While I was waiting for my egg to fry on the sidewalk, really it can be done, at least here in the Valley of the Sun, I was thinking about the concepts of accuracy and repeatability of the instruments that we use. I live in Cave Creek Arizona and this past weekend it was reported to be 115 deg F. A little early coming but not all that unusual.

Accuracy is defined as the difference between the measured or indicated value and the actual value. The lower the deviation, the higher the accuracy and it is often reported as a percentage of the span or a plus minus range. The actual value may be obtained by using a known standard and comparing it to the indicated value.

Reproducibility is often defined as the ability of the device to produce a similar result after reading the device under similar conditions. There is a subtle but important difference. When an instrument such as temperature is used in a monitoring only mode, being repeatable only is often good enough. This means that the absolute value while of interest is less important than ensuring the process is not deviating. When used for example in a closed loop application, a very accurate reading is often required due to the fact that some characteristic of the reaction is dependent on a precise value. For many of our applications in Pulp and Paper processing it is more common requirement for the instrument to have a high degree of repeatability, but for quality control applications such as final brightness measurements, accuracy is important.

Now what has all of this to do with frying eggs on the sidewalk in Arizona, well not that much other than at 115 deg F. it really doesn’t mean what the plus or minus range or accuracy of the measurement is. Hot is hot but as they local say, it is a dry heat! So is a pizza oven!

Enjoy the newsletter have a safe summer, and keep cool if necessary.

Please do not hesitate to contact me at Richard J. Van Fleet or to discuss how you can help PUPID.

I hope to encourage you to become more involved with the Division and to enroll more members.

Do feel free to forward the Newsletter to your friends and colleagues who may have an interest in it.
TUNING TIP CSE PE REVIEW QUESTION: DIGITAL CONTROL SYSTEMS

Situation:
A back-pressure steam turbine driving a process pump discharges saturated steam as shown in Figure A701. The saturated steam is at 150 psig and is delivered at a rate of 46,000 pounds per hour. Before entering the steam header, the steam is superheated in a coil in the convection section of a process heater. The outlet temperature from the superheater is 750°F, and there is a 5-psi pressure drop through the piping and superheater. It is desired to have the steam enter a plant header at 145 psig and 600°F, so a desuperheater is installed in the piping between the superheater and the header. Boiler feedwater, at 240 psig and 180°F, is used in the desuperheater.

Requirements:

a) Determine how much water is required for the desuperheater.
b) Allowing for a 40-psi pressure drop in the water piping and desuperheater, calculate the Cv for the control valve in the water line.
c) State the kind of valve trim characteristic that should be used.

Find the answers to these questions on page 19
WELCOME TO THE 45 NEW ISA PULP & PAPER INDUSTRY DIVISION MEMBERS

Diego Cancino
Ahmed Hanafy
Jesse Thibodeau
Ben Cammack
Christopher Wyshynski
Selcuk Bilgin
Dr Mohan Kumar S
Manuel Abaoag
Ramkrishna Chavan
Cintia Guedes
Diogo Rocha
Diego Maximiliano Molina Aguilera
Mikhael Iaronka Menezes
Santhosh Banala
Fatai Ayofe Liadi
Christopher See Yew Khuen
Federico Marquez Rodriguez
Francisco Soto
Michael Adams Jr
Muhammad Hamza Khan
Ramkrishna Chavan
Shane Bernard
Matheus Santos
Tyler Getty
Manuel Silva
Elizabeth Bell
Nathan Jim Gould
Jordan Brian Scrivner
Austin James Smith
Trevor Charles Tolick
James Johnson
Rafael J. Bertoli
Karthi Mathialagan
Marlon Rodriguez
Norries Escobar
Dinesh Sonawane
Carl R Highsmith
James P Thomas
Douglas Campbell
Sérgio Krinas
Francisco Iram Crespo Maciel
Amol Karandikar
Douglas McNamara
Jafet Orozco
Eric Gilbert

HERE’S A REMINDER TO THE 26 ISA PULP & PAPER INDUSTRY DIVISION MEMBERS WHO NEED TO RENEW THEIR MEMBERSHIP

Don R. Andrews
Ronald R. Borgman
Mark Daugherty
Dereck Charles Esteph
George R. Larson
Jorge Cesar Meneli
Vitor Bandeira Da Silva
Adrian G. Syme
Bonny T. Wadikonyana
Floyd Youngblood
Chris D. Bassett
Gary L. Erikson
Philip S Maley
Gerald Pallante
Luis Guillermo Rodriguez
Abishek Anand
Aman Anand
Noel C. Cardiff
Brad Stephen Carlberg
Randy Estes
Douglas A. Lavoie, CCST
Gerald Murenbeeld
Ms Mahima PS
Fernando Tadeu Rios Dias
Ms Divya V
Shahaji R. Zambre

DON’T FORGET TO RENEW!
WHO’S DOIN’ ANYTHING?

