

PROTOCOL

General Description

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 multi-disciplinary 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:

- Offer students the chance to network with environmental professionals and to find internship and job opportunities
- Provide experience in solving complex environmental situations in a fun and supportive atmosphere
- Provide students an opportunity to display their talents
- Involve students in Delaware Valley Chapter A&WMA Activities including the Annual DVC/APERG Scholarship Ceremony and Reception.

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. The problem will be relevant to the Delaware Valley Chapter Region (PA, NJ, DE) and current events. 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 final presentation at the DVC/APERG Scholarship Ceremony and Reception.

Although winning solutions to the proposed problem must have sound engineering and technical bases, the solution does not require a full engineering design presentation. Similarly, all problems pose economic and political issues that must be addressed. Solutions are expected to provide reasonable resolutions applying basic engineering and scientific knowledge to research scenarios and critical questions.

Student teams should start to form following posting of the problem on March 11, 2010. 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. Schools may wish to consider combining students to make balanced teams and are encouraged to do so. Student teams must register for the EC by e-mailing to Elizabeth Kamali (elizabeth.kamali@merck.com).

Once teams arrive at the DVC/APERG Scholarship Ceremony and Reception, preparation of broad background knowledge of the challenge topic will be the key to a successful competition. 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 scholarship ceremony and reception attendees and professionals in the environmental field. The event 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 DVC/APERG Scholarship Ceremony and Reception. The role players are also critically involved in a “tweak” (added complication to the problem) that tests the students’ knowledge of the challenge topic.

The EC winning team will receive a \$1500 award.

EC TIMELINE

DATE TIME / EVENT

March 11, 2011 EC Problem Posted (<http://www.mass-awma.net/dvc.html>). Register by e-mail with Elizabeth Kamali (elizabeth_kamali@merck.com) if you have not already registered.

April 20, 2011 5PM: EC 1-2 Page Written Proposal due via e-mail Elizabeth Kamali (elizabeth_kamali@merck.com) and Paul Foster (paul.foster@state.de.us)

EC Written Proposals Sent to Judges

April 21, 2011 3:45 PM Arrive at DVC/APERG Scholarship Ceremony and Reception & EC Competition (Lehigh University Mountaintop Campus - Iacocca Hall 2nd Floor – Governor's Suite 111 Research Drive, Bethlehem, PA 18015.)

Bring **10 minute Powerpoint Slide Presentation** on flash drive
Bring laptop computer

4:00PM EC Instructions and Tweak presented to all teams
4-5PM Modify Powerpoint Presentation to address Tweak.

5-6PM	DVC/APERG EVENT AWMA Social Hour and Dinner
6:30PM	EC Powerpoint Team Presentations to Environmental Hearing Board and "Public" begin
7:30PM	DVC/APERG Scholarship winners announced
7:30PM	EC overall judging
7:45PM	EC team winners announced

**All EC materials are available on DVC A&WMA's Web site:
<http://www.mass-awma.net/dvc.html>**

Questions should be directed to:

Liz Kamali (elizabeth_kamali@merck.com) 215.652.5141
Paul Foster (paul.foster@state.de.us) 302.323.4542
Kate Graf (KGraf@trinityconsultants.com) 610.410.2639
Michele Gehring (michele.gehring@coterie-env.com) 610.406.2215
Bob Schoenberger (rjspe@verizon.net) 610.458.5009
Scott Health (sheath@environcorp.com) 215.523.5607

EC Competition Preparation:

Student teams should start to form immediately following posting of the problem (March 11, 2011), identifying and recruiting representatives from appropriate disciplines as needed to address the problem holistically. 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. Schools may wish to consider combining students to create balanced teams and are encouraged to do so. Student teams may not contain more than five members and are generally comprised of three to five individuals (two is the minimum permitted).

Eligibility:

The EC competition is open to all students who contact elizabeth.kamali@merck.com and have not been out of school for more than one full year. The competition will be a combined event for graduate and undergraduate students competing equally.

Teams must register by contacting elizabeth.kamali@merck.com prior to the DVC/APERG Scholarship Ceremony and Reception and one member from each team must contact Liz Kamali (elizabeth.kamali@merck.com). Each team member participating must register for and attend DVC/APERG Scholarship Dinner during which the competition will be judged.

Expectations for proposed problem solutions:

Solid technical analysis, logic train, process, conceptualizations, and creativity are all critically important to the proposal and presentation composition. Clear and concise presentation of your thoughts in a public forum is paramount to success. 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! The proposal 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).

