

EPC Technology Subcommittee Meeting  
Nov 13 2014, and Additional Discussion Sessions

**Minutes of Meeting**

Location: Doubletree Hotel, Houston, TX

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

Conference Call: No-one on call-in line

Absent: Alain Chepda, Greg Dunnells, Darren Le Geyt, AlbertoMarales

Distr: Above + ethyleneproducerscommittee@gmail.com

**Agenda:**

- I. Reading of Ant-Trust Statement
- II. Safety Topic
- III. Approval of Previous Meeting Minutes
- IV. 2015 EPC Conference Planning  
The "Fundamentals Session" Discuss the actions listed in the last meeting minutes. Discuss abstracts for the 2015 meeting. Plan voting & follow-up phone call(s), if needed.  
  
Update from Greg Yeo on Flare Session  
  
Update from Sanjeev Kapur on Innovation Session
- V. Calendar for 2014 – 2015 - Upcoming Meeting Date Reminders: 15 January 2015, 5 March 2015 (if needed)  
  
2015 AIChE Spring Meeting / EPC Conference: April 26<sup>th</sup>- April 30<sup>th</sup>, 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.

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**2. Safety Topic**

Discussed the earlier darkness hours now that US is on Standard Time & how drivers seem to get crazy for awhile during commutes to /from work & elsewhere. Holidays are also approaching and everyone has more distractions and end of year deadlines. Discussed choking hazards & the real consequences if one cannot help them self or help is not immediately available to a person who is actually choking.

**3. Meeting Minutes and other Topics:**

\* The meeting minutes from the Sept 25 mtg by Mile Tallman, were accepted without change.

\* New Member – Krishna Merchant from Technip

**4. Topics For The 2015 Conference:**

**A “Flares” Session – Joint Fundamentals / Operations Committee’s Session:**

Greg Yeo reviewed the 9 Flare abstracts he had for the Flare Session. See attached “Flare Session Abstracts”. Greg & his Ops session counterpart, will be making final paper decisions.

**B. “Technology Tends” & Panel Discussion Session–:**

Sanjeev said they are planning 2 introduction papers: “The New World Order in the Olefins Industry” & “Petrochemical Technology Trends: Looking Beyond the Short Term Fix” & then a panel discussion 6 individuals, including the 2 paper presenters.. Things are well in hand. See attached “Session Summary”

**C. The “Fundamentals Session” Notes for Nov 13 Regular Mtg, and Post-Preference Voting Mtg:**

**Nov 13:** Discussed the 8 abstracts received to date in Confex and agreed that we would actually vote on papers during the week of Nov. 17, so as to include the final expected up-loaded abstracts. We knew of 3 to 4 more abstracts that were in the process of being uploaded into Confex, as of Nov13.

**Week of Nov 17:** The voting preference list was issued on Monday Nov 17, and asked for committee member responses by end of day Nov 19. A post-vote discussion mtg was also scheduled for Nov 20 at 2:00 PM. The new voting spreadsheet had 11 uploaded abstracts. 13 team members voted, on their preferred abstract choices. The final voting preference tally was returned to all members for final review. Most members replied they were satisfied with the selected papers & did not need to attend the final mtg. Most abstracts had been thoroughly discussed at the Nov 13 mtg.

**Nov. 20:** No changes were made to voting preference tally. The preferred 6+1 backup papers are listed below. Jack, Darren & myself did

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meet on Thursday afternoon, to discuss the papers & preliminarily decide which committee to send our four extra papers to.

| <b>Papers Fundamentals Session</b>      |  |            |             |            |                           |
|---|--|------------|-------------|------------|---------------------------|
|   | Title  | Abstract # |             |            |                           |
| moved some papers to 2016               |  |            |             |            |                           |
| <b>Possible papers for 2015 Session</b> |  |            | Final tally | Vote Tally | Final Tally               |
| 4                                       | Siluria OCM Direct Conversion of Natural Gas to Ethylene   | 398218     | 23          | 1          | 1                         |
| 6                                       | CBI's Technologies for On-Purpose Production of Propylene and C4's   | 400270     | 51          | 2          | 2                         |
| 1                                       | Continuous Olefin/Paraffin Separation with Imtex Facilitated Transport Membranes   | 399291     | 57          | 3          | 3                         |
| 7                                       | Reducing Emissions from Olefin Production via Chemical Looping Odh Technology  | 397690     | 63          | 4          | 4                         |
| 5                                       | Furnace Firing Control: Key to Extending Your Runlength  | 396733     | 71          | 5          | 5                         |
| 8                                       | 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 | 399933     | 90          | 6          | 6                         |
| 11                                      | Accurate Molecular Reconstruction of Cracking Feed Improves the Predictions of Ethylene Yields   | 400371     | 91          | 7          | 7                         |
| 10                                      | Olefin Plant Flare Minimization via Dynamic Simulation and Optimization  | 399052     | 94          | 8          | Send to Flare session     |
| 2                                       | Impact of High Emissivity Coatings on Process Furnace Heat transfer  | 399069     | 101         | 9          | Release for furnaces/ops? |
| 9                                       | Advanced Aromatics Recovery Technology with AED-BTX Process  | 400370     | 103         | 10         | Release for F&PD ?        |
| 3                                       | Cost effective control of Red Oil in Caustic towers  | 398353     | 104         | 11         | Send to Ops               |

**Dec 8 Final Session Update..**

Jack Buehler & myself had discussed about the strengths of the papers, and the small difference in final rankings, so we decided to go with 7 actual papers for the conference. All authors were contacted & said they planned to attend, and present at the spring mtg.