Port Townsend Paper cuts GHG emissions at Washington mill, new compressed natural gas project to be completed this year

May 05, 2016

PORT TOWNSEND, WA, May 5, 2016 (Local News) - Jefferson County's largest industry – the Port Townsend Paper Corp. – has cut its greenhouse gas emissions by more than half compared to emission levels a decade ago. And mill officials hope a new compressed natural gas (CNG) project, to be completed this year, will reduce emissions even further.

When the state Department of Ecology first issued a statement in January about Gov. Jay Inslee's promise to take the state's largest polluters of greenhouse gases to task – and changing rules on carbon limits – the Port Townsend mill wasn't listed as one of the dirty two dozen businesses that needed to clean up their act.

Port Townsend Leader - Mill reduces its carbon footprint, plans more reductions

New Valmet delivered pulp drying lines started up at Klabin in Brazil

May 5, 2016

Two new pulp drying lines, delivered by Valmet, have been started at Klabin's new pulp mill located in Ortigueira city, Paraná state in Brazil. The first pulp bale was produced according to schedule on March 4th, 2016.

Klabin’s new pulp mill will have the capacity to produce 1.5 million tons of pulp per year, with 1.1 million tons of bleached hardwood pulp (BEK) made of eucalyptus and 400,000 tons of bleached softwood pulp (BSK) made of pine. Part of the softwood will be converted into fluff pulp, making the mill the world’s only pulp mill designed to produce the three fibers.
**WHO’S DOIN’ ANYTHING? (CONTINUED)**

Norbert Schwarz about pulp drying machine

“The hardwood pulp drying machine that we delivered to Klabin produced the first bale according to the contract schedule. This is a great achievement to our team who has worked hard to build one of the biggest drying machines in the world, with 9.5 meters width. Now the two biggest drying machines in the world are running in Brazil, both supplied by Valmet,” says **Norbert Schwarz**, Project Manager at Valmet.

“Klabin thanks its financiers, suppliers, partners and employees for their effort in ensuring the feasibility and realization of this project, which is the largest investment in its history,” the company stated in a notice to the market after the first pulp bales had been produced.

**Fibria concludes modernization of recovery boiler at the Aracruz unit in Espírito Santo, Brazil**

June 1, 2016

*Fibria has concluded modernization of the recovery boiler at unit B, one of the three units at the industrial complex located in Aracruz, Espírito Santo, Brazil.*

The modernization process, which was executed during March and completed in April, received investments of R$45 million ($12.5 million) and involved around 750 workers, including the planning and execution team, at its height.

Modernization of the boiler was carried out at the same time as the maintenance shutdown of unit C, which is a scheduled maintenance activity that is performed every 15 months. Considering both activities (modernization of recovery boiler B and maintenance shutdown of unit C), the operations involved more than 2,000 workers.

**Paulo Silveira about the maintenance and modernization of equipment**

“The maintenance shutdowns and modernization of our equipment are aligned with the company’s maintenance plans and are aimed at improving the operational stability and performance of the Aracruz unit, our largest operational unit in Brazil,” said **Paulo Silveira**, Chief Industrial Officer of Fibria.
During the modernization process, approximately 13,500 meters of pipes that make up the recovery boiler’s wall were replaced. Improvements were also made to air conditioning systems and a new gas scrubber was installed, which is responsible for processing gases resulting from the chemical processes, thereby mitigating the effects of their emission into the atmosphere.

The maintenance shutdown at unit C involved preventive checkups in various pieces of equipment at the production line.

Valmet to supply upgrades for recovery boiler and evaporation line at Södra Cell Mönsterås pulp and paper mill in Sweden

May 25, 2016

Valmet will supply Södra Cell Mönsterås pulp and paper mill in Sweden a recovery boiler upgrade and an evaporation line upgrade. The delivery is scheduled for the fall 2016.

The order was included in Valmet’s first quarter 2016 orders received. The value of the order is not disclosed. The value of an upgrade of this scope is usually valued below EUR 6 million.

“Recovery boilers need consistent upgrades at regular intervals. This kind of upgrade needs to be done due to the erosion and corrosion of the recovery boiler tubes based on third party inspection evaluation findings. We have been a trusted services partner for this replacement work with Södra Cell Mönsterås for several years and we are happy to continue good co-operation with them,” says Marcus Grundevik, Sales and Project Manager from Valmet.