Written Proposal:

Each team must submit their solution, via email to Elizabeth Kamali (elizabeth.kamali@merck.com) and Paul Foster (paul.foster@state.de.us). The proposal should include a 1-2 page written proposal addressing the problem (memo format) and must be submitted by **April 20, 2011 by 5PM**. The written proposal should outline the approach that the team is going to take, including discussion of the key issues that will be discussed during the presentation, and should include the names and roles of each team member. The written proposal shall not exceed two pages. Written proposals will be distributed to the EC judges on April 20, 2010 with a scoring form.

The Tweak:

No matter how much you do and know, in real life unexpected events and expectations can and do occur. To this end, you should expect (when you receive your EC registration packet at 4PM on April 21, 2011) some late breaking information that might alter your approach and/or require your solution to the problem to evolve. The problem and the tweak will require that you talk to “experts” and examine additional information for important information to address the tweak in your solution.

An orientation meeting for the EC participants will be held on Tuesday April 21, 2010 at 4PM. Role players in the problem will be identified and introduced at 4PM April 21, 2010.

Role Players:

During the Environmental Competition you will be required to speak with role players involved with the problem. These role players will be project proponent(s), regulators, politicians, activists, and other expected or unexpected individuals critical to creating a solution to the problem. Role players will offer insight and clarify any additional questions each team may have in relation to the problem. During the EC orientation, a sign-up sheet will be available for interviews with these individuals, or they may be approached at any time during the allotted 4-5PM time to work on the tweak. Please

use professionalism during the event and have fun while remembering your environment. Interviews will occur at a designated EC Station(s).

FINAL Powerpoint Presentation:

Each team must prepare and bring a 10-15 minute Powerpoint presentation of the proposal (on a flash drive) to present to attendees at 6:30PM following the social hour and dinner.

EC POWERPOINT PRESENTATION GUIDELINES

1. Team representatives must be present for the presentation at the DVC/APERG Scholarship Ceremony and Reception.
2. Each EC team should bring a laptop computer and a copy of presentation on a flash drive (contact Elizabeth Kamali or Paul Foster if assistance is needed in obtaining a laptop or flash drive).
3. Your presentation materials should be prepared so that they may be arranged easily. There is no prescribed format for the body of the presentation, but the presentation **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 that is clear to read. Text and figures should be large enough to be read from a distance. Color may be used for emphasis.
5. Team members should prepare a brief presentation, to be given during the judging period. The presentation should summarize important assumptions and conclusions and clearly articulate proposed solutions to the challenge problem. Additionally, creativity is critical; hand-outs and other exhibits may be used to further explain and enhance your presentation.
6. EC teams are required to attend an EC orientation meeting on April 21, from 4:00 to 5:00 p.m. This event will be held in the Lehigh University. The purpose of this meeting is to review the EC problem, introduce the tweak, introduce role players, sign-up to interview the role players, and answer general EC presentation questions. Upon arrival at the Lehigh University, check in at the EC Station for information.
7. FINAL Presentations (including the tweak) must be completed and submitted by April 21st at 5:00PM on a flash drive at EC booth. The teams will present their proposed solution including the tweak beginning at 6:30PM at the DVC/APERG Scholarship Ceremony and Reception. There will be an environmental board

asking questions and a hearing officer may also be accepting limited questions from the "Public" (participants attending the DVC/APERG Scholarship Ceremony and Reception). Teams will have 10 minutes to present their proposed solution to the environmental hearing board. Teams must demonstrate their understanding of the issues in the Powerpoint presentations and address the tweak.

8. Judging will take place immediately after all EC participants have presented and awards will be presented after the APERG Scholarship awards are presented. The winning team presentation will be strong in approach, logic, clarity, application, and creativity.
9. 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/flash drive to be transferred to the computer. Plan for no more than a 10 to 15-minute presentation followed by five minutes of questions and answers.
10. Winners will be announced at the DVC/APERG Student Event following announcements of APERG Scholarship winners on Thursday, April 21, 2010.

*Dependent on the number of teams entered into the EC, the time for presenting may vary +/- 5 minutes. The combined scores from the written proposal and Powerpoint presentation will be tallied and the top scoring team will win the competition. All teams will have the same amount of time allotted for the presentation. Judges' scores will be tallied immediately following the EC Powerpoint presentations.