

EPC Technology Subcommittee Meeting  
Feb26 2015, and Additional Discussion Sessions

**Minutes of Meeting**

Location: Double Tree Hotel by Hilton Greenway Plaza, Houston, TX

Present: In Person: Jack Buehler, Thomas Emmert, Robert Krinock, Aivars Krumins, Ravi Lal, Krishna Merchant , Richard Prickett, Mike Tallman, Greg Yeo, Tim Zygula,

Call-In: Chell Chellappan, Darren Le Geyt, Alberto Morales

Absent: Alain Chepda, Greg Dunnells, Sanjeev Kapur

Distr: Above + ethyleneproducerscommittee@gmail.com

**Agenda:**

- I. Reading of Anti-Trust Statement
- II. Safety Topic
- III. Approval of Previous Meeting Minutes
- IV. 2015 EPC Conference Planning Updates
  - A. "Fundamentals Session": Jack B/ Bob K
  - B. Joint Session on Flares: Greg Yeo
  - C. Technology Trends Session: Sanjeez Kapur/Greg Yeo
- V. Calendar for 2015 - Upcoming Meeting Date Reminders:  
2015 AIChE Spring Meeting / EPC Conference: April 26- April 30, 2015 – Austin, TX
- VI. Review Action Item List
- VII. Adjourn

**1. Reading of the Anti-Trust Statement**

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. Safety Topic**

A team member discussed a retrospective of a recent trip to a snow-belt state, for a planned event on a snowy/blizzard-like afternoon. He and family were leaving to attend a family event, and the weather forecast was calling for ice/snow/slippery roads/dangerous driving conditions. After some discussion they decided to still leave & attend the event. The car trip involved getting stuck on slippery roads many times & creating a otherwise unpleasant car trip to the event. We discussed how easy it can be to make obviously poor decisions (in retrospect), if there is enough group pressure.

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### 3. Meeting Minutes and other Topics:

The meeting minutes for the Nov24 regular mtg, including the Dec8 special mtg. were accepted with a few typo corrections

### 4. Topics For The 2015 Conference:

#### A. The “Fundamentals Session”- Jack Buehler/Bob Krinock: Wednesday PM, Salon D-E

207 General Fundamentals Session	
Wednesday, April 29, 2015: 2:00 PM Salon D-E (Hilton Austin)	
Description:	General Fundamentals Session
Sponsor:	Topical 4: The 27th Ethylene Producers' Conference
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2:00 PM	Introductory Remarks
2:05 PM	(207a) Siluria's OCM: Direct Conversion of Natural Gas to Ethylene Guido Radaelli and Rainer Kemper
2:25 PM	(207b) Continuous Olefin/Paraffin Separation with Imtex Facilitated Transport Membranes Ali Hamza, Juan Carlos Perez and Glenn Towe
2:45 PM	(207c) Reducing Emissions from Olefin Production Via Chemical Looping Odh Technology John A. Sofranko, Fanxing Li and Luke M. Neal
3:05 PM	(207d) Beyond Ethane: CB&I's Technologies for On-Purpose Production of Propylene and C <sub>4</sub> s Ronald Venner and Carmen Fornarotto
3:25 PM	Break
3:45 PM	(207e) Furnace Firing Control: The Key to Extending Your Runlength Kevin M. Van Geem and Carl M. Schietekat
4:05 PM	(207f) Analysis and Optimization of High-Emissivity Coil Inserts to Improve Overall Coil Heat Transfer at Lower Pressure Drop and Shorter Residence Time in Ethylene Furnaces Wiroon Tanthapanichakoon, Shinichi Koda, Wiwut Tanthapanichakoon, Khavinet Lourvanij and Surachate Chalothorn
4:25 PM	(207g) Accurate Molecular Reconstruction of Cracking Feeds Improves the Predictions of Ethylene Yields Eliseo Ranzi, Sauro Pierucci, Mario Dente, Marco W.M. Van Goethem, Dirk van Meeuwen and Eric Wagner
4:45 PM	Concluding Remarks

Jack reviewed the general status of the 7 papers for the Fundamentals Session. So far all authors have reported they are on track for submitting papers by March 6, and still plan to present. The PowerPoint presentations are due April 13. Jack handed out follow-up assignments for each team member, if we find that papers are dragging in too slowly, see Jack Buehler PDF, below.