Technical information of the delivery

Valmet’s delivery includes replacement of several recovery boiler and evaporation line parts and additionally a new concentrated non-condensable gases (CNCG) burner system.

As part of this upgrade the evaporation line 2 will be equipped with new Valmet TUBEL heating surface area in one of the effects. In a Valmet TUBEL Concentrator liquor is evaporated on the outside of the tubes for easy on-line washing and to avoid chemical or mechanical off-line washing.
WHO’S DOIN’ ANYTHING? (CONTINUED)

Irving celebrates completion of $198 million phase 2 of Saint John, NB, mill modernization

May 18, 2016

SAINT JOHN, NB, May 18, 2016 (Press Release) - As we mark 70 years of operation of the pulp mill in Saint John, we celebrate a renewed future. We’re delivering on our March 2014 investment announcements of $450 million at Irving Pulp and Paper, as part of the $513 million investment in forest products business across the province.

In addition to the upgrades at Irving Pulp and Paper, we have delivered on other promised investments announced in March 2014:

- $38 million modernization of our sawmill in Chipman, N.B.
- $3.2 million new state-of-the-art forest research lab in Sussex, N.B.

We have also dedicated additional investments in projects that were not part of the March 2014 announcement:

- $56 million dedicated to support 65 new entrepreneurs across NB in their purchase of logging equipment which will employ approximately 120 new machine operators and truck drivers.

We’re committed to New Brunswick. We’ve been in business here for over 130 years, and part of the west side of Saint John for 70 years. We’re committed to taking care of our forests for a healthy environment and to ensure a strengthened future for the thousands of families that rely on a healthy forest sector in New Brunswick.

For more info on the project, click here

Stora Enso starts production on board machine at Beihai mill, China

May 26, 2016

HELSINKI, May 27, 2016 (Globe Newswire) - Stora Enso's consumer board machine at Beihai Mill in China successfully started production on 26 May. The first consumer board on reel was produced 18 months after the start-up of Stora Enso's large-scale mill construction project in Beihai, Guangxi region.

The project started from a greenfield site. In addition to the board machine, it includes a full site with infrastructure, power plant, water and effluent treatment capacities. Highest levels of work safety standards have been followed. With a peak of 5,500 workers on site, over 16 million working hours have been accomplished with only one Lost Time Accident.

“Today I feel very proud and happy for the whole team that has been able to achieve such a great milestone in the history of Stora Enso,” says Stora Enso's CEO Karl-Henrik Sundström. “Our aim now is to benefit from the growing demand in China and Asia Pacific for high-quality consumer board."

The total investment in the project is EUR 800 million, including a bleached chemi-thermomechanical (BCTMP) pulp mill with an annual capacity of 220,000 tonnes, operational in the fourth quarter of 2016. The board machine is expected to reach full production within 18–24 months. In full operation, the mill will have an annual capacity of 450,000 tonnes of liquid packaging board and other high-grade paperboard products.

The official inauguration will be held on 16 June 2016, at the Beihai Mill.
WHO’S DOIN’ ANYTHING? (CONTINUED)

Stora Enso is a leading provider of renewable solutions in packaging, biomaterials, wooden constructions and paper on global markets. Our aim is to replace fossil based materials by innovating and developing new products and services based on wood and other renewable materials. We employ some 26 000 people in more than 35 countries, and our sales in 2015 were EUR 10.0 billion. Stora Enso shares are listed on Nasdaq Helsinki (STEAV, STERV) and Nasdaq Stockholm (STE A, STE R). In addition, the shares are traded in the USA as ADRs (SEOAY) on the International OTCQX over-the-counter market.

Kadant receives stock approach system order for Japan board mill
May 26, 2016
AUBURN, MA, May 26, 2016 (Press Release) - Kadant Solutions, a division of Kadant Inc., announced it received an order for two Octopus stock approach systems for a coated duplex board machine in Japan. Coated duplex board is typically used as packaging material for small boxes that require high quality printability, such as consumer electronic products, food packaging, pharmaceuticals, and other consumer merchandise. It can also be used in combination with high-performance corrugating medium and linerboard for the outer layer of corrugated packaging.

First introduced in 1995, the Octopus system has been successfully used to supply vats, hydraulic formers, and both air pad and hydraulic headboxes with uniform flows across the width of the paper machine without the need for recirculation. The flat basis weight profile allows the mill to improve sheet quality and reduce energy and fiber costs. The Octopus system will be used in place of conventional tapered inlets to reduce cross-machine variation and to control overall sheet profile.

