

## WEF Residuals & Biosolids Committee Bioenergy Technology Subcommittee RBC 2012 SPECIALTY CONFERENCE Raleigh Convention Center Raleigh, NC Tuesday, March 27, 2012 7:00 – 8:30 am

RCC - Room 306A

Dave Parry, *Chair* Robert Bates, *Vice-Chair* 

#### AGENDA

<ol> <li>Introduction &amp; Welcome Meeting Minutes – 2011 RBC Specialty Conference – Sacramento Mission Statement, Goals &amp; Vision</li> </ol>	Dave Parry o, CA
<ol> <li>Conferences &amp; Workshops WEF RBC Specialty Conference 2012 – Raleigh, NC WEFTEC 2012 Biosolids Workshops – New Orleans, LA</li> </ol>	Robert Bates
3. WERF Upcoming Projects Related to Bioenergy	Dan Woltering
4. Manuals, Webcasts	All
NBP January and April 2012 Webcasts	Sam Hadeed
5. Technology Task Force Reports (Activities, Plans) Biofuels High Performance Digestion Thermal Drying High Temperature (Pyrolysis, Gasification) Thermal Oxidation Value Added Products	Nate Turner Chris Wilson Scott Carr Stan Chilson Lee Lundberg Robert Reimers
<ol> <li>Hot Topics, Important Issues, Highlights, Trends Current Status of Biosolids Classification MACT STDS for SSIs Important Issues, Highlights, Trends, Recommendations</li> </ol>	Jim Welp/Amy Hambrick All
7. Closing Comments	Dave Parry
8. Next Meeting: 2012 WEFTEC::New Orleans, LA – Sept. 29-Oct. 3	

9. Adjourn

# Bioenergy Technology Subcommittee Mission:

The Bioenergy Technology Subcommittee promotes biosolids and energy technologies associated with municipal, agricultural, and industrial wastewater residuals for the protection of the environment.

## Goals:

- To promote bioenergy technologies, both in image and use
- To become the information source for bioenergy technologies
- To be a recognized impartial resource for the public, public officials, and utilities
- To be a technical resource for bioenergy regulations development

## **Divisions:**

- High Performance Digestion
- Thermal Drying
- High Temperature Processes (Gasification, Pyrolysis)
- Thermal Oxidation (Incineration)
- Value Added Products
- Biofuels (Biomethane, Biodiesel from FOG, Dried Biosolids)



Meeting Minutes WEF Residuals & Biosolids Committee Bioenergy Technology Subcommittee 2012 Specialty Conference Raleigh, NC March 27, 2012 7am Dave Parry, Chair Robert Bates, Co-Chair

#### 1. Introduction and Welcome

- A. Meeting called to order at 7:00 am by Chair Dave Parry with a final attendance of 52. Attendee breakdown by employment type:
  - a. University: 1
  - b. Regulatory: 3
  - c. Vendor: 15
  - d. Utility: 8
  - e. Consultant: 21
  - f. Professional Organization: 3
- B. Minutes from the last subcommittee meeting held at the WEF Residuals and Biosolids Conference in Los Angeles, CA were approved.

#### 2. Bioenergy Technology Subcommittee Mission:

- A. The current mission statement is as follows: The Bioenergy Technology Subcommittee promotes biosolids and energy technologies associated with municipal, agricultural, and industrial wastewater residuals for the protection of the environment.
- B. Previous minutes indicate that the mission statement was suggested to be revised as follows:

The Bioenergy Technology Subcommittee promotes biosolids and energy technologies associated with municipal, agricultural, and industrial wastewater residuals to sustain a healthy environment.

C. The issue of revising the meeting minutes was not discussed during the meeting.

#### 3. Conferences and Workshops:

A. Involvement and interest in the bioenergy group appears to be growing, based on growing attendance numbers and proportion of meetings that deal with energy.

Two successful pre-conference workshops were conducted along with several technical sessions.

### 4. WERF Upcoming Projects Related to Bioenergy:

- A. Lauren Fillmore provided brief synopsis of WERF's current activities:
  - a. Optimization study is wrapping up. Barriers to biogas paper is now finished. WERF is working with plants to become net zero energy. They expect further research to focus on anaerobic digestion, biogas treatment, biosolids management, and bioenergy management.
  - b. WERF reports are made available first to subscribers. They are also available to purchase immediately after publication, and will be available for free after 2 years via open-access on WEF website.
  - c. Lauren called for show of hands to indicate interest in enhancing incinerator energy recovery efficiency to make it more financially viable. WERF is interested in expert oversight for projects regarding this topic. A show of hands indicated that the majority of attendees would support the research.

