

Environmental Challenge

...a student team competition

PROTOCOL

2009 Environmental Challenge

General Description

The Environmental Challenge is being sponsored by the Air & Waste Management Association – Upper Midwest Section (AWMA-UMS) and Central States Water Environment Association (CSWEA) – Minnesota Section, as part of their annual joint Conference on the Environment (COE). The COE will be held on November 12, 2009 at the Earl Brown Heritage Center in Brooklyn Center, Minnesota.

The Environmental Challenge (EC) is a student team competition to prepare and present an optimal solution to a complex “true-to-life” environmental problem. The problem presented will be of current value, representative of the location of the event, and require multidisciplinary approaches for success. The EC seeks not only technical and scientific analyses, but solutions that are presented in conjunction with the development of appropriate regulatory approaches and resolution of political and community issues.

The goals of the EC are to:

- Involve students in the annual Conference on the Environment
- Provide experience in solving complex environmental situations in a fun and supportive atmosphere
- Provide students an opportunity to display their talents
- Offer students the chance to network with environmental professionals and to find internship and job opportunities

The EC is designed to promote formation of student teams with the broadest feasible range of environmental disciplines including engineering, planning, policy, economics, and other sciences. Just as corporations and other organizations pull together teams from their staff to most effectively address any given project, so too should each student team by identifying and recruiting representatives from appropriate disciplines as needed to address the problem holistically.

Teams must research the problem background, as well as the technical, social, economic, and political aspects of the situation. Teams must stay apprised of ongoing events related to the problem so they can adjust their solutions appropriately leading up to and during the COE.

Although winning solutions to the problem must have sound engineering and technical bases, the solution does not require a full engineering design presentation. Similarly, the problem poses economic and political issues that will be addressed in a qualitative manner. Solutions are

expected to provide reasonable resolutions applying basic engineering and scientific knowledge to research scenarios and critical questions.

Preparation of broad background knowledge of the challenge topic will be the key to a successful competition. At the COE, role players in the EC problem will be identified and available for students to approach with questions and to consult for opinions. The role players are A&WMA and CSWEA conference attendees and professionals in the environmental field. Students should approach conference attendees and exhibitors to identify additional individuals with expertise that is germane to the EC problem. The conference offers a great networking opportunity and the EC problem provides an excellent topic for discussion and networking. The role players provide a key interaction for the EC participants by offering direct feedback on their solutions, asking questions to prepare the students for the project presentations, and enhancing the student networking experience at the COE.

Award

Team solutions are scored and the anticipated awards for the EC are as follows:

- 1st Place: \$1,500
- 2nd Place: \$1,000
- 3rd Place: \$500

Eligibility

The EC competition is open to all undergraduate students.

Students must register for AND attend the conference to participate in the competition. The conference cost is \$25 for students. This conference fee includes lunch, access to conference sessions when teams are not participating in the EC activities, and a one-year student membership in either AWMA-UMS or CSWEA Minnesota Section.

Student teams may not contain more than five members and are generally comprised of three to five individuals.

Expectations for Proposed Problem Solutions

Solid technical analysis, logic train, process, conceptualizations, and creativity are all important to the solution and the content of your presentation. Successful teams will offer a clear and concise presentation of their solution and the rationale behind the elements of the solution. Your team will need to make reasonable assumptions as part of the solution. The assumptions must pass the “straight-face” test. This is (almost) the real world!

Challenge Elements

Team deliverables will consist of the following three elements:

- 1) Written solution submitted prior to the conference
- 2) Table-top presentation at the conference
- 3) Formal presentation at the conference

Written solutions will be submitted prior to the COE. The table-top and formal presentation will be made at the conference.

Written Solution:

Each team must submit, via email to Chandler Taylor at ctaylor@barr.com, a written solution by October 22, 2009. The solution should summarize the problem issues and the team’s approach to the problem. The solution must identify each team member by name and the role they will have in the presentation (e.g., “Sally Smith” is the lead project engineer and will address waste issues, “Jim Jones” is the city planner. Include the disciplines that you think you need). The written solution *shall not* exceed five pages.

