Brief History of Design Guide

Note: The following is based on a review of meeting minutes and files associated with ACI 355 meetings since 1991.

- In 1991, ACI 318 took the lead on developing the anchor design standard since ACI 355 had not been successful in developing these standards since it was formed in 1970. The Spring 1991 meeting of ACI 355 in Boston gave a specific list of recommendations to ACI 318 for development of the design standard.

- The Design Guide effort was initiated in 1991 to provide design examples for comparison of the CCD method to the ACI 349 Appendix B 45^0 cone method. The objective was to show how the CCD method and ACI 349 Appendix B 45^0 cone method could be applied to commonly occurring anchor installations. The members of the Task Group that worked extensively on these examples were:
  Rich Klingner, Task Group Chair
  Pete Carrato
  Ron Cook
  Rolf Eligehausen
  Harry Wiewel
  Dick Wollmershauser

- The design examples selected indicated that frequently occurring anchor installation arrangements could not be designed when using the ACI 349 Appendix B 45^0 cone method. This was primarily due to the fact that ACI 349 required a steel failure that resulted in edge distance and concrete thickness limitations that did not accommodate many types of connections that typically occur in building construction.

- In 1993, Rich Klingner presented a very substantial body of work that included the fundamentals of anchor behavior and discussion of the various approaches that could be used in design.

- During the 1994-1997 period, reviews of international test data indicated that the CCD method gave a much better fit to test data than the ACI 349 Appendix B 45^0 cone method.

- In 1997, Rich Klingner presented a revised version of the text portion of the design guide that included a thorough discussion of the fundamentals of anchor behavior and a discussion of the various approaches that could be used in anchorage design.

- In 1998, the committee agreed to pursue the Design Guide and reformat Rich Klingner's text to the CEB format.

- Basically, the ACI 355 effort on the Design Guide was lost due to the need to develop a product approval standard for mechanical anchors (i.e., ACI 355.2).

- With ACI 381 Appendix D and ACI 355.2 at completion, it is time for ACI 355 to take the lead on developing a design guide with both text and design examples.