed from the interior adjacent beam distribution factors. The interior beam properties used to compute distribution factors are reported. (Request 419)

Programming Revisions

4. The program now checks for large numbers of concentrated loads exceeding the capacity of the program and reports an error message. Previously, a large number of concentrated loads would result in a program crash. (Request 406)
5. The compression-controlled strain limit for non-prestressed reinforcement with a specified minimum yield strength, f_y , less than or equal to 60.0 ksi is now taken as f_y/E_s but not greater than 0.002. Previously, for $f_y \leq 60.0$ ksi the compression-controlled strain limit was taken as 0.002. (Request 733)
6. For APRAS runs with Pedestrian loads (PLD command), the Additional FWS load is now ignored by setting it to zero. This is consistent with FWS specified by DLD command being ignored for APRAS runs. (Request 758)

Design Revisions

7. The strand design process for NEXT beams now avoids strand patterns with zero strands in the bottom strand row. Previously, about one-third of the P/S Curves successful designs had zero strands in the bottom row. (Request 736)
8. The debonding strand design now avoids debonding the outer-most strands in bottom flange rows within the full width of the bottom flange for I-beam cross sections (PennDOT I-Beams, AASHTO I-Beams, and PA Bulb Tee Beams). Also, strands within the horizontal limits of the web for I-beam cross sections are not debonded. (Request 737)
9. The Slab Reinforcement Design for negative moment at interior supports for spread beams now requires the top layer reinforcement area to equal at least $\frac{2}{3}$ of 1 percent of the slab area and the bottom layer reinforcement area to equal at least $\frac{1}{3}$ of 1 percent of the slab area. Previously, the top layer was required to be $\frac{2}{3}$ of the required area for flexural resistance and the bottom layer $\frac{1}{3}$ of the required area for flexural resistance. (Request 751)