

## GREEN CHEMISTRY ROUNDTABLE

**Michigan Department of Environmental Quality (DEQ)  
Constitution Hall, Katherine Cushman Conference Room  
525 West Allegan, Lansing, Michigan 48913  
August 11, 2009**

**Members in attendance:** Attendees: Patricia Beattie, Clinton Boyd, Robert Craig, Tracey Easthope, Michael Hales, Neil Hawkins, Rebecca Head (phone), Yinlun Huang (phone), Robert Jackson, Dalila Kovacs, Jim Lowry, Stephen Maldonado (phone), Martha Stanbury, Andrew Such, Anne Wallin, Guy Williams (phone), Gabe Wing, Cynthia Zwick

**DEQ staff in attendance:** Bryce Feighner, Richard Alexander, Karen Edlin, Jennifer Acevedo, Chris Affeldt

### **9:00 a.m. – 9:15 a.m. ~ Welcome, Introductions, and Updates**

*Karen Edlin, OPPCA, DEQ*

#### **Discussion:**

- Bryce Feighner, new Chief of the Office of Pollution Prevention and Compliance Assistance.
- National Organization of Black Chemists and Chemical Engineers (NOBCChE) Midwest Regional Conference, Michigan State University, East Lansing, October 31 - November 1, 2009. NOBCChE is a 501c3 organization established to develop and carry out programs to assist minorities in realizing and obtaining their full potential in the STEM (Science, Technology, Engineering, and Mathematics) fields especially in chemical engineering and chemistry-related areas. This year's conference theme is "Go Green: Technologies". How can Green Chemistry Roundtable members participate in the Conference?
  - Facilitate/content provider for Roundtable on Green Technology obstacles and solutions.
  - Sponsor an exhibit booth, luncheon, poster session, travel or teaching award.

#### **Action Items:**

- Email information about the NOBCChE Conference to the Roundtable.

### **9:15 a.m. – 9:45 a.m. ~ Great Lakes Restoration Initiative**

*Emily Finnell, Office of Great Lakes, DEQ*

#### **Discussion:**

- President Barack Obama's Fiscal Year 2010 budget includes \$475 million in the Environmental Protection Agency's budget for a Great Lakes Restoration Initiative. The budget has not been approved so there is a provisional Request for Proposal being circulated. The initiative will target the most significant problems in the region.
- There are five proposed focus areas: toxics reduction, invasive species, nonpoint source pollution, habitat and wildlife protection and restoration, and accountability. In terms of green chemistry funding opportunities, \$7,280,000 is proposed for allocation to Pollution Prevention and Toxics Reduction.
- The proposed plan is a five year initiative with continual levels of funding. Funds would not be for project planning. A match would not be required. Although the Request for Proposals is not complete yet, at this time it appears it will be issued late August to early

- September and the deadline for proposals will be in October.
- OPPCA is considering several projects to seek funding for under this initiative; the clearinghouse being one of them.
- August 19, 2009 is the deadline for providing comments on the Great Lakes Multi-Year Restoration Action Plan Outline.
- See the following link for additional information: <http://www.epa.gov/greatlakes/glri/>

**Ideas:**

- Provides a good opportunity to jumpstart Roundtable activities, like the clearinghouse.
- Should look at opportunities to fund the next steps of action plan; look for a three year project and seek first year funding.
- Consider a multi-state proposal, leverage money available through projects undertaken in several states.
- Seek letters of support from surrounding states that may use/gain from model project.
- Measurement/metrics:
  - EPA wants actual measurable toxic reductions.
  - Easy to develop a proposal that meets the program's goals, but not necessarily specific toxics.
  - Metrics around chemical use, like those used in the Green Suppliers Network, could be developed by businesses to provide detailed measurable results.
  - A proposal could be crafted around metrics based on Toxic Release Inventory data to quantify and achieve measurable results.
  - Both are connected; it is possible to have a section connecting metrics and reporting on them for businesses into the clearinghouse.

**Action Items:**

- Members and DEQ provide comments to the EPA on the Great Lakes Multi-Year Restoration Action Plan Outline by August 19, 2009.
- DEQ will forward the final Request for Proposal to the Roundtable once it is available.
- DEQ will seek input from the Roundtable on a project proposal.

