ERRATA - NARRATIVE

Sprinkler System Assessment with "Center Pivot Evaluation and Design" (CPED) - Spreadsheet Version

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There were numerous technical difficulties during the CPED Webinar on 3/11/15. The recorded Narrative was edited heavily to improve the experience of future participants utilizing the training material. The CPED, User Guide is an excellent reference and is available at the SharePoint Spreadsheet download site.

During review of the edited recording I noted a number of mistakes I had made during the presentation that if not corrected could cause confusion among participants. The ones I noted are listed below and I would appreciate knowing if participants find other errors and I will update this file.

On Slide 1: Last Update version on date of webinar was 3/9/15.

On Slide 5: The Date of the last Sprinkler database update is correctly listed as 6/30/14 (the 9/11/14 date on the NRCS SharePoint was the date the file was uploaded). FYI: The sprinkler database is actually no longer needed if you download a current version of the spreadsheet each time you use it, because the current database version is incorporated into the current spreadsheet version.

Slide 11: In upper right yellow area I make statement that the end gun radius and end gun flow rate are critical bits of information for CPED run execution. These bits of information are not actually required for CPED execution because CPED will simulate the flow rate, and radius. The end gun radius used by the designer can be used to determine distance from pivot to end gun (or last sprinkler) to use in the CPED simulation. I find these two bits of information very good reference points to check and compare my CPED output results to the design printout. It has on occasion helped me spot problems with submitted designs and/or my assumptions. You should be seeing the designs before installation when federal financial assistance is involved.

Slide 21: In sprinkler model selection description (about 20:15) I state the last number on the sprinkler description "9" is related to sprinkler spacing. The last number in the sprinkler description is the height of the nozzles above the ground surface. The numbers in the sprinkler model description have nothing to do with spacing.

Slide 27: I make the statement that I normally start a constant head/pressure run with no elevation change along the towers (about 25:50). I neglected to say that I almost always follow that initial run with any elevation differences that I know are in the field, to see the response of the system to that change. In the example used in the webinar there wasn't a lot of field elevation change. The student could run the provided spreadsheets with more significant elevation differences and examine the results.

Slide 32: My discussion of the Constant Head Value was very confusing. The Constant head entered here is the assumed pressure at the pad elevation. The resulting output and report tab information would result if that pressure was present at the pad elevation. (12.3/2.31) +42 psi =47.3 would be very close to the value to use. When I first started working on the presentation and using the Constant Head CPED option I was using the actual system tower elevations which would have added 1.5 ft. of elevation to be overcome by the system design, ((12.3+1.5)/2.31) +42 psi =48.0 psi. When I decided to show no elevation change on Constant Head/Pressure option in the webinar I elected not to change my slides for 0.7 psi since CPED actually includes friction between the point at the design specified first outlet (gage location) and the bottom of the pivot riser, and losses due to the 2-90 degree bends (normally a very small addition), so I figured the 48 psi at pad was close enough.

Slide 34: For my stop distance on CPED Main Tab, I normally use a distance from the pivot point to 75% to 80% of the radius of the gun or last nozzle; not 70-75% as I stated in discussion of slide 34.

Slide 38: (About 36:50) When discussing the output Tab I specifically mentioned DU but did not mention CU which is the more prominent coefficient of Uniformity.

Slide 43: I made a statement that I had entered an equation in cell C247. That is not correct. I had entered an Eqn in cell M247 that totaled the system Q. When I added the Eqn it doubled the system q shown in cell C3. Rerunning the simulation will overwrite the Eqn I entered in Cell C247 and would correct the Total System Q value in C3.

Slide 59: I point the arrow at CU and call it DU. This is actual can catch data and system measurements from a field evaluation. Input is shaded in blue. The CPED calculated CU based on the can catch data is 76. The approximated DU is an estimate of DU based on an equation in NEH Section 15, Chapter 11, Sprinkle that calculates DU based an input CU. I stated that I had run CPED with 35 psi instead of 48 to compare to the field evaluation. The results I reported were based on CPED in Constant Head/Pressure run with (35 + (12.3/2.31)) or 40.3 psi input at the pad elevation.

Slide 60: I accidently slipped by Slide 60 without discussion. Slide 60 showed that if the blue tinted DU button is pushed the actual field calculated DU will be shown. In this case it was 68%. Always use the Calculated DU when if you have actual can catch data.

During shared screen demonstration at about 56:43, I made the statement that the line pressure shown is at the top of the pivot. That would have been correct if we were looking at the dealer provided design printout but NOT on a CPED Report Tab. This is very important. CPED generated line pressure and pivot pressure shown on the results tab are at the elevation of the sprinkler nozzles. It CAN be at the top of the lateral if the sprinklers are installed on the top of the laterals. In this case, however, since sprinklers except for the gun are located 6ft above the ground elevation, that is the location of all line pressures shown on the report tab.