| <b>Papers Fundamentals Session</b>      |  |            |             |            |             |
|---|--|------------|-------------|------------|-------------|
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| moved some papers to 2016               |  |            |             |            |             |
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The AIChE website, currently lists the actual orders as follows on Wednesday April 29. We plan to strictly control the timing to get through all of the papers.

|                     |  |   |
|---------------------|--|---|
| <b>Description:</b> | General Fundamentals Session   |   |
| <b>Sponsor:</b>     | Topical 4: The 27th Ethylene Producers' Conference   |   |
| <b>Chair:</b>       | Jack H. Buehler<br>Email: <a href="mailto:jack.buehler@shell.com">jack.buehler@shell.com</a> |   |
| <b>Co-Chair:</b>    | Robert Krinock<br>Email: <a href="mailto:RJKrinock@dow.com">RJKrinock@dow.com</a>            |   |
| <b>Papers:</b>      |  |   |
|                     | <b>12:00 AM</b>  | Introductory Remarks  |
|                     | <b>12:05 AM</b>  | Siluria's OCM: Direct Conversion of Natural Gas to Ethylene<br>Guido Radaelli and Rainer Kemper   |
|                     | <b>12:25 AM</b>  | Continuous Olefin/Paraffin Separation with Intex Facilitated Transport Membranes<br>Ali Hamza, Juan Carlos Perez and Glenn Towe   |
|                     | <b>12:45 AM</b>  | Reducing Emissions from Olefin Production Via Chemical Looping Odh Technology<br>John A. Sofranko, Fanxing Li and Luke M. Neal  |
|                     | <b>1:05 AM</b>   | Beyond Ethane: CB&I's Technologies for On-Purpose Production of Propylene and C <sub>4</sub> s<br>Ronald Venner and Carmen Fornarotto   |
|                     | <b>1:25 AM</b>   | Break   |
|                     | <b>1:45 AM</b>   | Furnace Firing Control: The Key to Extending Your Runlength<br>Kevin M. Van Geem and Carl M. Schietekat   |
|                     | <b>2:05 AM</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<br>Wiroon Tanthapanichakoon, Shinichi Koda, Wiwut Tanthapanichakoon, Khavinet Lourvanij and Surachate Chalothorn |
|                     | <b>2:25 AM</b>   | Accurate Molecular Reconstruction of Cracking Feeds Improves the Predictions of Ethylene Yields<br>Eliseo Ranzi, Sauro Pierucci, Mario Dente, Marco W.M. Van Goethem, Dirk van Meeuwen and Eric Wagner  |
|                     | <b>2:45 AM</b>   | Concluding Remarks  |

### **5. Adjournment / Next Meeting**

#### **Please Note:**

**Mike Tallman later reported that the EPC changed the next meeting schedule – next meeting is now scheduled for February 26 instead of January 15. The March 5 mtg is also currently cancelled.**

I also received a email about the Spring EPC Session schedule. See below, but dates & times were not all finalized in this email.

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|                    |                    |   |   |                   |  |
|--------------------|--------------------|---|---|-------------------|--|
| Monday April 27    | 9:30 AM - 11:30 AM | General Environmental Session<br>Chair: Walter Postula<br>Co-Chair: Richard Beleutz                     | Keynote Presentations<br>AIChE 8:00AM - 9:15 AM<br>EPC 1:30PM - 2:15 PM | 2:30 PM - 5:00 PM | Panel on Global Trends<br>Chair: Sanjeev Kapur<br>Co-Chair: Greg Yeo                                     |
|                    | 9:30 AM - 11:30 AM | Ethylene Plant Rotating Equipment<br>Paper Session I<br>Chair: Peter Temefonte<br>Co-Chair: Brian Wadas |   | 2:30 PM - 5:00 PM | Ethylene Plant Rotating<br>Equipment Paper Session II<br>Chair: Peter Temefonte<br>Co-Chair: Brian Wadas |
| Tuesday April 28   | 8:00 AM - 11:00 AM | General Operations Session<br>Chair: Richard Rolke<br>Co-Chair: Patricia Summers                        | Networking Lunch<br>11:30 AM - 1:30 PM                                  | 2:00 PM - 5:00 PM | Furnace Reliability<br>Chair: Jorge Blanco<br>Co-Chair: Muhammad Imran                                   |
|                    | 8:00 AM - 11:00 AM | Ethylene Plant Process Control Session<br>Chair: Sasha Vragolic<br>Co-Chair: Eddy Fontenot              |   | 2:00 PM - 5:00 PM | Ethylene Plant Feedstock<br>Contaminants Paper Session<br>Chair: Mark Brayden<br>Co-Chair: Joe Lally     |
| Wednesday April 29 | 8:00 AM - 11:00 AM | Ethylene Plant Safety Paper Session<br>Chair: Jonathan Sterne<br>Co-Chair: Sankar Mahalingam            |   | 2:00 PM - 5:00 PM | Ethylene Technology<br>Fundamentals Paper Session<br>Chair: Jack Buehler<br>Co-Chair: Rob Krinok         |
|                    |                    |   |   |                   |  |
| Thursday April 30  | 8:00 AM - 11:00 AM | Ethylene Plant Flares<br>Chair: Greg Yeo<br>Co-Chair: Jeff Nichols                                      |   |                   |  |

Minutes prepared by RJ Krinock (Technology Subcommittee Chair)  
Nov 25, 2014

Updated Jan 8, 2015 - RJK