

## ETHYLENE PRODUCERS' TECHNICAL SUBCOMMITTEE MEETING

Date: Thursday: August 12, 2021

Time: 4:30 to 5:30 PM CDT

### Attendance:

EPC Technology Sub-Committee Members			Meeting Attendance				
Last Name	First Name	Company	6/17/2021	8/12/2021	10/14/2021	12/9/2021	2/10/2022
Arora	VK	Kinetics Process Improvements	X	X			
Buehler	Jack	Shell- Retired	X	X			
de Barros	Jose	Lummus					
Devakottai	Bala	Chevron Phillips Chem	X	X			
Elam	Jeff	Ineos					
Fox	Rob	LyondellBasell	X	X			
Hamilton	Jason	Dow Chemical	X	X			
Imran	Muhammad	Technip	X				
Kapur	Sanjeev	Apex	X				
Krinock	Robert	Dow Retired	X	X			
Krumins	Aivars	McDermott	X				
Lal	Ravi	Technip	X	X			
Le Geyt	Darren	Sabic	X				
Lee	Deborah	Shell		X			
Murnen	Hanna	Compact Memberane		X			
Rafique	Humera	Siluria Technologies	X				
Tallman	Michael	KBR		X			
Ting	Tiong-Ee	Westlake Chemical	X	X			
Whitney	Mark	Linde	X				
Zygula	Timothy	BASF	X				

### ACTION ITEMS IN RED

#### AGENDA

1. Reading of the Anti-Trust Statement:  
Anti-Trust Statement Read by Jason Hamilton  
No activity of the Committee shall involve the exchange, collection or dissemination among competitors of information, or be used for the purpose of bringing about or attempting to bring about any understanding or agreement, written or oral, formal or informal, express or implied, among competitors with regard to costs, prices or 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.
2. Five Minutes on Safety
3. 2021 EPC Attendance – Mike Tallman
  - a. Can we get a copy of the other EPC sessions numbers just for comparison?
    - i. Mike to send out the information after meeting.
4. **New Potential Member: Chuck Polito <[POLITCT@cpchem.com](mailto:POLITCT@cpchem.com)....need the bio. Bala will ask Chuck to send bio. We will vote next time.**
5. **Current Sessions Plan:**
  - 1) Circular/Decarb (Session Chairs: Aivars/TBD)  
**The committee would like for decarburization to be a sub-topic within this discussion. This would be a separate session, but will probably depend on how many papers we have submitted. Aivar's will have to update us on this for next session.**

- 2) Distillation Tutorial: Distillation related to ethylene plants. (Session Chairs: Bala/Mohammed)
- 3) Fundamentals Session (Session Chairs: Jack and Bob)

**Session Chairs to update us on 23<sup>rd</sup> September on papers via EMAIL to group. We will discuss in October or call a meeting if necessary.**

**Abstract submission deadline currently stating November 1<sup>st</sup>**

**ACTION: All TSC members need to solicit their companies for papers.**

### **Circular/Decarb Session Notes:**

From previous session Aivars and Sanjeev talked about several potential themes as an outcome of the networking session: 1) decarburization, 2) what is new to ethylene plants now, and 3) Fundamentals New Technologies 5-10 years out. Perhaps can be added as new session or distributed among existing. Aivar sent the following update via email in green.

**The committee would like for decarburization to be a sub-topic within this discussion. This would be a separate session, but will probably depend on how many papers we have submitted. Aivar's will have to update us on this for next session.**

*Email from Aivars Krumis:  
Jason & other SC Members,*

*I will not be able to attend this evenings meeting as I am in The Hague. My homework relative to the planning for the 2020 EPC Conference was on the session topic - what can current and near-term plants do as it pertains to the circular economy, my comments are as follows:*

- Sent an e-mail to the licensor representatives on both the TSC and EPC requesting their interest in presenting a paper.*
- Sent an e-mail to the EPC reps for the Environmental and Operations SCs, Rick Beletz & Richard Rolke, respectively, about their interest in doing this as a joint session. Richard said the Operations Subcommittee is interested.*
- I will be sending an e-mail to at least one company, Plastic Energy, who is active in the circular economy about their potential interest in presenting a paper. I have spoken to them recently about what they are doing and believe that they could be a good candidate. They are already working with a few olefins producers with their technology in Europe.*

*Presuming that Richard confirms the Operations SC's participation, I recommend that we proceed with this topic. I am happy to be the co-chair and assume that the other co-chair would come from the Operations SC.*

*My request is to the members of the Technology SC to please contact me if they have a paper or contact that I should make related to this topic and ask that Michael Tallman mention the same during the EPC meeting this evening.*

*I should be back for the next meeting and take the appropriate actions relative to this that come out of the SC and/or EPC meeting.*

### **Tutorial on distillation**

- . Bala will be chair Muhammed co-chair**

There will be a topical symposium on distillation. Bala reached out to them (Distillation symposium) concerning a potential joint session, but has not received any notice back. Bala is suggesting that we have an independent distillation session.

### **Fundamental Session.**

Robert and Jack working on obtaining papers (some potential papers). Currently seeking more papers

Rotodynamic Reactor (RDR)

Steel to ethylene – Ghent

FcDH (Dow's fluidized bed propane dehydrogenation) Dow

Electric Furnace?