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**Description:** General Fundamentals Session  
**Sponsor:** Topical 4 The 27th Ethylene Producers' Conference  
**Chair:** Jack H Buehler  
**Email:** jack.buehler@shell.com  
**Co-Chair:** Robert Knnock  
**Email:** R.J.knock@dow.com

**Papers:**

	<b>2:00 PM</b>	Introductory Remarks
<i>Thomas (Luke)</i>	<b>2:05 PM</b>	Sauna's OCM: Direct Conversion of Natural Gas to Ethylene <u>Gudo Radatz</u> and Rainer Kemper
<i>Jack</i>	<b>2:25 PM</b>	Continuous Olefin/Paraffin Separation with Intex Facilitated Transport Membranes <u>Ali Hamza</u> , Juan Carlos Perez and Glenn Towe
<i>Bob/Jack</i>	<b>2:45 PM</b>	Reducing Emissions from Olefin Production Via Chemical Looping Oxid Technology <u>John A. Sofranko</u> , Fanxing Li and Luke M. Neal
<i>Aivars</i>	<b>3:05 PM</b>	Beyond Ethane: CB&I's Technologies for On-Purpose Production of Propylene and C <sub>3</sub> <u>Ronald Venner</u> and <u>Carmen Fornarotto</u>
	<b>3:25 PM</b>	Break
<i>JACK</i>	<b>3:45 PM</b>	Furnace Firing Control: The Key to Extending Your Runlength <u>Kevin M. Van Geem</u> and <u>Carl M. Schietekat</u>
<i>Bob</i>	<b>4:05 PM</b>	Analysis and Optimization of High-Emissivity Coil Inserts to Improve Overall Coil Heat Transfer at Lower Pressure Drop and Shorter Residence Time in Ethylene Furnaces <i>date</i> <u>Wirong Tanthapanichakoon</u> , Shinichi Koda, Wanit Tanthapanichakoon, Khavinet Lourvanj and Surachate Chalothorn
<i>RAVI</i>	<b>4:25 PM</b>	Accurate Molecular Reconstruction of Cracking Feeds Improves the Predictions of Ethylene Yields <u>Euseo Ranzi</u> , Sauro Pierucci, Mario Dentle, Marco W M Van Goethem, Dirk van Meeuwen and Eric Wagner
	<b>4:45 PM</b>	Concluding Remarks

The Session is Wednesday afternoon April 29, 2015 at the Hilton, Austin, Texas. Session starts at 2:00 pm. We will have the presenters gather at 1:30 pm in the conference room to review audio visual equipment. Conference room to be announced at a later date.

Please keep in mind the dates given below for the activities leading up to the conference. We hope that you are working on your paper so you can send the approved paper to us by March 6. Given that it will take a couple of weeks to get your internal company reviews completed, it seems like the papers will need to be written by end of February, 2014 to begin routing for internal approvals

Here are the major deadlines:

- Papers due - send to me and Bob by March 6, 2015. We will need to make a quick review and then upload them into the AIChE Confex system.
- *Powerpoints due April 13*
- *Session Wed April 29 1:30<sup>2</sup> Conf Room TRSD*

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**B. “Flares” Session – Joint Fundamentals / Operations Committee’s Session - Greg Yeo:  
Thursday AM, Salon B:**

**215 Ethylene Plant Flares: Key Issues in Design, Regulation and Operation**

**Thursday, April 30, 2015: 8:00 AM**  
Salon B (Hilton Austin)

**Description:** Ethylene plant flares and flare releases have become critical topics for all ethylene producers as a result of tightened regulation and heightened community performance expectations. These drivers have also had a profound effect on new plant designs and the permitting process. This session will cover a range of topics related to ethylene plant flares, including: 1) Regulatory changes and their impact on ethylene plant flare equipment, configuration and required performance; 2) Critical flare system design features, options, and practices; 3) Operating experiences and issues in ethylene plant flare systems

