



## MEETING MINUTES

**Sustainable Lab Practices Working Group  
NIH Environmental Management System (NEMS)  
Wednesday, December 17, 2008  
1:30 – 2:30 pm**

### Meeting Objective(s):

- Provide update on the status of the NEMS
- Confirm strategy for communicating target chemical reduction effort
- Identify first labs for communicating message

### Attendees:

Jane Clarke (NIA)  
Deborah Gomke (OD)  
Charlyn Lee (ORF)  
Melissa Porter (NIAMS)  
Ed Rau (ORF)

Linda Thompson (Booz Allen)  
William Trenkle (NIDDK)  
Roger Weidner (ORF)  
Don Wilson (ORF)

### Minutes:

#### NEMS Update

Linda Thompson provided an update on the current activities of the NIH Environmental Management System (NEMS). She mentioned that in the 2009 Performance Plan Elements for SES Level employees, a new requirement will be demonstrating certain levels of achievement in the HHS Environmental Stewardship and Environmental Management System and/or OPDIV-specific EMS initiatives. A site to help supervisors implement business practices that will improve environmental performance or minimize costs is being developed on the NEMS website. Ms. Thompson also provided an update on the Go Greener Lab Challenge, an evaluation tool similar to the Go Greener Office Challenge that will assess how green labs are. The working group is in the process of reviewing a draft evaluation worksheet and supplemental materials. The group will present the materials at the next Sustainable Lab Practices Working Group meeting in January. The next step will be to pilot the evaluation in a few labs, and then roll the tool out to all of NIH with the Go Greener Office Challenge.

## Strategy for Communicating Target Chemical Reduction Effort

On behalf of John Prom, Ms. Thompson presented the information collected thus far from labs that produce the highest waste streams of the six focus target chemicals.

Arrsah Yazdani, NEI, reduced the use of ethidium bromide for gel electrophoresis simply because there were less samples to run in FY08. He is willing to meet to discuss greening his lab's activities.

Marcia Sloger, NIMH, also uses ethidium bromide for agarose gel electrophoresis of DNA. She has not tried any alternatives because she has heard they are very expensive and less sensitive. As for phosphoric acid, she could not find a reason why it had been used in her lab in 2007, and not in 2008. Her lab used less phenol/chloroform in 2008 from 2007 simply because there were fewer people in the lab. They use this combination of chemicals for RNA extractions and in situ hybridizations. She is also willing to meet with someone from our group to discuss our efforts.

Lastly, David Winkler, NCI, increased the use of phenol in his lab for DNA isolation due to an increased number of samples to process. He did not indicate whether he would be willing to meet.

Charlyn Lee added that Sharon Adams, of the Clinical Center, is reducing her lab's use of ethidium bromide for gels by switching to a different technology. Don Wilson stated that John Prom is also surveying NIH use of acetonitrile for reduction efforts.

The group then discussed what would be the best way to meet with these labs. Mr. Wilson suggested that Mr. Prom meet with the labs individually. ORF will set up a schedule to meet with the labs during their team meetings, or if possible, arrange for a single meeting in building 10 since that is where all the responses have been from thus far. Ms. Thompson is developing a briefing to be used during the meetings, and shared a draft "Greening NIH Labs" presentation based on one that Teresa Leland had recently given to the Lab Managers Interest Group.

Next, the group discussed a proposed handout that could be used as a leave-behind at the meetings/briefings. The example handout was on phosphoric acid (see Attachment 1). As a side note, William Trenkle stated that his building (NIDDK and NIAMS) hasn't been using phosphoric acid for cage cleaning since 2002. They have been using citric acid-based cleaners known as Enviro-Kleen 100 and Acidulate 150. He suggested that the animal care facilities be surveyed for what they are using. Mr. Wilson explained that many animal care facilities are neutralizing the phosphoric acid after use and dumping it down the drain, so that it doesn't get captured as a waste stream. Also, a member of the group mentioned that there are groups that regulate the protocols for cage washing.