**9:45 a.m. – 10:15 a.m. ~ ChemEd 2011**

*Kathe Blue Hetter, Skyline High School*

**Discussion:**

- Kathe Blue Hetter is from Skyline High School in Ann Arbor, MI.
- Trained in green chemistry at Beyond Benign.
- Developed a three year integrated science program which requires students to take one trimester of a sustainable/green chemistry class.
  - Focus of the class is on teaching the "12 Principles of Green Chemistry" in several different contexts through activities, labs, and coursework. There is also a focus on developing green technology in a sustainable way.
  - Course curricula and materials are available from the Beyond Benign website.
  - Believes the two most important pieces of information missing from high school chemistry classrooms are toxicity and environmental impacts.
- The ChemEd 2011 international conference for science educators will be held at Western Michigan University. The theme will be "Chemistry Grows in Michigan." It is a four day conference with several main focus areas, one of which is green chemistry.
  - The conference committee is trying to contact school districts to sponsor one or two teachers from each county to attend the conference.
  - For the green chemistry theme, they are looking for sponsors, plenary speakers, volunteers, as well as information on green chemistry related workshops before or after the conference.

**Ideas:**

- Grand Valley State is hosting a conference in 2014; there is an opportunity for a connection with ChemEd.
- The American Chemical Society Green Chemistry Institute has been willing to support interactions between chemistry teachers, so there may be an opportunity for funding or sponsorship.

**Action Items:**

- Email Kathe Blue Hetter's contact information to the Roundtable.

**10:15 a.m. – 10:30 a.m. ~ ANSI - Standards Initiative for Green Chemistry**  
*Clinton Boyd, Ph.D., Sustainable Research Group*

**Discussion:**

- The American Chemical Society Green Chemistry Institute decided to develop an ANSI standard. The original name for the standard was "green chemistry products and processes," the key term being "green chemistry."
- As the process unfolded difficulties arose, including how to make green chemistry operational based on the definition and principles. As this was being explored, practitioners were pointing out that the definition already exists in the 12 Principles of Green Chemistry.
- At the last meeting it was decided that green chemistry is not amenable to standardization. The new name became "the Standard for Greener Chemicals and Processes."
- The group recognized that green chemistry already has a definition and principles, and a motion was passed that the standard does not have to reference the term green chemistry. If it is referenced, it will be defined by the current definition and 12 Principles of Green Chemistry.
- The standard is no longer going to be a rating. It will provide guidance on how to determine what is "greenness" and how to relate this information, for example regarding categories such as data quality needed and energy used.

**Action Items:**

- None required

**10:30 a.m. – 10:45 a.m. ~ Break**

**10:45 a.m. – 11:15 a.m. ~ Work Group 2 Status Report – Conference/Awards**  
*Karen Edlin, OPPCA, DEQ*

**Discussion:**

- John Warner has been confirmed to speak at the morning plenary of the conference, but Paul Anastas has not yet been confirmed for the afternoon plenary. The afternoon work sessions will be expanded if Mr. Anastas is not able to attend.
- A walk through was given of the Green Up conference website and the online registration feature.
- An update was given on the conference and award banquet sponsorship as well as the number of applications received for the Governor's Green Chemistry Awards.
- Seven Roundtable members have indicated an interest in participating on the awards judging panel.
- The EPA was consulted on the method and criteria for judging the Presidential Green Chemistry Challenge Awards; the process will be confidential until the award winners have been finalized and released.

Ideas:

- If the afternoon session is not confirmed, the steering committee should explore securing an alternate speaker instead of lengthening the work session.
- The EPA has a two month judging period; it was suggested that the awards for next year should allow for a longer review period.

**Action Items:**

- Roundtable members are encouraged to provide conference registration information to their contacts and networks.
- Contact the American Chemical Society Green Chemistry Institute to utilize networks for conference and registration marketing.
- Provide a list of conference and award sponsors to the Roundtable.

**11:15 a.m. – 11:45 a.m. ~ Work Group 1 Status Report - Clearinghouse**

*Clinton Boyd, Ph.D., Sustainable Research Group*

**Discussion:**

- An update was given regarding research into the audience and value of a resource clearinghouse in Michigan. This information was assimilated into a draft document distributed to the Roundtable. The document lists areas of interest with a recommendation for action and also contains a model approach to developing a clearinghouse.
- There are a lot of broad elements in the recommendations; with ideas ranging from very simple to very complex. These recommendations lend themselves to a phased approach for building and populating a clearinghouse.
- A discussion on the method of review prior to material upload is ongoing. One idea is to have an editorial board made up of Roundtable members.
- There is a question regarding ownership of the clearinghouse that needs to be resolved, including securing long term funding.

**Action Items:**

- The recommendations made in the draft document should be separated into phases.
- Work Group 1 will gather more information and begin defining the mechanisms by which the clearinghouse will operate.
- Work Group 1 members will be provided with clarification and direction regarding the building, housing, maintenance, and ownership of a clearinghouse to aid the shaping of a request for proposal.

**11:45 a.m. – 12:00 noon ~ Next Roundtable Meeting Discussion**

**Discussion:**

- There is interest in having the next Roundtable meeting soon after the conference in order to capture momentum.

**Action Items:**

- A Meeting Wizard notice will be sent out for a Roundtable meeting to be held during the third week of October.