PSLRFD No. 012 July 29, 2013	**Release of Version 2.7.0.0**

The Department's LRFD Prestressed Concrete Girder Design and Rating (PSLRFD) program has been revised as described in the attached "Summary of July 2013 Revisions – Version 2.7.0.0".

The new program has been placed on PennDOT servers for use by the Districts. Consultants and others, who have a current license agreement for **PSLRFD Version 2.6.0.0**, 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 2.5.0.0 or earlier** will require an **additional fee**. For PSLRFD update fee details, refer to the following link: http://penndot.engrprograms.com/home/Ordering/PSLRFD.htm. The update fee is waived 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 on "Update Form".

Please note that the software will no longer be provided on a CD. Once payment is received, an e-mail will be sent with download instructions. The new installation will require a License Key that will be provided in the e-mail. A valid e-mail address must be provided on the Update Form in order to receive the download instructions.

Please direct any questions concerning the above to:

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Attachment

SUMMARY OF JULY 2013 REVISIONS - VERSION 2.7.0.0

Since the release of PSLRFD Version 2.6.0.0 several revision requests and user requested enhancements have been received. This release of PSLRFD Version 2.7.0.0 contains the following revisions and enhancements.

Design Revisions

1. A design run now checks the live load deflection criteria during the beam selection iteration process and will select the next available beam when the criteria are not met. Previously, a beam that was successfully designed would sometimes have a specification check failure for live load deflection criteria. (Requests 422 / 456)

Input Revisions

2. The DES command lower limit for the Minimum Depth parameter, for I-Beams and Bulb-Tee Beams, has been changed to 29 inches. Previously, the lower limit was 30 inches which prevented the 29.25 inch deep Bulb-Tee Beam from being specified. (Request 421)

3. Specifying a strand type other than Low Relaxation on the CTL command now results in a Chief Bridge Engineer approval required message. (Request 432)

4. Specifying a reinforcement bar yield strength of other than 60 ksi on the MST command or the SLB command now results in a Chief Bridge Engineer approval required message. (Request 433)

5. Violating the upper or lower limits for prestressed concrete structural design strength, f'c, on the MCS command or the DES command now results in a Chief Bridge Engineer approval required message. (Request 434)

6. Violations of the upper or lower limits for the Skew Angle are now reported when the UDF command is used. Previously, upper and lower limits of the Skew Angle were only checked when the CDF command was entered. The User Manual documentation for the SKW command now indicates violation of the Skew Angle limits result in a Chief Bridge Engineer approval required message. (Request 435)

7. Analysis runs with debonded strands specified on the SSI command now require the strand pattern to be provided on parameters 9 and 10 of the SCA command. Previously, this requirement was documented but not enforced by the program. (Request 439)

8. The BDM command lower limit for fillet dimensions (B1, B2, B3, and B4) is now 1.5 inches for adjacent and spread box beams with rectangular voids. The change was made to accommodate box beams that are 21 inches deep or less. (Request 452)

9. The BDM command upper limit for the bottom slab thickness is now 6.75 inches for adjacent and spread box beams with rectangular voids. This change was made to allow for dapped beams. (Request 453 / 459)

10. The check for an unsymmetrical strand pattern is now skipped for user defined sections since the number of available strand positions for each strand row is unknown. (Request 455)

11. The CTL command Beam Designation and Beam Shape parameters are now checked for valid combinations. Invalid combinations will now result in an input error. (Request 461)

12. Strands for plank beam design runs must now be ½" special strands (0.52-inch diameter) as per PennDOT SOL 483-13-01. If other size strands are entered for a plank beam design run the program will now stop with an error. (Request 506)

13. Design runs that do not specify CTL command Live Load code "E" now result in a warning message that live load code "E" should be used to ensure ML-80 and TK527 inventory rating are greater than 1.0 as per DM-4. (Request 508)

Output Revisions

14. On the first page of the output, the program title now aligns with the other data of the program. This issue was corrected in version 2.6.0.0, but was not included in the 2.6.0.0 Summary of Revisions. (Request 444)

15. The end zone stirrup output table now uses the term "Splitting" stresses rather than the term "Bursting" stresses to agree with the AASHTO LRFD Bridge Design Specifications Fifth Edition 2010. (Request 478)

16. Warning messages are now issued if the optional span-to-depth ratios are not satisfied for analysis runs that do not meet live load deflection criteria. Informational messages are now issued if the optional span-to-depth ratios are not satisfied for analysis runs that do meet live load deflection criteria. (Request 481)

17. Bookmarks corresponding to items in the Table of Contents that appear on the first page of the PDF output file, are now linked to the first page of the PDF output file. Previously, these bookmarks were not linked to any page of the PDF output file. Also, an f'c optimization run output file that contains multiple Table of Contents is now correctly processed to a PDF file. (Request 527)

Documentation Revisions

18. The User Manual and Engineering Assistant help now indicates the last axle spacing on the SAL command must be entered as zero. (Request 460)

19. The User Manual and Engineering Assistant help now indicates that certain default print options depend on the Multi-Span Analysis Method on the CTL command. (Request 485)

New Features

20. Type F NEXT beams can now be analyzed or designed by the program. Type F NEXT beam distribution factors are conservatively computed based on cross section type "k" defined in AASHTO Table 4.6.2.2.1-1. (Request 424)

21. PennDOT Standard Bulb-Tee Beams with a 36 inch top flange can now be analyzed or designed by the program. (Request 463)

Distribution Factor Revisions

22. The Range of Applicability check for curb to exterior web of exterior girder (d_e) for non-composite adjacent boxes now only checks an upper limit and applies a minimum to "e" of 1.0. These changes were made to follow the equations in the AASHTO LRFD Specification. (Request 465)