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8:00 AM Welcoming Remarks

8:05 AM Introductory Remarks

8:10 AM (215a) Principles of Flare System Configuration and Design  
Wolfgang Henk and Karl Niesser

8:35 AM (215b) Flare Regulatory Trends and Impact on Ethylene Manufacture  
Troy Boley

9:00 AM (215c) Considerations for Effective Ground Flare Application in Ethylene Plants  
Ian Fischer

9:25 AM Break

9:40 AM (215d) Emissions Testing of Pressure Assisted Flare Burners  
Vance Varner and Zach Kodesh

10:05 AM (215e) Flare Mitigation Approach during Abnormal Process Operations By Integrating Thermal Membrane Distillation Networks and Cogeneration Unit for an Existing Process Plant  
Kazi Khoda and Fadwa T. Eljack

10:30 AM (215f) Olefin Plant Flare Minimization Via Dynamic Simulation and Optimization  
Ha Dinh, Qiang Xu, Ziyuan Wang and Jian Zhang

10:55 AM Concluding Remarks

Have 6 papers, believe 4 are in good shape (Linde, Sage, Exxon/Mobil, Dow), 2 papers are still coming along, but with less input (Qatar/Lamar Univ). Greg is looking for new a co-chair, due to company travel restrictions placed on his original co-chair. Greg said he might want/need to paper review help. Post-Mtg note from Mike Tallman, Flare Session Co-Chair to help Greg will be Jeff Edwards of CP Chem.

**C. “Technology Trends” & Panel Discussion Session- Sanjeev Kapur/Greg Yeo:  
Monday PM, Salon D-E:**

**47 Technology Trends – Changing Landscape in Petrochemical Industry**

**Monday, April 27, 2015: 2:30 PM**  
Salon D-E (Hilton Austin)

**Description:** Shale gas developments in North America and Coal-to-Olefins are two examples of the drivers that are shaping the petrochemical industry for nearly five years. This session will focus on the technology trends that have been evolving driven by Shale revolution and changing the industry landscape. The session will kick-off with introductory paper (s) for setting the broad background that stimulates discussion. We will have a panel of industry experts to share their insights and opinions about the technology trends that are shaping the future of olefins industry.

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2:30 PM	Introductory Remarks
2:35 PM	(47a) The New World Order in the Olefins Industry - As a Result of Developments in Advantaged Feedstocks and Technology Vikki Medley, Steve Zinger, Anne Keller and Rob Stier
3:05 PM	(47b) Petrochemical Technology Trends: Looking Beyond the Short Term Fix Dr. Dennis W. McCullough and Sanjeev Kapur
3:35 PM	Break
3:55 PM	(47c) Panel Discussion "Technology Trends – Changing Landscape in Petrochemical Industry" Sanjeev Kapur and Gregory E. Yeo
5:00 PM	Concluding Remarks

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They have good 2 papers, but want some “seed” questions, for the Q&A session/discussion.

### **V. Calendar**

- A. There are no planned EPC Committee Mtgs, before the actual Spring AIChE Mtg on April 26 to April 30.
- B. We plan set up a “phone-in only line” for a later paper status mtg. Status mtg date is March 26 at 4:00 to 5:00 PM
- C. I am now getting undeliverable messages on all emails to Greg Dunnels

### **VI. Adjournment / Next Meeting**

#### **Actions:**

- A. Provide “seed” questions to Greg/Sanjeev for Technology Trends Session - Everybody
- B. Follow-up if needed for Fundamentals Session papers– Jack/Bob will notify others, if needed. Follow-up assignments are in mtg. Minutes.
- C. Provide Flare paper review help to Greg Yeo, if asked
- D. Plan a follow-up phone call on March 26, for “loose ends”.
- E. Find out Greg Dunnells email/membership status – someone who can contact Greg

Minutes prepared by RJ Krinock (Technology Subcommittee Chair) - March3, 2015