**ETHYLENE PRODUCERS' TECHNICAL SUBCOMMITTEE MEETING**

Date: Thursday: June 17, 2021

Time: 4:30 to 5:30 PM CDT

**Attendance:**

EPC Technology Sub-Committee Members			Meeting Attendance				
Last Name	First Name	Company	6/17/2021	8/12/2021	10/14/2021	12/9/2021	2/10/2022
Arora	VK	Kinetics Process Improvements	X				
Buehler	Jack	Shell- Retired	X				
de Barros	Jose	Lummus					
Devakottai	Bala	Chevron Phillips Chem	X				
Elam	Jeff	Ineos					
Fox	Rob	LyondellBasell	X				
Hamilton	Jason	Dow Chemical	X				
Imran	Muhammad	Technip	X				
Kapur	Sanjeev	Apex	X				
Krinock	Robert	Dow Retired	X				
Krumins	Aivars	McDermott	X				
Lal	Ravi	Technip	X				
Le Geyt	Darren	Sabic	X				
Lee	Deborah	Shell					
Murnen	Hanna	Compact Memberane					
Rafique	Humera	Siluria Technologies	X				
Tallman	Michael	KBR					
Ting	Tiong-Ee	Westlake Chemical	X				
Whitney	Mark	Linde	X				
Zygula	Timothy	BASF	X				

**AGENDA**

6. Reading of the Anti-Trust Statement:
  - Anti-Trust Statement Read by Sanjeev Kapur
    - No activity of the Committee shall involve the exchange, collection or dissemination among competitors of information, or be used for the purpose of bringing about or attempting to bring about any understanding or agreement, written or oral, formal or informal, express or implied, among competitors with regard to costs, prices or 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.
7. Five Minutes on Safety
8. Review Membership/Attendance Spreadsheet
9. 2021 EPC Attendance – Mike Tallman
  - a. Can we get a copy of the other EPC sessions numbers just for comparison?
  - b. It is unknown if people attended the full session.
10. Nominations/Elections of Chair/Co-chair and Session Chairs
11. Open (potential papers, etc.)
  - a. Perhaps next year we can use an electronic survey with the in person conference (e.g. survey monkey) which ever platform works best. This may be a main committee decision.
  - b. Discussion concerning reviewing papers in future. Concerns that the quality of the papers have been diminished. Group potentially wants more review time.
  - c. Do we have any ratings of individual papers that we can review from last session?

- d. Aivars and Sanjeev talked about several potential themes as an outcome of the networking session: 1) decarburization, 2) what is new to ethylene plants now, and 3) Fundamentals New Technologies 5-10 years out. Perhaps can be added as new session or distributed among existing.
- e. AiChE will ask for papers in August for the spring meeting.
- f. Need to narrow down topics next meeting
- g. Tutorial on distillation? Joint-session. Bala will lead Muhammed will help
- h. Two other possibilities: 1) decarburization: at strategic level - Sanjeev 2)Technologies for new crackers starting up now and in near future. - Aivar

## ETHYLENE PRODUCERS' TECHNICAL SUBCOMMITTEE MEETING

Date: Thursday: February 11, 2021

Time: 4:30 to 5:30 PM CDT

### **Meeting Minutes:**

Members Present: Jack Buehler, Tiong-Ee Ting, Bala Devakottai, Sanjeev Kapur, Robert Krinock, , Ravi Lal, Mark Whitney, Muhammad Imran, Deborah Lee; Jose de Barros, VK Arora, Michael Tallman, Hanna Murnen, Rob Fox, Aivars Krumins

Regrets: Humera Rafique, Jason Hamilton, Thomas Wieslaw, Darren Le Geyt

#### 12. Reading of the Anti-Trust Statement:

##### **Anti-Trust Statement Read by Sanjeev Kapur**

No activity of the Committee shall involve the exchange, collection or dissemination among competitors of information, or be used for the purpose of bringing about or attempting to bring about any understanding or agreement, written or oral, formal or informal, express or implied, among competitors with regard to costs, prices or 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.

#### 13. Five Minutes on Safety

**With winter weather anticipated in Houston this weekend, Michael Tallman discussed cold weather safety and precautions, including safety while driving, insulating pipes, covering plants, etc**

#### 14. Fundamentals Session: Jack Buehler and Bob Krinock

- a. **Currently Have 6 papers and will be split between two sessions at the virtual conference...Bob K sent out email with list.**
- b. **Papers are in progress of being written; no concerns are foreseen**

#### 15. Commissioning and Startup Session Mark Whitney and Michael Tallman

- a. **Five (5) papers which will be split three in one session and two in the other in the virtual conference, all are in progress though none have been submitted yet**

#### 16. Joint Session with Distillation Session focused on distillation (Bala D and Muhammad and Tim Z)

- a. **2 of 5 papers withdrew when the conference went virtual, so the session has been deferred to the 2022 conference**

#### 17. Conference Status

- a. **Authors should target to submit final papers by 22 March, and PowerPoint presentations one or two weeks prior to the conference.**
- b.

18. The proposed dates agreed by the main EPC committee for the upcoming 2021-2022 cycle are as follows; Technology Subcommittee will schedule its meetings at 4:30 PM on these dates. In-person meetings are not anticipated until the October or December meeting.

- a. June 17, 2021 (Virtual)
- b. August 12, 2021 (Virtual)
- c. October 14, 2021 (In-Person or Virtual)
- d. November (Need something here to discuss paper selection)
- e. December 9, 2021 (In-Person, if allowable)
- f. February 10, 2022 (In-Person, if allowable)