

Pulp & Paper Industry Division Newsletter

# The Logger



**Winter 2018**

Editor: [Brad S. Carlberg, P.E.](#)

## Directors Message

By [Brad S. Carlberg, P.E., CSE](#)  
Port Townsend, WA USA

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Well, as I write this the third weekend of February, and winter is just about over. I'll be glad for some warmer weather!

In the last quarter, PUPID has lost 10 members (including 24 members that are in active grace status) and is down from 223 to 213 members; but we have had 6 new members.

In this Winter "Logger" newsletter, I am pleased to include two presentations "[Lime Kiln Principles and Operations](#)" by [Terry N Adams](#) and "[NCG Collection and Incineration](#)" by [Ben Lin, Ph.D. of A.H. Lundberg Systems Limited](#) You can see the presentations by clicking on the link on page.

I just received the Call for Papers (see it on page 4) for the 5<sup>th</sup> Annual [2018 Process Control & Safety Symposium](#) again to be held at the Westchase Marriott in Houston this upcoming November 6 - 8.

Please do not hesitate to contact me at [Brad S. Carlberg, P.E., CSE](#) 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.

**On Page 2**, Read the "Tuning Tip" sample CSE PE exam question

**On Pages 5 - 13**, Find out what's happening around the world of pulp & paper in the "Who's Doin' Anything" section

**On Page 16**, read the two presentations "Lime Kiln Principles and Operations" and "NCG Collection and Incineration"

**On Page 15** See the 2018 ISA PUPID Calendar

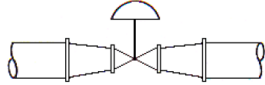
**On Page 19 & 20**, get the answers to the

**On Page 21**, meet the PUPID officers & become one yourself!

**TUNING TIP CSE PE REVIEW QUESTION:**

(Taken from the "Control Systems Engineering Exam Reference Manual: A Practical Study Guide" – 2<sup>nd</sup> Edition; Bryon Lewis, CSE, PE; published by ISA; Copyright 2014; ISBN: 978-1-934394-22-9)

*Sample problem:* We will now assume an 8-inch pipe connected to a Globe Valve, with the following service, Liquid Propane. Size the equal percentage valve for the following criteria.



$q = 800$ gpm	$T_1 = 70^\circ\text{F}$	$G_f = 0.5$	$\Delta P = 25$ psi
$P_1 = 300$ psig	$P_2 = 275$ psig		

A: Find the approximate  $C_v$ . The  $C_v$  is needed to find  $F_p$  (for now set to  $F_p = 1$ ).

**CCST question** (Taken from the InTech Plus February, 2018)

As used in instrumentation and defined in the ISA Dictionary, the term, "primary element" usually refers to:

- A. outer cascade loop
- B. pneumatic control valves
- C. transmitters / transducers
- D. process detectors or sensors

**CAP question** (Taken from the InTech Plus February, 2018)

According to ISA99, when building a process control network, network communications and access controls with similar security profiles should be grouped into?

- A. Sections
- B. Standard groups
- C. Levels
- D. Zones

**Find the answers to these questions on pages 19 & 20**

**Calendar of Events**

going to the Calendar at:

<https://www.isa.org/division/pupid/events/>

**2018 BLRBAC Meetings**

**Spring Meeting: April 9 – 11 , 2018**

**Fall Meeting: October 22 – 24 , 2018**

[www.blrbac.org](http://www.blrbac.org)

**Manufacturing in America 2018**

March 14-15, 2018

Detroit, Michigan

**2018 HANNOVER MESSE**

April 23-27, 2018

Hannover, Germany

**2018 ISA SPRING LEADERS MEETING**

**FRIDAY, May 5, 2018 THROUGH MONDAY, May 7, 2018**

**Marriott Raleigh Crabtree Valley, Raleigh, NC**

Come meet your leaders & get involved!