As basis weight supplied to each zone of the forming device is a function of flow and consistency, cross-directional basis weight is controlled by the Octopus stock approach system’s ability to vary consistency in each supply zone. Consistency control of each zone is controlled off-machine, allowing operators to make profile corrections safely while the paper machine is in operation.

Kadant Solutions, based in Auburn, Massachusetts, is a leading supplier of doctor blades, doctor blade holders, and doctoring systems for papermaking and other industrial processes. The division’s water management products are applied to the cleaning of forming and press fabrics and the filtration of process water as well as engineered wet-end products for papermaking.

Kadant Inc. is a global supplier of high-value, critical components and engineered systems used in process industries worldwide. The Company’s products, technologies, and services play an integral role in enhancing process efficiency, optimizing energy utilization, and maximizing productivity in resource-intensive industries. Kadant is based in Westford, Massachusetts, with revenues of $390 million in fiscal year 2015 and 2,000 employees in 18 countries worldwide. For more information, visit www.kadant.com.

Canfor Pulp and Licella Fibre Fuels form new biofuels-biochemicals joint venture
May 29, 2016
VANCOUVER, BC, May 27, 2016 (PRNewswire) - Licella Fibre Fuels Pty Ltd. ("Licella") and Canfor Pulp Products Inc. ("CPPI") (CFX.TO), through its subsidiary Canfor Pulp Ltd., ("Canfor Pulp") have signed an agreement to form a joint-venture under the name “Licella Pulp Joint Venture”.

Licella Pulp Joint Venture is a strategic relationship between the two companies that will investigate opportunities to integrate Licella’s unique Catalytic Hydrothermal Reactor (Cat-HTR) upgrading platform into Canfor Pulp’s kraft and mechanical pulp mills to economically convert biomass, including wood residues from Canfor Pulp’s kraft pulping processes, into biocrude oil, to produce next generation
**WHO’S DOIN’ ANYTHING? (CONTINUED)**

biofuels and biochemicals. This additional residue stream refining would allow Canfor Pulp to further optimise their pulp production capacity. Upon successful integration of the Cat-HTR technology, the Licella Pulp Joint Venture would look towards offering this solution to other third party Kraft and mechanical pulp mills.

This agreement follows a successful program of preliminary trials conducted on feedstock from Canfor Pulp's Prince George, British Columbia pulp mill at Licella's pilot plants located in New South Wales, Australia. In these trials, wood residue streams from Canfor Pulp's kraft process were successfully converted into a stable biocrude oil.

"Biofuels and biochemicals represent the next frontier in the utilization of sustainable wood fibre to produce green energy and chemicals," said Don Kayne, CEO of CPPI. "This initiative underscores Canfor Pulp's commitment to innovation and the importance of green energy and chemicals in our future product mix, and we look forward to developing this potentially transforming technology with Licella."

"The Cat-HTR process is a strong technical fit for the kraft process," said Brett Robinson, President of CPPI. "The opportunity to directly produce advanced biofuels from our existing streams could transition Canfor Pulp from being strictly a pulp and paper manufacturer to a bio-energy producer as well. The Licella technology has significant similarities to our existing processes which makes this partnership a natural fit."

"Licella's Cat-HTR technology may add significant value to Canfor Pulp's kraft process by creating new products from Canfor Pulp's waste streams," said Dr Len Humphreys, CEO of Licella. "What we are potentially building towards is a bio-refinery to utilise the entire tree, rather than part of the tree."

**About Licella Fibre Fuels Pty. Ltd. and Ignite Energy Resources Ltd. (IER)**

Licella is a subsidiary of Licella Pty. Limited, which in turn is a subsidiary of Ignite Energy Resources Ltd. (IER), an Australian public unlisted natural resource and energy technology development company. IER has developed a proprietary lignite and biomass upgrading platform, the Catalytic Hydrothermal Reactor (Cat-HTR). Through the Cat-HTR technology, IER are re-energising resources and creating a bridge to a lower carbon future.

IER operates via three subsidiaries, Ignite Resources Pty. Ltd. (applying Cat-HTR to lignite), Licella Pty. Ltd. (applying Cat-HTR to biomass) and Gippsland Gas Pty. Ltd. (biogenic natural gas resource). Within IER's resource division are the exploration rights to a 16 billion tonne lignite deposit, which represents 8% of the world's economically recoverable lignite.

Licella uses the Cat-HTR platform to convert a variety of low-cost, non-edible biomass into a stable biocrude oil, which can be refined, in a conventional refinery, into next generation biofuels and biochemicals. Licella's Cat-HTR can theoretically process any form of ligno-cellulosic biomass, without the need to dry the feedstock prior to processing.