#### 5. Manuals and Webcasts

EPA Biosolids Manual should be available around the end of April.

#### 6. Technology Task Force Reports

- A. Biofuels
  - a. The committee has been asked to write a statement paper describing energy in wastewater as it relates to waste-to-energy, gasification, pyrolysis, etc.
  - b. The immediate use of the paper would be to educate the Arizona legislature, which has recently banned incineration of ANY waste in the state; however, the work could be used as a template for other states in the future.
  - c. It was noted that the paper should focus on a comprehensive evaluation of waste management practices to avoid sacrificing or emphasizing certain technologies.
  - d. Peter Brady volunteered to lead the group in drafting the paper.
- B. Thermal Drying
  - a. White paper (Technical Practice Update) from 2004 is being updated. Goal is to have draft for review completed by the start of WEFTEC 2012.
- C. High Temperature Processes
  - a. The gasification process in Florida is undergoing significant modifications (new dryer and gasifier technology). Maxwest is in final stage of design and permitting of large gasifier in Maine. Nexterra is working on syngas from wood gasifier for use in engine in Catawba County.

- b. USDA has been working with pyrolysis for over 10 years, and is currently working on developing syngas, biochars, and other streams from residuals pyrolysis. Biochar is useful as a remediation agent on land. Biochar has significant nutrient, water retention, carbon sequestering, and surface area advantages over biosolids.
- c. Biggest concern from gasification is gas cleanup for use in IC engines and fuel cells. Research focuses on capturing tars and use for fuel. There are possibilities to mix animal waste and biosolids in pyrolysis and digestion of syngas.
- D. Thermal Oxidation
  - a. The thermal oxidation group has been active preparing papers and presentations. Most current efforts are dedicated to retrofitting existing incinerators.
  - b. Cleveland, OH moving forward with new incinerator. Planning stages are looking at thermal oxidation with energy recovery and other technologies on an equal basis.
- E. Value Added Products
  - a. Activated carbon products have been developed that are cheaper than existing carbons. Possibility of a high-grade fertilizer from biosolids was presented at the pre-conference workshop.

#### 7. Hot Topics

- A. MACT standards
  - a. Amy Hambrick provided a review of USEPA SECTION 129 incineration rule. EPA is preparing a formal response to petitions on reconsideration of the rule from both the Sierra Club and NACWA. The rule is scheduled to undergo judicial review in 2012.
  - b. CAA Section 129 requires EPA to set technology-based regulations for existing and new incineration units. The CAA requires EPA to set emissions limitations on the maximum achievable control technology, rather than a set value based on risk or another parameter. CAA section 129 also allows EPA to develop subcategories. The SSI rule has two subcategories: MH and FB. The emissions limits are set for each subcategory based on the best performing existing unit (for existing sources) and single best performing unit (new sources). There are more MH units than FB units. Therefore, because the emissions profile from FBIs is different from MHFs, the specified limits are calculated based on the performance of both technologies. As a result, standards for FBIs are more stringent because they are more efficient. If the rule was not subcategorized, the limits would reflect the best performing emissions test results of both MH and FB, combined.

- c. EPA can't regulate a type of SSI unit (emerging technology) that does not yet exist in practice. If a unit is online and requests a formal EPA applicability determination, the facility can contact its local EPA Regional Office to initiate an applicability determination to determine applicable regulations. For new facilities that are planning on using emerging technologies and have questions regarding the applicability of the SSI rule, contact EPA and they will work on a case-by-case basis to point you in the right direction.
- d. Note that modifications to existing MHFs could trigger requirements for NSPS.
- e. SSI regulations are focused on sludge incineration at the WWTP. Other regulations would apply for cement kilns burning dried biosolids. Contact your EPA Regional Office for questions.
- f. CAA section 129 testing requirements are different that requirements under CWA part 503. One example is CAA 129 corrects to 7% oxygen.
- g. For more information on the SSI regulations, please see EPA website. Google search for "SSI + EPA" will return results that provide quickest links to important documents including compliance timelines and rule requirement charts.
- h. Questions on the SSI rules should be directed to Amy Hambrick at Hambrick.Amy@epa.gov.
- B. The State of Michigan has had landfill ban for past 30 years for yard waste in landfills. The law has recently been changed to allow yard waste into landfills using gas collection and cogen. Bob would like to discuss this issue with any interested parties.

#### 8. Closing Items

Meeting adjourned at 8:30 am.