**China Paper 2018**

**25<sup>th</sup> International Exhibition & Conference**

**May 18 – 20, 2018**

**Guangzhou, China**

<http://www.chinaexhibition.com/>

**Pulp and Paper Industry Committee (PPIC)**

**Industry Applications Society (IAS)**

**June 17 – 21, 2018**

**Radisson Paper Valley Hotel**

**Appleton, WI**

[http://sites.ieee.org/ias-](http://sites.ieee.org/ias-pulpanpapercommittee/future-conferences/)

[pulpanpapercommittee/future-conferences/](http://sites.ieee.org/ias-pulpanpapercommittee/future-conferences/)

**2018 ISA FALL LEADERS MEETING**

**FRIDAY, October 12, 2018 THROUGH**

**TUESDAY, October 16, 2018**

**MONTREAL, PQ CANADA**

Come meet your leaders & get involved!

**ABTCP 2018-51<sup>st</sup> Pulp & Paper International Congress & Exhibition**

**10/23/2018 to 10/25/2018**

Transamérica Expo Center, São Paulo, Brasil

<https://www.abtcp2018.org.br/en/>

**2018 ISA PROCESS CONTROL & SAFETY SYMPOSIUM**

**MONDAY, NOVEMBER 5, 2018 THROUGH**

**THURSDAY, NOVEMBER 8, 2018**

**HOUSTON WESTCHASE MARRIOTT**

**HOUSTON, TX**

**WELCOME TO THE 6 NEW ISA PULP & PAPER INDUSTRY DIVISION MEMBERS**

Kasib Jarvis  
Rick Waite  
Sharadkadu Shalmali

Steven Holland  
Andrew Larrimore  
Nicholas Risley

**HERE'S A REMINDER TO THE 24 ISA PULP & PAPER INDUSTRY DIVISION MEMBERS WHO NEED TO RENEW THEIR MEMBERSHIP**

Stephane Dube  
James S. Wright  
Horace K. Carter  
Kirk G. Huggins  
Michael J. Thibodeau  
Carlos A. Marin  
Mark Isbell  
Mauricio A. Vega

Ivan Ratkovic  
Joseph C. O'Brien  
Gerson M. Moita  
Christopher M. Hurd, PE  
Bradley James Wall  
Gregory Bryant Brooks  
Jon Herbig  
Prashob Pulparambil Kanikattil

Cristien Balmer  
Adam Hassan  
Rafael Antonio Turcios Romero  
Zhouyang Tang  
Bill Hessner  
Gregory Davis  
Leonardo Ibacache  
Shawn Chretien

**DON'T FORGET TO RENEW!**



# Process Control & Safety Symposium & Exhibition

Houston, TX USA  
Training: 5 November • Conference: 6-8 November

# CALL FOR PAPERS



**Submit Abstracts by 4 May**

The 2018 ISA Process Control & Safety Symposium and Exhibition is recognized as the outstanding forum for discussions of new and innovative process control and safety techniques, developments, and applications. A worldwide array of speakers and attendees alike have the distinct opportunity to participate in informal discussions and social gatherings to acquire the latest information about process control and safety.

Papers are currently being accepted which address topics in instrumentation, communications, and control systems in process control and safety industries.

### SUBMISSION GUIDELINES:

Abstracts should be 200 words or less and describe what the noncommercial presentation will cover. All papers must be submitted in electronic format (MS Word) suitable for publication in the proceedings, and slide presentation materials must be provided in electronic format (MS PowerPoint) prior to the symposium for review and approval. A publication release form will also be required for all approved papers. If your abstract is accepted and you agree to submit a presentation for the conference proceedings or handout, you are also agreeing to register and present at ISA's 2018 Process Control & Safety Symposium and Exhibition.

Submit your abstract at <https://www.xcdsystem.com/pcs>

You will be notified via email that your abstract has been reviewed, accepted, or rejected by our technical committee. **Abstract due date is 4 May 2018.** Once Accepted, a discount registration fee is required in order to participate and present.