Over the past eight years Licella has invested AUD$60 million in its technology development, conservatively yet progressively scaling up its Cat-HTR platform to its current generation three version. Licella is now on track to scale up to its generation four version (only a ten times scale up), aligned to be the commercial scale module of its now tried and tested reactor.
About CPPI

CPPI is a leading global supplier of pulp and paper products with operations in the central interior of British Columbia ("BC") employing approximately 1,300 people throughout the organization. Canfor Pulp owns and operates three mills in Prince George, BC with a total capacity of 1.1 million tonnes of Premium Reinforcing Northern Bleached Softwood Kraft Pulp and 140,000 tonnes of kraft paper, as well as one mill in Taylor, BC with an annual production capacity of 220,000 tonnes of Bleached Chemi-Thermo Mechanical Pulp ("BCTMP"). Canfor Pulp is the largest North American and one of the largest global producers of market NBSK Pulp. CPPI shares are traded on the Toronto Stock Exchange under the symbol CFX.

Agenda 2020 Leader Addresses Renewable Bioproducts Institute Executive Conference

April 20, 2016

ATLANTA, April 5, 2016 (Press Release) - Agenda 2020’s executive director David Turpin urged participants at the annual Renewable Bioproducts Institute spring conference to review the industry’s research priorities and pathways and engage in the pursuit of solutions. The conference took place at the Paper Tricentennial Building, RBI’s headquarters, on the Georgia Tech campus April 5-6. The theme of the conference was Reimagining Bioproducts Industries: New Ideas—New Opportunities.

“Some of the pathways to new ideas and opportunities can be found in the important projects outlined in our roadmaps,” Turpin commented. “Our teams identified critical research challenges and avenues to achieve them during our road-mapping efforts in 2014 and 2015. Now we’re embarking on the road trip to make our industry even more sustainable.”

Turpin outlined research needs in five areas targeted to achieve breakthrough reductions in energy, water, and raw material use and to develop platforms for new products based on renewable materials. The five areas are reuse of process effluents; achieving a drier web before the dryer section; concentration of black liquor; next-generation pulping; and cellulose nanomaterials. Information about all of these can be found on the Agenda 2020 website.

The roadmaps will all be available on the website by the end of April. The Reuse of Process Effluents roadmap was released March 22 in conjunction with the White House Water Summit.

Turpin acknowledged and thanked RBI and executive director Norman Marsolan for its efforts to integrate the Agenda 2020 identified priorities into the Georgia Tech research agenda and especially the Paper Science and Engineering fellowship program. “This is an important partnership for our members, and we greatly appreciate the commitment here to execute these important efforts,” Turpin said.

PMP Group to rebuild Smurfit Kappa's PM 1 press part at Barbosa mill, Colombia

March 30, 2016

JELENIA GORA, Poland, March 30, 2016 (Press Release) - In January 2016, Smurfit Kappa signed another contract with PMP for a press part rebuild of PM#1 in its Mill in Barbosa (Colombia). PMP (Paper Machinery Producer) has been chosen again as a strategic partner supporting Smurfit Kappa’s development.

PM#1 currently produces Testliner & Fluting of daily capacity 270 t/d. PM#1 will be supplied with state-of-the-art new technological items provided by PMP. The project driving force is modern technology that ensures energy savings solutions following global trends. Additionally, excellent paper quality is expected.
WHO’S DOIN’ ANYTHING? (CONTINUED)

Project goals are focused on generating energy savings, improving PM#1’s runnability, and increasing paper properties as well as its annual capacity by 31%. The main idea is to apply a state-of-the-art Intelli Tri-Nip® Press Section with an Intelli-Nip® Shoe Press. The shoe press technology is going to play a key role in the final success, bringing ultra-high dryness (from 44% before rebuild, up to 52% after press. It is important to mention that 1% more dryness after press brings 4% steam saving in the dryer section. The shoe press technology enables significant improvement of paper properties (especially bulk & bursting strength) and significantly supports PM#1’s runnability increase.

