PENNDOT e-Notification

Bureau of Information Systems
Application Development Division

PS3
No. 001
March 15, 2004

Release of Version 3.5.0.1

The Department's LRD Prestressed Concrete Girder Design and Rating Program (PS3) has been revised to address a problem, which could result inflated moment rating factors for analysis runs using the total number of strands and the strand c.g. input method to enter the prestressing data. Analysis runs using the initial prestressing force and eccentricity method or the actual strand pattern method to enter the prestressing data were not affected. In addition to this correction, the following revisions are included in this version.

1. The program was corrected to continue computing composite section properties when the composite neutral axis is located in the slab. Previously, such an occurrence would result in an error message and termination of the run – (R3.5.01).

2. The iterative procedure used to compute the moment strength at a specified stress level, M_{fy}, was revised to accommodate a negative haunch depth – (R3.5.02).

3. New input checks were added for the G1 and G2 fields on the STRAND DETAILS input line. G1 must always be entered, and G2 must be entered if both the INITIAL PRESTRESSING FORCE field and the MIDSPAN ECCECTRICITY field are not entered. Additionally, the center of gravity of the strands is no longer required as input for G2 when the initial prestressing force and eccentricity are entered – (R3.5.03).

4. A revision in version 3.5, which corrected a problem causing an incorrect strand pattern to be printed when the permit load controls the design, resulted in the program using the input G1 value as the center of gravity of the prestressing strands when computing M_{fy} for analysis runs with unknown strand patterns. This results in an inflated M_{fy}, and, in turn, an inflated (non-conservative) moment rating. The program has been revised to address both issues – (R3.5.04).

5. A version 3.5 input check for the DEBONDED LENGTH field on the DEBONDED STRAND DETAILS input line was revised to allow zero or blank to be entered. This enables the program to compute the required debonded lengths – (R3.5.05).

6. The program has been corrected to use the AASTHO allowable compressive stress only at the final state. In version 3.5, additional stress checks were being performed for the initial prestress condition using the

AASTHO final allowable compressive stress requirements when “Y” is entered in the AASHTO fc field. This resulted in several unsuccessful debonded design runs – (R3.5.06).

7. When the composite neutral axis is located in the slab, the slab concrete below the neutral axis is considered cracked and therefore, is neglected in the composite section property calculations – (R3.5.07).

Consultants and others, who have a current license for PS3 Version 3.5, can download version 3.5.0.1 free of charge from the Internet at http://penndot.engrprograms.com. Installation instructions are provided at the website.

Direct any questions concerning the above to:

Hasmukh M. Lathia, P.E.
PENNDOT Bureau of Information Systems
Application Development Division
Phone: (717) 783-8822 | Fax: (717) 783-8816
e-mail: hlathia@state.pa.us