### IMPORTANT DEADLINES:

Abstracts .....	<b>4 May</b>	Final Papers/Presentations .....	<b>5 October</b>
Acceptance .....	<b>1 June</b>	Rights and Responsibilities Form .....	<b>5 October</b>
Draft Papers/Presentations .....	<b>3 August</b>	Speaker Registration .....	<b>5 October</b>
Reviewer's Comments to Authors .....	<b>7 September</b>		

### General Subject Areas of Interest

#### Safety Systems

- SIL Determination
- Functional Safety Lifecycle Data Flow

#### Cybersecurity

- Cybersecurity and Functional Safety Lifecycle
- Supply Chain Cybersecurity
- Best Practices in Cybersecurity Risk Assessment

#### Process Control

- Process Optimization
- Procedural Control Applications
- Automation Projects and Project Management
- Operator Performance (HMI, Alarm Management, and Training)
- Instrument Calibration
- Intelligent Device Management
- SCADA Projects and Applications

For details on the 2018 ISA Process Control & Safety Symposium and Exhibition visit [www.isa.org/pcs2018](http://www.isa.org/pcs2018)

*Setting the Standard for Automation™*

## WHO'S DOIN' ANYTHING?

### FPIInnovations and Resolute Forest Products announce \$21 million investment in TMP-Bio pilot project to produce bio-chemicals derived from wood in Thunder Bay, ON

January 22, 2018

THUNDER BAY, ON, Jan. 22, 2018 (CNW) -FPIInnovations and Resolute Forest Products today announced a significant investment in the implementation of a TMP-Bio pilot project in Thunder Bay, Ontario. The pilot project will focus on developing new ways to efficiently produce and commercialize innovative bio-chemicals derived from wood, contributing to the development of a bio-economy in Northern Ontario, as well as elsewhere in Canada.

The \$21 million project is part of an initiative to renew and transform the forest products industry, building on investments made in 2012 by Resolute, the Ontario Centre for Research and Innovation in the Bio-Economy (CRIBE), and Natural Resources Canada. This investment covers cost of capital and R&D and has the support of the Northern Ontario Heritage Fund Corporation (NOHFC), CRIBE, FedNor, the City of Thunder Bay CEDC and Natural Resources Canada.

Resolute is contributing \$3.5 million and hosting the pilot project at its Thunder Bay pulp and paper mill. TMP-Bio is a patented technology developed by FPIInnovations with financial support from Natural Resources Canada's Transformative Technologies Program.

This project comes at a very opportune time as market interest for sustainably sourced green bio-chemicals and bio-fuels continues to build. The development and availability in significant quantities of bio-sourced chemicals, such as the cellulosic sugars and high-quality H-lignin produced by the TMP-Bio process, is a key step in growing new market value for the forest products sector by connecting it to the bio-chemical supply chain.

#### Quotes

"Northern Ontario has a wealth of innovative thinkers and leading researchers and this project helps to demonstrate how their ingenuity is creating business opportunities and growing the local economy. By investing to capitalize on our inherent strengths, we are helping to strengthen the local economy and create meaningful middle-class employment here in Thunder Bay and across the region." The Honourable Patty Hajdu, Minister of Employment, Workforce Development and Labour, and Member of Parliament for Thunder Bay—Superior North

"The Government of Canada is proud to invest in strategic initiatives that promote public/private-sector partnerships in support of innovation and economic growth. Today's announcement will help establish a fully functioning bio-refinery plant that will speed up the development, production and commercialization of green bio-chemicals derived from wood, helping companies diversifies and create jobs." The Honourable Navdeep Bains, Minister of Innovation, Science and Economic Development and Minister responsible for FedNor

"Our Government values innovation and is committed to building collaborative working relationships to help support the forest sector. FPIInnovations has shown leadership in transforming the industry, promoting a culture of collaboration, and demonstrating results by developing bio-products with a low carbon footprint." The Honourable Jim Carr, Minister of Natural Resources

"This investment into the TMP-Bio pilot plant in Thunder Bay is a significant step towards developing a strong and innovative bio-economy in Northern Ontario and all of Canada. The project has the potential to completely transform the forest products industry of our region, and I look forward to seeing the positive impacts it will have." Don Rusnak, Member of Parliament for Thunder Bay—Rainy River