PMP’s scope of delivery includes the Intelli Tri-Nip® Press section with the Intelli-Nip® Shoe Module (design nip load 1400 kN/m, shoe press module type 1300). A compact design of a new press section Intelli Tri-Nip® will ensure reduction of open draws and significantly increase PM#1’s runnability. Intelli-Nip® shoe press has been already appreciated by paper mills worldwide (just to mention recent PMP projects in USA, Mexico, China, Russia and Poland), due to its reliable performance confirmed by patented solutions, top sheet dryness level (up to 53%) resulting in significant steam consumption savings and user-friendliness. Scope of delivery in the case of the Smurfit Kappa project also covers Intelli-DCR® (Deflection-Compensation Roll), PM auxiliaries systems such as PM controls & panels, mechanical drives, machine pulper, as well as base plates and spare parts. Structural machine components will be designed for a design speed of 1000 m/min. PMP will also be responsible for on-site services, including on-site erection and start-up supervision. The delivery is scheduled for November 2016, followed by erection on site and start-up by the turn of 2016/2017.

This particular project is an example where PMP’s technological knowledge combined with high-tech equipment can become a key factor to achieve common success. This project is also another step forward in partnership development between PMP and Smurfit Kappa.

About Smurfit Kappa:

Smurfit Kappa is one of the leading providers of paper-based packaging solutions in the world, with around 45,000 employees in approximately 370 production sites across 34 countries and with revenue of €8.1 billion in 2015. Smurfit Kappa is located in 21 countries in Europe, and 13 in The Americas. Company is the only large-scale pan-regional player in Latin America. With their pro-active team, they relentlessly use extensive experience and expertise, supported by their scale, to open up opportunities for customers. Smurfit Kappa collaborate with forward thinking customers by sharing superior product knowledge, market understanding and insights in packaging trends to ensure business success in their markets. Company has an unrivalled portfolio of paper-packaging solutions, which is constantly updated with our market-leading innovations. This is enhanced through the benefits of their integration, with optimal paper design, logistics, timeliness of service, and packaging plants sourcing most of their raw materials from their own paper mills. Smurfit Kappa products, which are 100% renewable and produced sustainably, improve the environmental footprint of their customers.

About PMP:

PMP – a global provider of tissue, paper & board technology, has been supporting pulp and paper industry for over 160 years, executing projects on 6 continents, in 29 countries. Company with headquarters in Jelenia Góra, Poland, owns 6 facilities in 4 countries (Poland, USA, China, Italy). PMP is a recognized international player in both paper & tissue industry. At the end of December 2015, PMP introduced new branding initiative including launching a new logo & visual identity.
## 2016 Pulp & Paper Industry Division Calendar

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### Conferences
- ISA SLM: Raleigh, NC
- ISA SLM: Victoria, BC
- ISA SLM: Newport, CA

### Holidays
- New Year's Day
- MLK Day
- Independence Day
- Labor Day
- Memorial Day
- 4th of July
- Christmas Day

### Other
- ISA Executive Symposium: Houston Marriott Westchase
- ISA PC&S Logger Newsletter Day
- ISA Login Day
- ISA Summit
- ISA Exec
- ISA SLM
- ISA FLM

### Special Dates
- Patty's Day
- Valentine's Day
- Mother's Day
- Father's Day
- St. Patrick's Day
- US Tax Day / Election Day
- President's Day
- Independence Day
- Labor Day
## Read the Presentations from the Pupid Technical Sessions at the Process Control & Safety Symposium at the Westchase Marriott in Houston November 7 & 8, 2015

<table>
<thead>
<tr>
<th>2015 Process Control &amp; Safety Symposium</th>
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<tbody>
<tr>
<td>Pulp and Paper Technical Track</td>
<td>Tuesday</td>
<td>Wednesday</td>
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<tr>
<td>Session Chair: Brad Carlberg</td>
<td>Nov 10</td>
<td>Nov 11</td>
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<tr>
<th>Time</th>
<th>Tuesday Nov 10</th>
<th>Wednesday Nov 11</th>
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<tbody>
<tr>
<td>12:30 - 1:00 pm</td>
<td>Lunch</td>
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<tr>
<td>1:30 – 2:00 pm</td>
<td>(15) &quot;Optimizing your Process through Lignin Management&quot; Brad Carlberg</td>
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<tr>
<td>2:00 – 2:30 pm</td>
<td>(133) &quot;Big Data Improves Plant Safety&quot; Mark Nixon Emerson Process Management</td>
<td>(129) &quot;Industrial Advances in Wireless Control&quot; Terry Blevins Emerson Process Management</td>
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<tr>
<td>2:30 – 3:00 pm</td>
<td>(132) &quot;Wireless MPC Application for DWC Control&quot; Willy Wojsznis Emerson Process Management</td>
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<tr>
<td>3:00 – 3:30 pm</td>
<td>Break • Exhibits-</td>
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<tr>
<td>3:30 – 4:00 pm</td>
<td>(128) &quot;Virtualization – A Powerful Tool for Process Control” John McIlwain Honeywell - Performance Materials &amp; Technologies</td>
<td>(127) Is Process Control Training REALLY No Longer Necessary? Harold Wade</td>
</tr>
<tr>
<td>4:00 – 4:30 pm</td>
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<td>(130) Addressing Cycling Problems in Pulp &amp; Paper Processes Steve Obermann Metso</td>
</tr>
<tr>
<td>4:30 – 5:00 pm</td>
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<td>(131) Tutorial: Diagnosing the Root Cause of Oscillations Steve Obermann Metso</td>
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<tr>
<td>5:00 – 5:30 pm</td>
<td>Break • Exhibits-</td>
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<tr>
<td>5:30 – 6:00 pm</td>
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<td>Address from Chair</td>
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</table>
2016 PUPID SCHOLARSHIP WINNER

