



Significant Changes to the Rules and Regulations for the 2007 ASCE National Concrete Canoe Competition

Each year the rules and regulations are modified and updated in an effort to improve the overall competition and to assure that competitors design and build new canoes. Based on responses to questions, issues that may have arisen at regional and national competitions and feedback provided by students and judges, changes have been made to this year's edition of the rules. Some of these changes are significant while others are minor edits in language.

The intent of the significant changes is to challenge the student's skills, engineering judgment and creativity. The minor edits are primarily for clarification purposes.

The following is a list of the MAJOR changes to the rules and regulations applicable to the 2007 competition (as compared to the 2006 rules and regulations). Please note that not all of the changes are listed here and that it is the responsibility of all teams to carefully review the rules and regulations.

Overall

- "Regions/Regionals" are now considered as "Conferences" (i.e., Mid-Pacific Conference, New England Conference, etc.)

Qualifiers

- In order to facilitate broader participation at ASCE Student Conferences, the Committee on Student Activities (CSA) has stipulated that ASCE Student Groups wishing to qualify for the national competition must be.
 1. In good standing with ASCE (annual report and annual dues submitted and received by ASCE prior to the start of a Student Conference).
 2. A qualified Student Conference Participant as shown through their school's:
 - a) good faith participation in the Student Conference Business Meeting (i.e. attendance by representatives of the student group);
 - b) good faith participation in the Student Conference Paper Competition (i.e. submission and presentation by at least one member of the school); and
 - c) meeting any additional requirements of regional conference participation set by the regional conference at the previous years' business meeting or in their written and approved, by-laws, standing rules, or constitution.

Canoe

- Dimensional restrictions for the canoe length and maximum beam width have been instituted. The maximum length of the canoe, as measured at the gunwale, is 20.0 feet. The maximum beam width, also measured at the gunwale, is to be between 28.0 and 32.0 inches.
- The officially measured weight of the canoe shall be within ± 10 pounds of the validated reported weight (obtained from the *Compliance Certificate*). This is only applicable at the National Competition.
- All flotation material, regardless of its location, shall be encased in concrete.

Concrete

- All concrete mixtures have a mandatory minimum air content of 6% (measured gravimetrically; see ASTM C138)
- The mandatory use of air-entraining admixtures has been removed.
- Hydraulic cement (either ASTM C 150 or ASTM C 595) may be used to meet cementitious material requirements.
- The binding mass options have been changed.
- Updated version of Table 3.1 - “Summary of Mixture Proportions” is presented in the rules and regulations and can be downloaded for use.
- Teams that qualify for the National Competition shall also be required to submit two (2) 4 in. x 8 in. cylinders of their structural concrete mixture(s) for testing and verification purposes at the BASF Admixtures, Inc. laboratories in Cleveland, Ohio. These cylinders shall be made during casting of the concrete for the canoe. Shipping information will be provided to the qualifying teams several weeks before the National Competition.

Reinforcement

- The reinforcement compliance test (the passing of ASTM C778 Standard Graded Sand through the reinforcement scheme within 5 seconds) has been replaced with a calculation of percent open area (POA). The minimum POA requirement is 20%.

Finishing of Canoe

- Concrete sealers may be either a silane- or siloxane-based penetrating sealer with a minimum solids content of 20 percent and a VOC content of less than or equal to 700 g/L; or a liquid membrane-forming compound for curing and sealing that is certified to meet the requirements of ASTM C 1315, Type I, Class A or Class B.

Design Paper

- No major changes have been made to the Design Paper, however, minor clarifications have been provided.

Oral Presentation

- All presentations shall be technical and conducted in a professional manner.

Final Product Display

- Maximum table dimensions are provided (i.e., smaller tables may be used if so desired)
- The cross section shall remain with the canoe itself and not be part of the display.
- No sponsor-related materials (logos, “thank you for your support”) are to be part of the display.

Engineer’s Notebook

- In an effort to reduce the volume of the notebook, the following sections have been removed: References, Manufacturer’s Safety Data Sheets (MSDS), and Frequently Asked Questions (FAQ).
- Minor changes have been made to the *Compliance Certificate*.
- Teams that qualify for the National Competition shall be required to submit an electronic copy of the Engineer’s Notebook in Adobe Acrobat® PDF format along with the submission of the Design Paper. This requirement is not applicable to the conference competitions.
- Appendix D provides details on the formatting of the electronic deliverables (Engineer’s Notebook and Design Paper)

Races

- Same race configuration and paddler loading conditions as the 2006 competitions.

Scoring

- Deductions (point values) have been modified. For the most part, deductions for various infractions have been reduced.
- Minor changes in scoring for the Design Paper have been implemented.

The Rules and Regulations of the 2007 ASCE National Concrete Canoe Competition is a very comprehensive document as it serves multiple purposes – it provides the specifications that the students need to meet for the competition, it provides guidance to the conference and national judges on the various aspects that they need to evaluate and judge, and it serves as a guide to the host schools for determining the requirements for hosting the competition.

Every effort has been made to provide clear language in this edition of the rules and regulations. Students are advised to read the rules carefully and to make interpretations based on sound engineering judgment and experience. The CNCCC will provide clarifications as needed.