"The world is looking for bioproducts made from sustainably-managed, non-food sources. Ontario is one of the largest biotech clusters in North America. By applying innovative solutions like the TMP-Bio Project, the forestry sector is creating new opportunities in an increasingly competitive global marketplace." Reza Moridi, Ontario Minister of Research, Innovation and Science

## Who's DOIN' ANYTHING? (CONTINUED)

"On behalf of Thunder Bay City Council and the citizens of Thunder Bay, a huge thank you to everyone who has worked tirelessly in support of making this project a reality. This innovative technology will certainly help renew and transform the forest products industry and build on other significant investments. I am very pleased that the City can count itself among the supporters of this project." Mayor Keith Hobbs

"Today's announcement is good news for the environment and presents an economic opportunity for Thunder Bay and Northwestern Ontario. Our ability to continue to transform Canada's forest products sector by making new products that displace fossil fuel-intensive ones is not only going to help us fight climate change, but is also key to the future success of our mill communities." Derek Nighbor, CEO, Forest Products Association of Canada (FPAC)

"This project highlights the importance of investing in de-risking new technologies and products, and points the way for developing and delivering a transformative technology that contributes to the Canadian bio-economy. This major initiative strengthens the industry's position as a leader in the bio-refinery sector." Stéphane Renou, President and Chief Executive Officer, FPIInnovations

"We are pleased to continue our strategic partnership with FPIInnovations by providing both a host facility and financial support to this innovative venture. This project will help create opportunities to diversify the use of wood fibre into higher-value-added products." Richard Garneau, President and Chief Executive Officer, Resolute Forest Products

### About FPIInnovations

FPIInnovations is a not-for-profit world leader that specializes in the creation of scientific solutions in support of the Canadian forest sector's global competitiveness and responds to the priority needs of its industry members and government partners. It is ideally positioned to perform research, innovate, and deliver state-of-the-art solutions for every area of the sector's value chain, from forest operations to consumer and industrial products. FPIInnovations' R&D laboratories are located in Québec City, Montréal and Vancouver, and it has technology transfer offices across Canada.

### About Resolute Forest Products

Resolute Forest Products is a global leader in the forest products industry with a diverse range of products, including market pulp, tissue, wood products, newsprint and specialty papers, which are marketed in over 70 countries. The company owns or operates some 40 manufacturing facilities, as well as power generation assets, in the United States and Canada. Resolute has third-party certified 100% of its managed woodlands to internationally recognized sustainable forest management standards. The shares of Resolute Forest Products trade under the stock symbol RFP on both the New York Stock Exchange and the Toronto Stock Exchange. Resolute has received regional, North American and global recognition for its leadership in corporate social responsibility and sustainable development, as well as for its business practices.

## Andritz to provide lamella evaporation technology to increase evaporation plant capacity at Stora Enso's Enocell mill in Finland

January 22, 2018 - 03:23

HELSINKI, Finland and GRAZ, Austria , Jan. 22, 2018 (Press Release) -International technology Group ANDRITZ has received an order from Stora Enso to increase the capacity of the evaporation plant of their Enocell Mill in Finland. Start-up of the upgraded evaporation plant, which was originally delivered by ANDRITZ in 1992, is planned for the 3rd quarter of 2019.

The upgrade to the existing evaporator train, using ANDRITZ's lamella evaporation technology, will increase the mill's black liquor evaporation capacity from 600 originally to 800 t/h. The proven ANDRITZ lamella technology utilized for the evaporator's heating surface provides for a high heat transfer while being extremely easy to clean, thus maximizing plant availability and minimizing time required for washing of the heating surface.

## Who's DOIN' ANYTHING? (CONTINUED)

The ANDRITZ scope of supply includes two new evaporation units, additional surface condensers and the related piping and erection work.

Enocell Mill is part of Stora Enso's Biomaterials division and will be converted entirely to produce around 430,000 tons of dissolving pulp per year.