For the second year in a row, we are pleased to award the $2000 the 2016 PUPID Scholarship, to Garrett Fisher, a senior dual major in Chemical Engineering and Paper Engineering (with a Process Control option) from Western Michigan University in Kalamazoo.

With all of his activities over last year, Garrett’s grades have dropped all the way from 3.89 to 3.85; you better “tighten up”, Garrett (LOL).

After having to leave his home state following his freshman year for his first co-op as a Power Plant Process Control Intern in the RockTenn mill in West Point, VA, Garrett has been able to stay closer to home for two successive years. Last summer in the packaging division at Perrigo, a store brand pharmaceutical company, in Allegan, MI – a 2-hour drive to home – and this summer as a Process Engineering Intern at Domtar in Port Huron, MI (just across the border from Sarnia, Ontario. (Garrett, enjoy visiting Canada AND for doing your part to insure that I-94 is safe for travel.)
Call for Papers

The International Society of Automation invites you to present your work at the 2016 Process Control & Safety Symposium and Exhibition. Papers will be considered for publication in ISA’s technical journal, ISA Transactions. Submit your abstract to https://www.xcdsystem.com/pcs.

Program Highlights:
Workshops, tutorials, keynote speakers, paper presentations, and exhibits include input from ISA’s Chemical and Petroleum Industries Division, Communications Division, Education Division, and Pulp and Paper Division.

Guidelines for Submission:
• 500-word (max) abstract in English shall be submitted online
• Final presentations must be on the official ISA Symposium template
• Papers accepted for publication and presentation will require completion of the ISA’s Rights and Responsibilities form
• Authors and speakers in attendance are required to pay registration fee
• The lead author is the main contact

Important Deadline Dates:
Abstracts ............... 22 July 2016
Draft Papers ............ 27 August 2016
Final Papers ............. 30 September 2016
Submit your abstract at https://www.xcdsystem.com/pcs.

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Kelvin Ericson
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John Clemens
MESA Session Chair
Randy Buchanan
Student Session Chair
Brad Calberg
Pulp and Paper Session Chair
Paul Gruhn
ISA Safety and Security Division
Soheil Hafik
PMCD Division Director
Ken Belteau
A&T Department Vice President-Elect
Edward Naranjo
PMCD Leader

Suggested Topics:
Instrumentation
• Variability, Instrument Calibration
• Automation and Control Systems
• Flow Measurement Technology
• Field Calibration Technology

Communications
• Communications in SIL, ISA100
• Wireless Technology in the Plant Floor
• Field Instrumentations: Wireless, Foundation Fieldbus, and Other Smart Technologies
• Bridging Prices Between SCADA and DCS

Control Systems
• Process Optimization
• Fieldbus Control Systems with Focus on Higher SIL
• Control System Strategies, Advanced Control
• Instrumentation for Floating LNG Facilities
• Automation and Control in Petroleum and Petrochemical Terminals
• System Integrations
• Advanced HMI and Alarm Management
• Data and Document Storage in EDMS and Asset Management
• Troubleshooting, Optimization, and Application in Petroleum and Chemical Process Industries
• Safety Instrumented Systems
• Cybersecurity

Setting the Standard for Automation™
Send your comments on this newsletter to me at brad.carlberg@bsc-engineering.com or post a message to the ISA PUPID Technical Discussion Forum List Serve & “get something started”!