Ms. Lee volunteered to help Ms. Thompson with finding references for the factsheets regarding feasibility of potential alternatives. She explained that she has also been in touch with someone from MIT concerning their Green Chemical Alternatives Wizard.

The group agreed to include contact information on the factsheets of NIH employees who have successfully employed the suggested alternatives. The website could also be used to post successful case studies or comments. Roger Weidner also recommended providing links to protocols and procedures that labs may have using the suggested alternatives.

Lastly, the group discussed ways to communicate our message other than meetings, factsheets, and the NEMS website. A member of the group suggested tapping into interest groups and listservs at NIH to encourage use of the website and get information out.

Ms. Thompson suggested using the ACS publication "Less is Better" as another leave behind. Mr. Trenkle warned against the use of this publication because of some gray areas that address hazardous waste treatment. Mr. Wilson said he will review the material before the group uses it.

### Action Items:

Action Item	Responsible Person(s)	Due Date
1. Continue to contact labs that are disposing of the six focus chemicals and determine their use	John Prom	January 19, 2009
2. Begin to schedule meetings with labs to brief them on greening their labs	John Prom	January 19, 2009
3. Continue to work on factsheets as leave behind for meetings with labs	Linda Thompson/ Charlyn Lee	January 19, 2009
4. Draft briefing for meetings with labs	Linda Thompson	January 19, 2009

### Next Meeting:

The next meeting is scheduled for Wednesday, January 21, from 1:30 to 2:30 PM in Building 45, Room D. **Note that the next several meetings will be in Building 45 (Natcher). Reminders will be sent out prior to each meeting.**



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# **ATTACHMENT 1**



# NIH Environmental Management System

To Protect the Future, Take Action Into Your Hands



## Greening Your Lab

### Reduction of Chemical Waste: Phosphoric Acid

NIH is a large generator of chemical waste and is targeting reduction of certain chemicals by encouraging the use of alternative, more environmentally friendly chemicals to minimize the chemical waste stream and improve laboratory safety. Phosphoric acid has been identified at NIH as being generated in large waste quantities (> 100 Kg/year). It is primarily used in cage washing in animal care.

### Green Alternatives

Citric acid has been identified as a suitable alternative for phosphoric acid for equipment and cage washing. NIH could reduce phosphate emissions by roughly 10-12 tons per year simply by changing the soap used in many laboratories. Also, use of phosphate-free soap at the lab sink or cage washer can help protect the Chesapeake Bay watershed.

[Provide case studies, references, etc]

#### *Other Resources*

#### **Green Chemistry Resource Exchange** <http://www.greenchemex.org/>

The ACS Green Chemistry Institute (<http://www.acs.org/greenchemistry>) developed the Green Chemistry Resource Exchange as a place for users to exchange green chemistry information resources.

#### **Green Chemical Alternatives Wizard**

<http://web.mit.edu/environment/academic/purchasing.html>

The Massachusetts Institute of Technology (MIT) developed the Green Chemical Alternatives Purchasing Wizard to reduce the hazardous waste profile in research labs, an effort that ultimately saves MIT, and its researchers, money while reducing hazard potentials and the burden to our environment.

#### **Labs for the 21<sup>st</sup> Century®** (<http://www.labs21century.gov/>)

Labs21<sup>®</sup> is a voluntary partnership program dedicated to improving the environmental performance of U.S. laboratories.

#### **Green Chemistry Solvents** (<http://sigmaaldrich.com/solvents>)

**Green** solvents such as 2-methyltetrahydrofuran (2-MeTHF) and cyclopentyl methyl ether (CPME) provide environmentally friendly **green** alternatives.

#### **Fisher Scientific: Think Green** (<http://fishersci.com>)

Fisher Scientific supports the sustainable green initiatives of our customers and looks for novel ways to continually improve our business processes to help in protecting the environment.

For more information,  
please contact:

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