

ETHYLENE PRODUCERS' TECHNOLOGY SUBCOMMITTEE (TSC) MEETING

Date: Thursday: Oct 13, 2022

Time: 4:30 to 5:30 PM CDT

Location: DoubleTree by Hilton at Greenway Plaza, Houston.

Hilton Honors Meeting PW: hougwstandard

Attendance:

Last Name	First Name	Company	10/13/2022
Arora	VK	Kinetics Process Improvements	X
Buehler	Jack	Shell- Retired	X
Charlton	Bill	Compact Membrane Systems	Dr. Appt
de Barros	Jose	Lummus	X
Devakottai	Bala	Chevron Phillips Chem	X
Fox	Rob	LyondellBasell	X
Hamilton	Jason	Dow Chemical	X
Imran	Muhammad	Technip	X
Kapur	Sanjeev	Apex	X
Kehrier	Greg	Shell	X
Krinock	Robert	Dow Retired	X
Krumins	Aivars	McDermott	X
Kruse	Ryan	Ineos	
Le Geyt	Darren	KBR	X
Polito	Charles	Chevron Phillips Chem	X
Rafique	Humera	Siluria Technologies	
Rollins	Kaleb	Dow	Turnaround
Spicer	David	ExxonMobil	X
Tallman	Michael	KBR	X
Ting	Tiong-Ee	Westlake Chemical	X
Whitney	Mark	Linde	X
Zygula	Timothy	BASF	
		Participation	81.0%

Agenda:

1) 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 – Discussed dark mornings, school children, Fall Back, and driving in the dark in the morning. Please be cautious.

- 3) **Welcome New Member (Postponed until next meeting since he was not in attendance):**
- a. **Ryan Kruse to replace Jeff Elam for INEOS)**

Ryan Kruse Bio

I am currently the Process Technology Manager at Ineos' Chocolate Bayou Works facility in Alvin TX (took over the role from Jeff). I wear a couple of hats, and am also the Electrical and Instrument Engineering Authority for Ineos O&P USA supporting all manufacturing sites. I've been in this role almost 1 year, and have been with Ineos O&P USA for a little over 8 years in various roles including project lead Engineer, commissioning manager and Engineering team leader. My current team is comprised of various disciplines (I&E, mechanical, process and process control) in the support of capital project execution (FEL and detailed Engineering) as well as providing technical support for the operating assets at CBW including Olefins, Polymer and Utilities production units. Prior to Ineos, I worked in the Nuclear power industry in the Engineering and Maintenance organizations for a power generating station (5 years) and spent the early part of my career in the EPC world working for a couple of Engineering firms on the east coast (8 years).

- 4) **Discuss Current status/paper submission for:**

- **Fundamentals Session**
 - Chair: Jack Buehler
 - Co-chair: Bob Krinock
 - Mentee: David Spicer

Update:

Jack and Bob presented papers submitted thus far. Excel sheet was provided via email to group by Bob.

- 5 papers submitted with abstracts
- 3 papers submitted with drafts of abstracts we feel confident will be fully submitted.
- 4 Papers that we are less certain of and are currently waiting on abstracts.

Discussion Highlights:

There was quite a bit of discussion around the abstracts submitted thus far. A general comment concerning the need for clarification of abstracts was brought up. Please send feedback to authors to clarify what is actually being presented and how it is unique vs what is already known.

Paper #4 "Towards High-Quality Petrochemical Feedstocks from Plastic Waste Pyrolysis oils: Contaminant Removal Via Filtration and Its Impact on Steam Cracking" has been requested by contaminants section and will most like be transferred to them. UGhent has another paper on Plasma-assisted methane coupling to ethylene that may be better suited for the fundamentals session.

Paper #6 “Catalytic Plastic Pyrolysis and Steam Cracking an Opportunity for a Win-Win Partnership” We would like to see the abstract condensed. Please have authors omit generic motivation and more clearly define what they are actually going to present.

Paper #11 will be scratched. There may be an alternate submission from Neste/Linde on the same topic.

Paper #13 “Ethylene Plant compression During an energy Transition” which deals with electrification of CGC may be better suited in Rotating Equipment Session.

Paper #14 “How to Reduce CO2 Emissions of steam Cracking Furnaces”. Aivars to send out EMET 2022 presentation to group so we can get a better idea of what may be presented.

- October 28, 2022 – Target date to circulate voting/abstracts for both sessions, to be emailed out to group.
- December 1, 2022 – review abstract voting if needed (virtually)

- **Circular Economy/Decarbonization Session**
 - Chair: Jose de Barros
 - Co-Chair: Bill Charlton
 - Mentee: Aivars Krumins
 - Need to manage decarbonization limits. Papers may overlap with other sessions. Michael will coordinate with the EPC Program Chair in the main committee meeting to insure there is no overlap with other sessions.
 - **Post Meeting Note:** The environmental subcommittee indicated that they have a number of potential papers and would consider a joint session with the TSC. Aivars to follow-up with them.
 - Chuck Polito offered to be a co-chair for this session. If we have multiple abstracts for consideration and need an additional session or if we have a joint session with the Environmental Subcommittee, then Chuck is happy to step in.
 - Status Update from Session Chairs:

Update:

1 paper submitted by NexantECA (Aivars Krumins)
6 potential papers from Lummus (Jose de Barros)

Nexant Paper “Low Carbon intensity ethylene: Many Options Emerging in the shifting landscape”. Abstract to be sent out to group by Aivars.

Jose de Barros mentioned 6 potential papers to be submitted from Lummus

- 1) Crude to olefins feedstocks for crackers
- 2) Oxidative coupling of methane (excess methane)
- 3) Oxyfuel combustion
- 4) 100% hydrogen firing
- 5) 100% Ethane cracking without CO2 emissions
- 6) Pyrolysis Oil feedstock

Greg Kehrier is working on getting a paper submitted on SHELL CANSOLV® technology that may fit in this space as well.

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- **Caustic System** (title to be finalized) **Tutorial**
 - Chair: Bala Devakottai
 - Co-Chair: Muhammad Imran
 - Mentee: Jason Hamilton
 - Is this going to be caustics systems only or do we want to rename acid gas removal and include alternative chemistries such as MEA systems? This will be discussed with Bala.
 - **Shell learning papers (Gregory Kehrier) appear to be better fitted to Operations Session.**

Update:

2 commits thus far from Nalco and Technip. Still pursuing additional licensors, treatment providers, and producers.

Key Dates for the 2023 Ethylene Producers' Conference in Houston.

- June 20, 2022 – Call for abstracts opens
- October 25, 2022 – Call for abstracts closes
- October 28, 2022 – Target date to circulate voting/abstracts for both sessions, to be emailed out to group.
- December 1, 2022 – review abstract voting if needed (virtually)
- December 9, 2022 – Papers accepted or rejected
- January 6, 2023 – Draft schedule ready
- January 13, 2023 – Program goes live
- March ??, 2023 – Paper submission closes
- **March 12-18, 2023 Spring Meeting – Houston, TX**

Future Meeting Dates

December 1, 2022 – review abstract voting if needed (virtually)

Dec 8, 2022

Jan 26, 2023

March 12-16, 2023 EPC Conference is in Houston, TX