Table-top Presentation:

Each team must prepare and bring a table-top presentation of the solution to the COE. The goal of the table-top presentation is to give teams the opportunity to present their solution and receive feedback in an interactive manner with the conference participants. Conference participants will also be scoring the table-top presentations.

EC TABLE-TOP GUIDELINES

1. The *entire team* is asked to be present for the table-top presentation at the COE.
2. Each EC team will be assigned one 8-foot folding table in the Environmental Challenge room. A table number will be assigned at arrival and dictate each team’s location.
3. Your table-top materials should be prepared so that they may be arranged easily on the table. There is no prescribed format for the table-top materials, but they **MUST** include the title and the full team listing.
4. Figures, graphs, and tables should be uncluttered and simple and arranged in the sequence in which you want them to be viewed. Text should be typed or prepared using a word-processing program printed on a laser printer or another type of quality printer. Materials may be presented on a laptop provided by the student team. Text and figures should be large enough to be read from a distance of six feet. Color may be used for emphasis.
5. Team members should be prepared to brief conference participants as they visit the team table. The brief should summarize important assumptions and conclusions and clearly articulate proposed solutions to the challenge problem. A limited number of copies of the written solution should be available for distribution to interested individuals. Additionally, creativity is important in making your solution stand out. Hand-outs and other exhibits may be used to further advertise your table-top presentation.
6. Table-top setup will follow an 8:00 a.m. orientation meeting at the conference. Judging will take place after the orientation, from approximately 9:00 - 10:00 a.m. EC participants must be available to interact with the role players and judges during the entire table-top judging period. This is also an opportunity to interact with the role players and judges.

Formal Presentation:

Teams will provide a formal presentation of their problem solution in the afternoon to a panel of judges who are environmental professionals. The presentation should incorporate information that may have been gained during the table-top interaction. Depending on the number of participants, if time is limited, top scores from the written proposal and table-top presentations

may be used to select a short-list of teams that are allowed to present. Presentation order will be chosen randomly.

A computer and projector will be provided for the presentation (with Microsoft PowerPoint). Please bring your presentation on a data stick or disk to be transferred to the computer. Plan for no more than a 15- minute presentation followed by five minutes of questions and answers.

Presentations will be judged by a panel identified prior to the COE – the panel will meet at COE to determine top solutions.

Role Players

A group of environmental professionals will be designated as role players, such as project proponent(s), regulators, politicians, activists, and other expected or unexpected individuals critical to creating a solution to the problem. Role players in the problem will be identified at the EC and introduced at the orientation meeting. During the conference you will have the opportunity to speak with role players involved with the problem. Role players will offer insight and clarify any additional questions each team may have in relation to the problem.

Role players may be approached at any time during the conference. Please use professionalism during all business meetings and technical and plenary sessions and have fun while remembering your environment.

Scoring and Awards

The winning team presentation will be strong in approach, logic, clarity, application, and creativity. Combined scores from the written solution, table-top presentation, and formal presentation will be used to determine the winning teams.

The top three teams will be announced at an Awards Ceremony at the end of the conference.

EC Timeline Summary

EC teams are required to attend an EC orientation meeting at 8:00 a.m. the day of the conference. This meeting will be held to review the EC problem and procedures, introduce role players, sign-up to interview the role players, and answer general EC presentation questions. Check in at the Student Welcome Booth for room information.

Milestone	Date/Time
EC Invitation/Problem Mailed	September 7, 2009
Teams Provide Intent to Participate	September 25, 2009
Written Proposals Due by E-mail to Chandler Taylor	October 22, 2009
EC Orientation Meeting at the COE	November 12, 2009 – 8:30 a.m.
EC Table-Top Presentation Setup at the COE	Before and After the Orientation Meeting
EC Table-Top Presentation/Interaction at the COE	November 12, 2009 – 9:00-10:00 a.m.
EC Formal Presentations at the COE	November 12, 2009 – 1:30-3:00
EC Awards Ceremony at the COE	November 12, 2009 – 4:15

Questions should be directed to: Chandler Taylor 952-832-2621 ctaylor@barr.com