### ANDRITZ GROUP

ANDRITZ is a globally leading supplier of plants, equipment, and services for hydropower stations, the pulp and paper industry, the metalworking and steel industries, and for solid/liquid separation in the municipal and industrial sectors as well as for animal feed and biomass pelleting. Other important business segments include automation and service business. In addition, the international Group is also active in the power generating sector (steam boiler plants, biomass boilers, recovery boilers, and gasification plants) and in environmental technology (flue gas cleaning plants) and offers equipment for the production of nonwovens, dissolving pulp, and panelboard as well as recycling plants. The publicly listed technology Group is headquartered in Graz, Austria, and has a staff of approximately 25,700 employees. ANDRITZ operates more than 250 sites in over 40 countries.

### ANDRITZ PULP & PAPER

ANDRITZ Pulp & Paper is a leading global supplier of complete plants, systems, equipment, and comprehensive services for the production and processing of all types of pulp, paper, tissue, and cardboard. The technologies cover the processing of logs, annual fibers, and waste paper; the production of chemical pulp, mechanical pulp, and recycled fibers; the recovery and reuse of chemicals; the preparation of paper machine furnish; the production of paper, tissue, and cardboard; the calendaring and coating of paper; as well as the treatment of reject materials and sludge. The service offering includes system and machine modernization, rebuilds, spare and wear parts, on-site and workshop services, optimization of process performance, maintenance and automation solutions, as well as machine relocation and second-hand equipment. Biomass, steam, and recovery boilers, as well as gasification plants for power generation, flue gas cleaning plants, plants for the production of nonwovens, dissolving pulp, and panelboard (MDF), as well as recycling plants are also part of this business area.

## WHO'S DOIN' ANYTHING? (CONTINUED)



### Sappi to invest Euro 30 million to upgrade PM 9 at Gratkorn, Austria

January 22, 2018 - 04:14

GRATKORN, Austria , Jan. 22, 2018 (Press Release) -Sappi, a leading global producer of dissolving wood pulp, speciality and packaging papers, graphic (printing and writing) paper and biomaterials is investing in its mill in Gratkorn.

After finishing the upgrade of paper machine 11 in November 2014, PM 9 will be upgraded in 2019 to the current state of the art. The aim of the project is, in addition to the exchange of technical components, to operate the papermaking process with a reduced energy demand and thus to sustainably reduce the environmental impact. Another effect of the upgrade is the optimisation of raw materials to reduce production costs. The project has a total investment of approximately € 30 million and is scheduled to be realised in the first half of 2019. The project will be carried out in cooperation with Valmet, who also carried out the upgrade of PM 11.

Max Oberhumer, Mill Director of Sappi Gratkorn is pleased about the approval of this project: "In addition to the renewal of important components on the paper machine, the significant improvement in energy efficiency is another milestone in our efforts to achieve sustainable business."

Steffen Wurdinger, VP Manufacturing, R&D and Technology of Sappi Europe points out the importance of the project: "The approved investment consolidates Sappi Europe's position in this product segment. The reliability of the product quality as well as the machine's competitiveness will be strengthened through this project."

#### About Sappi's Gratkorn Mill

Sappi Gratkorn mill is part of Sappi Europe. Annually it produces 990,000 tons of high quality double and triple coated papers which are used for premium quality publications all over the world. Gratkorn mill also produces 250,000 tons of totally chlorine free (TCF) chemical pulp. The mill employs 1240 paper industry professionals from production to R&D. About 95 % of the mill's production is exported.

The mill operates under management systems consisting of certified Environmental Management System (ISO 14001), Energy Management System (ISO 50001), Occupational Health and Safety Management System (OHSAS 18001), Quality Management System (ISO 9001) and Chain Of Custody Verification from



the Programme for the Endorsement of Forest Certification (PEFC) scheme and Forest Stewardship Council (FSC).

### **About Sappi**

Sappi Europe SA is the leading European producer of coated fine paper used in premium magazines, catalogues, books and high-end print advertising. Headquartered in Brussels, Belgium, Sappi Europe is recognised for innovation and quality. Its graphic paper brands include Magno, Quatro, Vantage, Royal, Galerie and GalerieArt ranges. Algro, Leine, Parade, Fusion and atelier are the brands for innovative solutions of speciality papers and boards.

