

# PennDOT e-Notification

Bureau of Business Solutions and Services  
Highway/Engineering Applications Division



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**BAR7**

No. 010

May 10, 2010

**Release of Version 7.13.0.0**

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The Department's Bridge Analysis and Rating Program (BAR7) has been revised as described on the attached Summary of April 2010 Revisions – Version 7.13.0.0.

The new program has been placed on PENNDOT servers for use by the Districts. Consultants and others, who have a current license agreement for BAR7 Version 7.12.0.0 or 7.12.0.1, can obtain the updated version for a license update fee of \$50 for private organizations, local governmental agencies and educational institutions. Updates for BAR7 Versions 7.10, 7.11 or 7.11.0.x, will require an update fee of \$100 for private organizations, local governmental agencies and educational institutions. Updates for BAR7 Version 7.9 will require an update fee of \$150 for private organizations and \$100 (not \$150) for local governmental agencies and educational institutions. Update for BAR7 version 7.8 or earlier will require an additional fee. 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

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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 2010 REVISIONS - VERSION 7.13.0.0

Since the release of BAR7 Version 7.12.0.1, several error reports and user requested enhancements have been received. This release of BAR7 Version 7.13.0.0 contains the following revisions.

### General Program Revisions

1. Revise the Truss geometry Images 2 and 3 in the Engineering Assistant (EngAsst) and Figure 5.11.1 (Truss Geometry) in the User Manual to clarify the meaning of H3 parameter. Add Figure 5.11.6 Truss Geometry (Example 4) to better explain the input of Truss Geometry. (BAR7REV169)
2. Correct a typo of Live Load item in the Help Screen of project tab in EngAsst. (BAR7REV176)
3. Revise the Chapter 7 Example 5 pp 7-42 & 7-53. In example 5, the Lane, Moment Distribution Factor, and Ranges of Steel Member Property card are incorrect. Also change text to improve readability. (BAR7REV180)

### Input Revisions

4. Correct the end-of-file error for bridge type of "TTT" when the input data file does not have a blank input line at the end of input file. (BAR7REV168)
5. Add the edit check for special live loads: you must have the truck load and the number of axles of this truck shall be between 2 and 80. (BAR7REV171)
6. Increase the number of ranges in the Steel Member Properties card to 100. (BAR7REV172)
7. Correct a typo in format (XXXDD) of the WF BEAM OR WEB PLATE DEPTH of Steel Member Properties card in Figure 5.1.6 (Input Form 6) of the User Manual. (BAR7REV178)
8. Add GUSSET PLATE PROPERTIES card and GUSSET PLATE MEMBERS card to allow the user input the gusset plate information. (BAR7REV167)
9. Correct an incorrect error check for the Distribution Factors with a "TTT" bridge type. Distribution factors don't need to be entered for the bridge type of "TTT". (BAR7REV181)

10. Add the edit check for ADTT Year to avoid the "Divide by Zero" error which crashed the program. (BAR7REV182)

#### Section Property

11. Implement unreleased version of Beam Section Property (BSP) v1.5.0.2. The current release version of BSP is v1.3. (BAR7REV173)
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12. For Steel Member Properties card, increase the lines of steel members to 300 (150 if SYMMETRY is entered "Y"). (BAR7REV179)
13. Output the program calculated truss member lengths so that users can verify that the truss model is correct. (BAR7REV170)

#### Allowable Stress

14. The allowable bending stress equation as listed in Tables 6.6.2.1-1 and 6.6.2.1-2 of the 1994, 2nd Edition (2000 Interim) AASHTO Manual for the Condition Evaluation of Bridges shall be used when checking the combined stress equation in AASHTO 10.36. Several new Items were added into Truss Member Properties card in Figure 5.1.5 (Input Form 5). This option is available when CORS in the Bridge Cross Section and Loading card is coded with "X". (BAR7REV174)

#### Load Revisions

15. Add the skew correction factor for shear to account for increased shear due to skew as refer to the AASHTO LRFD Section 4.6.2.2.3c for bridge types of "CTB" and "GGG". The skew correction item was added into Bridge Cross Section and Loading card in Figure 5.1.1 (Input Form 1) of the User Manual. (BAR7REV175)

#### Gusset Plate

16. The program has been revised adding the ability of gusset plate analysis and rating utilizing Load Factor Rating (LFR) method. (BAR7REV167)

## Program Revision

17. The program has been converted to Intel Visual Fortran compiler 10.1.013 using Microsoft Visual Studio 2005. (BAR7REV177)