

FINAL Minutes of August 9, 2018 Ethylene Producers' Environmental Sub-Committee Meeting
(August 9, 2018, Rev. 1)

Following are the minutes of the August 9, 2018 Ethylene Producers' Environmental Sub-Committee Meeting, held via teleconference with Walter Postula, Shell Global Solutions (US) Inc., as host.

Present: Rick Beleutz, LyondellBasell
Arijit Pakrasi, APTIM
Walter Postula, Shell Global Solutions (US) Inc.
Mark Schmidt, DuPont
Mark Ulrich, Linde Engineering North America

Absent: Benjamin Burns, SASOL North America
Ted Heron, The Catalyst Group
Jacob Hilbrich, ChevronPhillips
Brad Hopper, BASF
Brandon Lithgoe, NOVA Chemicals
Patti Long, Eastman
Dan Lutz, Ineos
Gerardo Ruiz-Mercado, US EPA (AIChE Environmental Division Chair)
Jeffrey Seay, University of Kentucky (AIChE Environmental Division)
Debalina Sengupta, Texas A&M (AIChE Environmental Division)
Dick Siegel, R&B Consulting Services (AIChE Environmental Division)
Edward Soliz Jr., SASOL North America
Gary Wojnowski, BASF
Russell Wozniak, Dow

The teleconference began at 9:00am with Walter Postula reading the Ethylene Producers' Committee (EPC) anti-trust statement:

No activity of the committee shall involve the exchange, collection, or dissemination of information among competitors for the purpose of bringing about or attempting to bring about an understanding or agreement, written or oral, formal or informal, express or implied, among competitors, with regard to costs, prices, pricing methods, terms or conditions of sale, distribution, production quotas or other limitations on either the timing or volume of production or sales, or allocation of territories or customers.

The meeting agenda was published in advance and is included below:

- 1) Reading of Anti-Trust Statement [9:02 AM]
- 2) Update on Potential Presenters for Environmental Session [9:04 AM]
 - a. Matthew Martin – Honeywell UOP – “Smokeless Operation of Flares”
 - b. Colin Deller – Honeywell UOP – “Practical Low NOx Burner Retrofit”
 - c. Brian Duck – Zeeco – “Direct Flame Monitoring”
 - d. Emissions measurements when decoking to firebox – ACC? Kari Enqvist?
 - e. RTR/EMACT – Steve Smith?
 - f. Water Conservation – KBR/Linde?
 - g. Identification of Process Leaks to Cooling Water
 - h. Wet Air Oxidation – Mark Clark – Siemens Energy
- 3) Other Potential Topics for Environmental Session [9:35 AM]

- 4) Subcommittee Membership [9:45 AM]
 - a. David Elam – TRC Solutions
 - b. Jennifer Port – ExxonMobil
- 5) Review of Action Items [9:55 AM]
- 6) Important Date Reminders
 - June 29, 2018 – Call for abstracts opens
 - November 12, 2018 – Call for abstracts closes
 - December 14, 2018 – Papers accepted or rejected
 - January 18, 2019 – Program goes live
 - March 8, 2019 – Paper submission closes
 - April 1–4, 2019 – Spring Meeting – New Orleans, LA
- 7) Adjourn [10:00 AM]

Update on Potential Presenters for Environmental Session: The Excel file that Mark U. and Brandon forwarded prior to the telecon was used as the basis to briefly update the subcommittee on status of each of the potential presenters. Please see spreadsheet for full details.

- Matthew Martin – Honeywell UOP – “Smokeless Operation of Flares”
Has been contacted. Requested to supply an updated abstract.
- Colin Deller – Honeywell UOP – “Practical Low NOx Burner Retrofit”
Has been contacted. Requested to supply an updated abstract.
- Brian Duck – Zeeco – “Direct Flame Monitoring”
Has been contacted. Still interested in presenting, will develop existing abstract further.
- Emissions measurements when decoking to firebox – ACC? Kari Enqvist?
Kari Enqvist contacted, will see what data is available, and develop abstract
- RTR/EMACT – Steve Smith?
Steve has not yet been formally asked.
- Water Conservation – KBR/Linde?
KBR contacted, has responded with interest in developing abstract.
- Identification of Process Leaks to Cooling Water
KBR asked about this topic as well. No specific response.
- Wet Air Oxidation – Mark Clark – Siemens Energy
Has been contacted, expressed interest, will develop abstract.

Other Potential Topics for Environmental Session: A more detailed discussion on the topic of metal emissions from furnaces and how the new E-MACT will impact was suggested. A speaker was not identified, but ideally would be a producer involved in some the research performed in this area. No other specific topics were identified. At present we believe we have enough submissions to meet our original intent of a strong, single session.

Subcommittee Membership: The two potential subcommittee members, David Elam from TRC Environmental Corporation and Jennifer Port from ExxonMobil were discussed. Those on the call endorsed admitting both to the subcommittee. Feedback from those not on the call will be solicited prior to making the final announcement.

Review of Action Items: Rick Beleutz to confirm Steve Smith’s willingness to provide a general update on the Ethylene MACT. After meeting note – Steve confirmed. ALL to provide any suggestions to Mark U./Brandon for improving/adding to the “presenter” spreadsheet. **ALL NOT ON CALL** to provide feedback on potential new subcommittee members.

Important Date Reminders: The dates provided in the agenda were reviewed.

Adjourn: The meeting/teleconference was closed at 9:40 am.