- You can reach the ISA PUPID Technical Discussion Forum List Serve by clicking this link PUPID email LISTSERV or by going to the PUPID microsite and clicking on Email List

  - ”
**Links to Related Websites**

**ISA Pulp & Paper Website**
http://www.isa.org/~pupid/

**ISA Pulp & Paper Technical Discussion Forum**
http://www.isa.org/scripts/lyris.pl?enter=pupid&text_mode=&lang=english

**ISA Technical Conference Session Schedule**
http://www.isa.org/Template.cfm?Section=Conferences_and_Exhibitions&template=taggedpage/conferencesbydate.cfm&icid=61

**Pulp & Paper Research Institute of Canada**
http://www.paprican.ca/

**TAPPI**
http://www.tappi.org/

**PIMA**
http://www.pimaweb.com/

**American Forest and Paper Association**
http://www.afaandpa.org/

**National Society of Professional Engineers**
http://www.nspe.org/

**Swedish Royal Institute of Technology**
http://www.pmt.kth.se
http://www.hut.fi/English/

**Helsinki University of Technology**
http://www.hut.fi/English/

**Technical Association of the Australian and New Zealand Pulp & Paper Industry (APPITA)**

**Australian Pulp & Paper Institute**

**ISO Standards Technical Committee List**

**ISA Standards Committees LISTSERVER**
http://www.isa.org/shellcgi/lyris.pl?site=isa&page=topic&topic=standards+committees&text_mode=0&lang=english

**Quickies**

**ISA Pulp & Paper Technical Discussion Forum**
Anybody (not necessarily an ISA or PUPID member) can subscribe to the PUPID Pulp & Paper Technical Discussion Forum. To subscribe, go to the PUPID homepage at http://www.isa.org/pupid/, select “Link to the PUPID email LISTSERV” in the pick box, click “Join”, and enter your email address and a password.

**ISA Member Benefits**
ISA members receive benefits such as the Latest Technical Information, Professional Development Resources, Networking Opportunities, Special Bonus for Student Members, Insurance Program for Independent Contractors and Business Owners, and other personal privileges. Go to http://www.isa.org/membership/membership-benefits/ to see specific benefits.

**ISA PUPID Calendar**
Get a quick overview of ISA PUPID events by going to the Calendar at: https://www.isa.org/division/pupid/events/
### World Corners

#### Canada Corner

Nothing from anyone there this time!

#### Far East Corner

Nothing from anyone there this time!

#### European Corner

Nothing from anyone there this time!

#### From the Land of the Midnight Sun

Nothing from anyone there this time!
ANSWERS TO THE TUNING TIP

Given:
Pressure 145 psig
T₁ 750°F  𝐹₁ = 46,000 lbs/hr
T₂ 600°F
Water Pressure 240 psig
Water Temperature 180°F
From the steam tables:
\( h_{in} = \frac{(1427.2 - 1376.4)}{2} = 1402 \) BTU/lb
\( h_{out} = 1325.4 \) BTU/lb
From the steam tables:
\( h_{water} = 147.93 = 148 \) BTU/lb
Specific Volume = 0.01651
Density = 1/ Specific Volume = 60.56935
Let \( x = \) lbs/minute of water
From the Energy Balance Equation:
\[
(1 \text{ lb of steam} \times 1402 \text{ BTU/Lb}) + 148x = 1325.4 (1 + x)
\]
\[
1402 - 1325.4 = 1325.4x - 148x
\]
\[
x = 0.065 \text{ lb water/lb steam}
\]
\[46,000 \text{ lb/hr steam} \times 0.065 \]
\[= 2992 \text{ lb/hr water}
\]
\[2992 \text{ lb/hr water} \times 1 \text{ hr/60 min} = 50 \text{ lb/min water}
\]
a) 50 lb/min * 0.01651 cuft/lb * 7.48052 gal/cuft = 6.16 gal/min water

Therefore, 240 – 40 – ∆P_{valve} = 145 psig
\( ∆P_{valve} = 240 – 40 – 145 \text{ psig} = 55 \text{ psi}
\)
And GPM = 6.16
\( ∆P = 55 \text{ psi}
\)
S.G. = 0.971
the Specific Volume from Crane for water at 180 °F = 0.01651 ft³/lb
Density = 1/0.01651 = 60.57 lb/ft³
S.G = 60.57/62.3663 = 0.971

\[
C_v = \frac{GPM}{\sqrt{\Delta P \cdot \text{S.G.}}}
\]
Substituting:
b) \( C_v = \frac{6.16}{\sqrt{55 \times 0.971}} = 0.818
\)
c) Use equal percentage trim (75 – 80% of all control valves are equal percentage)
(table below is from Neles-Jamesbury Bulletin 150-1)
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Director - Elect
vacant

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ccsailc@bellsouth.net

Paper Review Coordinator
vacant

Environmental Chairman
vacant

Secretary / Treasurer:
Vacant

Programs / H&A:
vacant

Standards & Practices
vacant

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