

PENNDOT e-Notification

Bureau of Information Systems
Application Development Division



BAR7

No. 008
May 29, 2007

Release of Version 7.12.0.0

The Department's Bridge Analysis and Rating Program (BAR7) has been revised as described on the attached Summary of May 2007 Revisions – Version 7.12.0.0.

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 7.10, 7.11 or 7.11.0.x, can obtain the updated version for a license update fee of \$50 for private organizations, local governmental agencies and educational institutions. Updates for BAR7 Version 7.9 will require an update fee of \$100 for private organizations, local governmental agencies and educational institutions. Updates for BAR7 Version 7.8 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 7.7 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

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 MAY 2007 REVISIONS - VERSION 7.12.0.0

Since the release of BAR7 Version 7.11.0.9, several error reports and user requested enhancements have been received. This release of BAR7 Version 7.12.0.0 contains the following revisions.

Input Revisions

1. A cross check error was fixed in the program when the maximum number (i.e. 5) of different Floorbeam brace point spacings or stiffener spacings was entered. (BAR7REV141)
2. A problem has been corrected where the input variables for the FY in the top and bottom flanges of a stringer were not being used properly. (BAR7REV146)
3. An input check was added and an error message is printed if more than 3 floorbeams are entered. (BAR7REV152)

Output Revisions

4. When running a job with additional section properties analysis points added, the output is reporting this point twice in the tables of section properties. Added a check for duplicate analysis points and skipped printing those points. (BAR7REV154)
5. Modified the program to print code 1 for negative moment impact factor at a point with negative moment. (BAR7REV155)
6. Corrected the discrepancy in the printing of the message "NOTE: THIS MEMBER DOES NOT HAVE ALL SECTIONS QUALIFIED AS COMPACT SECTIONS. THEREFORE, EVEN ..." between simple spans or a continuous span. (BAR7REV158)
7. Corrected the value being reported for the MR at that section when reviewing the detailed output for a specific section of a continuous girder. (BAR7REV156)

Section Property Revisions

8. A problem has been corrected where the program was reporting invalid section properties at all but the first location when analyzing stringers at multiple locations. (BAR7REV145)
9. Corrected the bottom flange angle vertical and horizontal leg dimensions in the sketch for the built-up section in the EngAsst. Previously, this sketch for built-up section was not consistent with the sketch on Page 5-55 in the User's Manual. (BAR7REV144)
10. The program has been enhanced to compute section properties on both sides of the cutoff for the purpose of analyzing and rating each section. Previously, BAR7 picked the section properties that had the less moment capacity and used those properties for the rating calculations. Please note that for the purpose of stiffness and determining the reactions, moments, shears, deflections, and rotations, the BAR7 process does not change and it will pass the appropriate moment of inertia to CBA. (BAR7REV150)
11. A problem has been corrected because the depth of section was not calculated correctly when a variable depth plate girder section (Type P) transitions into a wide flange beam (Type W). Modified the code to accommodate all combinations of steel member types and variable depths. (BAR7REV159)

Live Load Revision

12. The Live Load code of "9" should not be a valid code according to the documentation. In case there may be some old input files with live load code equal to "9", the "9" will be interpreted as number of special live loads equal to one. (BAR7REV149)

Flexural Capacity Revisions

13. The program has been enhanced to calculate correctly the moment capacity of a reinforced concrete T-beam when the area of compression reinforcement is equal to (or close to equal to) the area of tension reinforcement in the beam. (BAR7REV151)
14. Modified the program to use $M1/M2$ ratio based on the span 2 unbraced length when analyzing the point at the end of the span 2 and to use $M1/M2$ ratio based on the span 3 unbraced length when analyzing the point at the beginning of the span 3. (BAR7REV153)

15. Corrected the signs of the MU values at some of the brace points. (BAR7REV157)

Program Revisions

16. The program has been converted to Intel Visual Fortran compiler v9.1. (BAR7REV140)