

FINAL Minutes of December 7, 2023 Ethylene Producers' Environmental and Sustainability Sub-Committee Meeting

Following are the minutes of the December 7, 2023 Ethylene Producers' Environmental and Sustainability Sub-Committee Meeting, held via Zoom.

Present:

Ralph Crivello, LyondellBassell
James Kendall, ExxonMobil Engineering and Technology Company
Isa Mbaraka, Dow
Shweta Singh, Purdue University (AIChE Environmental Division)
Robert Sams, Shin-Tech
Mark Ulrich, Linde Inc.

Absent:

Troy Boley, Spectrum Environmental Solutions, LLC
Shelby Browning, Eastman Chemical
Ted Heron, The Catalyst Group
Jacob Hilbrich, Chevron Phillips
Allyson Ledet, NOVA Chemicals
Patti Long, Eastman
Dan Lutz, Ineos
Arijit Pakrasi, Edge Engineering and Science
Andrés Muñoz Gandarillas, Neste
Nicole Roper, Shell Oil Products Company
Dick Siegel, R&B Consulting Services (AIChE Environmental Division)
David Smalley, BASF
Jason Trembly, Ohio University (AIChE Environmental Division)
Thilo von Trotha, Linde Inc.

Anti-Trust Statement

The meeting began at 9:02 am with James Kendall 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.

Sub-Committee Membership

No changes have been made to subcommittee membership since our last meeting.

Agenda

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

1. Reading of Anti-Trust Statement [9:02 AM]
2. Sub-committee membership update [9:04 AM]

J. L. Kendall
January 8, 2023

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3. Review of October 12, 2023, meeting action items [9:05 AM]
4. Discussion on AIChE Environmental Division Spring Sessions Seeking Chair or Co-Chair [9:08 AM]
5. Discussion of Abstracts for 2024 Environmental and Sustainability Session [9:10 AM]
6. Discussion of Potential Topics for 2025 Environmental and Sustainability Session [9:40 AM]
7. Review of Action Items [9:55 AM]
8. Important Date Reminders
 - Jun 20, 2023 – Session and Session Charis Due in Confex
 - Jun 22, 2023 – Call for abstracts opens
 - Oct 25, 2023 – Call for abstracts closes
 - Dec, 2023 – Papers accepted or rejected
 - Jan, 2024 – Program goes live
 - Mar, 2024 – Paper submission closes
 - Mar 24-28, 2024 – Spring Meeting – New Orleans, LA
9. Adjourn [10:00 AM]

Safety/Loss Prevention Sharing

Mark shared that cell phone sim cards can provide a path for identity theft. A potential mitigation is to impose restrictions on your cell phone account to limit the ability of a retailer to issue a new sim card for your account. Post meeting note: Freezing your credit can also create inconvenience in a similar way but limits the potential of identity theft.

Review of the Oct 10, 2023 meeting action items

Action items from the October 10 meeting were reviewed in detail.

James Kendall: Include in December agenda discussion of potential papers that could be solicited for the 2025 session where our members on the ED have the right contacts to make those papers a reality.

DONE

Dan Lutz: Bring to the December meeting brief summaries of litigation in Texas to facilitate identifying areas where the subcommittee could consider soliciting papers. **DONE**

Nicole Roper: Contact Jet regarding Environmental AI about the potential to present a paper at the Spring Meeting and submitting an abstract by the Oct 25 deadline. **DONE**

Discussion on AIChE Environmental Division Spring Sessions Seeking Chair or Co-Chair

The Environmental Division is seeking volunteers for two sessions at the upcoming AIChE Spring /24 Conference:

- Carbon Management and Sustainability I
- Environmental Issues and Controls in Select Industrial Sectors

Overviews and abstracts for each session were included in a prior email from Jason Trembly, with a request for response by December 8.

No attendees present volunteered.

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Discussion of Abstracts for 2024 Environmental and Sustainability Session

Eight papers were received for our session, of which our sub-committee actively solicited 5. Abstracts for all papers were provided to subcommittee members a week prior, with a summary table provided below:

Solicited	Accepted	Title	Authors	
1	✓	✓	Inflation Reduction Act: Navigating Murky Waters of Compliance and Incentives	Adam Greene, Carbon Policy Advisor, Worley
2	✓	✓	Practical Guidance on How to Prepare and Manage GHG Inventories	Everand (Ev) Ashworth, Principal, Ashworth Leininger Group
3	✓	✓	Evaluating the Use of Hydrogen as a Cleaner Fuel in a Steam Superheater Application	Jennifer Cunningham, LlyondellBasell Industries; Vivek Sundaram, LlyondellBasell Industries; Mitch Gibb, LlyondellBasell Industries, Rob Fox, LlyondellBasell Industries
4	✓	✓	Strategies to Comply with the Earliest New Hon Requirements at Ethylene Production Facilities	Gary Daves, TRICORD Consulting, LLC; Joe Ibenez, TRICORD Consulting, LLC
5	✓	✓	Combining Electrification, Carbon Capture and Renewable Feedstocks: Large-Scale CO2 Reduction for Olefin Production	Torben Hoefel, Linde Engineering, Andres Munoz, Neste Corporation
6			Efficient Flue Gas NOx Removal: Eliminating SCR System Fouling	Andrew Klein, Environmental Solutions, IGS, Richmond, VA
7		TBD	Issues during Startup of Steam Cracker Unit	Holt Lacy, IVOL; Michael Lopez, IVOL; Terry Gordy, IVOL; Paul T. Scott, KBR
8		TBD	Carbon Tax Impact on Ethylene Plants	Mark Whitney, Linde Engineering

The session will have (6) slots available for papers. Interaction with the Technology Sub-Committee running the Circular Economy/Decarbonization Session indicates there may be capacity to move a paper into that session, but without specifics and without sharing on how much space that subcommittee has.

The Environmental and Sustainability Session is planned for Wednesday 8am-11am, opposing the Plant Operations Session.

The Technology Sub-committee will have a "Circular Economy/Decarbonization" session, currently scheduled for Thursday 8:00-11:00. Chuck Politio is the session chair with Humera Rafique as the co-chair.

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The subcommittee discussed the method used in prior years to select papers for the session. James Kendall initiated discussion on the topic by reading the scope statement for our subcommittee:

The AIChE Ethylene Producers' Environmental and Sustainability Subcommittee focuses on issues dealing with environmental regulations, compliance, and reporting impacts for the ethylene production industry. Additionally, with sustainability playing an increasingly important role in broader society, the petrochemical industry, and amongst ethylene producers, the subcommittee acts as a forum for discussion and sharing of non-confidential information in sustainability focus areas. These areas include, but are not limited to, the development and deployment of corporate strategies aimed at target-setting and achievement, applicable technologies, best practices, calculations, and standards.

The group agreed that each paper would be briefly discussed in the context of this scope statement with members providing comment. This discussion took ~ 5 minutes for each paper and consumed the balance of the time for the meeting.

After discussion the subcommittee agreed the five solicited papers were timely and on topics with a solid match with the scope statement and desired content for the 2024 session.

The team agreed the weakest paper in the group was "Efficient Flue Gas NO_x Removal: Eliminating SCR System Fouling". The description of a case study was the most interesting portion of the paper, but without an industry partner in the presentation there was concern with the quality of content that would be provided. In addition, many existing papers are available on the topic of SCR operation. This paper will be offered to the operations subcommittee.

The team agreed the IVOL paper on "Issues during Startup of Steam Cracker Unit" was important to present at the conference but would be a better fit for the Operations Session. The Operations Session is planned to run at the same time as the Environmental and Sustainability Session on Wednesday morning. James took a follow-up to contact the Chair and Co-chair of that session to consider moving the paper.

Discussion on the Linde paper "Carbon Tax Impact on Ethylene Plants" centered on the applicability of the paper to a US based audience where the paper focused on Canadian policy implications. The team agreed:

- If the IVOL paper could be moved to the Operations Session, the Linde paper would be accepted.
- If the IVOL paper could not be moved to the Operations Session, the Linde paper would be offered to the Technology Session on Circular Economy/Decarbonization.

Discussion of Potential Topics for 2025 Environmental and Sustainability Session

Due to the thorough discussion on abstracts submitted, we did not have time to discuss potential topics for the 2025 session. We agreed to reconvene before the typical February "dry run" with paper authors to address these topics.

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Review of Action Items

James Kendall: Contact Operations Committee Chair and Co-chair about potential to move the IVOL paper on "Issues during Startup of Steam Cracker Unit" to that session. Contact Technology Circular Economy/Decarbonization Chair and Co-chair about potential to move the Linde paper on "Carbon Tax Impact on Ethylene Plants" to that session, should the IVOL paper not be moved to the Operations session. **DONE**

James Kendall: Schedule followup meeting with sub-committee to address the tabled agenda item "Discussion of Potential Topics for 2025 Environmental and Sustainability Session" - **DONE**

Important Date Reminders

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Adjourn

The meeting was adjourned at 10:02 am.