Sappi papers are produced in mills accredited with ISO 9001, ISO 14001 and OHSAS 18001 certification and EMAS registration for all our mills in the EU. Sappi European mills hold chain-of-custody certification under the Forest Stewardship Council (FSC) and/or the Programme for the Endorsement of Forest Certification (PEFC) schemes.

Sappi Europe SA is a division of Sappi Limited (JSE), a global company headquartered in Johannesburg, South Africa, with 12,800 employees and manufacturing operations on three continents in seven countries, sales offices in 50 countries, and customers in over 100 countries around the world.

### **Valmet to supply OptiConcept M board production line to Pratt Industries' new greenfield paper mill**

January 17, 2018 - 04:02

ESPOO, Finland, Jan. 17, 2018 (Press Release) -Valmet will supply an OptiConcept M board production line with automation for Pratt Paper (IN), LLC for Pratt's new greenfield paper mill in Wapakoneta, Ohio, USA. The mill will use 100% recovered paper to produce lightweight and high-performance linerboard and corrugated medium. This will be the second OptiConcept M board production line for Pratt and is repeating the order of PM 16, which successfully started up in Valparaiso, Indiana, USA, in 2015. The start-up of the new board machine, PM 17, is scheduled for the fourth quarter of 2019.

The order is included in Valmet's fourth quarter of 2017 orders received. The value of the order will not be disclosed. The value of an order of this type is typically around EUR 40-50 million.

"Start-up of the previous Valmet-supplied OptiConcept M (PM 16) in Valparaiso, Indiana, was exceptional. We have also been able to exceed some of the design features of the machine resulting in very good production figures. Both board machines in Valparaiso and Wapakoneta are showcases for the latest in 21st century paper-making technology," says Anthony Pratt, Global Chairman of Pratt Industries.

Valmet OptiConcept M board making line is designed to use less water, electricity and raw materials."We want to help many companies to meet their sustainability goals without sacrificing their high-performance packaging requirements. That's important not only for our environment but also for our customers who realize the importance of sustainable packaging," says Pratt.

### **Technical details about the delivery**

Valmet's scope of delivery will be similar to the Pratt PM 16 started-up in 2015 with a complete OptiConcept M board production line from headbox to winder with a wide scope of automation.

"OptiConcept M is a new and modular way to design, build and operate a paper machine. Its modular approach enables short delivery times, quick start-up and low project costs. This will be Valmet's second OptiConcept M installation in North America and 15th globally. We are all proud to continue the work and cooperation with Pratt on this project," says Mike Gray, Vice President, Capital Business, Valmet North America.

## Who's DOIN' ANYTHING? (CONTINUED)

The new machine will have a wire width of 6.24 meters and a design speed of 1,100 m/min (3,900-4,000 ft/min) with a basis weight range of 127-195 g/m<sup>2</sup>. The capacity will be 360,000 metric tonnes per year (400,000 short t).

### Information about the customer Pratt Industries

Pratt Industries is America's 5th Largest Corrugated Packaging Company and the world's largest, privately-held 100% recycled paper and packaging company, with more than 4,000 employees dedicated to the environment and sustainability. Pratt was founded in the USA some 25 years ago and, since then, has shown growth with sophisticated manufacturing facilities in more than 20 states.

### VALMET

Valmet is the leading global developer and supplier of process technologies, automation and services for the pulp, paper and energy industries. We aim to become the global champion in serving our customers.

Valmet's strong technology offering includes pulp mills, tissue, board and paper production lines, as well as power plants for bioenergy production. Our advanced services and automation solutions improve the reliability and performance of our customers' processes and enhance the effective utilization of raw materials and energy.

Valmet's net sales in 2016 were approximately EUR 2.9 billion. Our 12,000 professionals around the world work close to our customers and are committed to moving our customers' performance forward - every day. Valmet's head office is in Espoo, Finland and its shares are listed on the Nasdaq Helsinki.

### PulpEye supplies two online analyser systems for folding boxboard maker Cartulinas CMPC's mill in Maule, Chile

January 15, 2018 - 06:27

ORNSKOLDSVIK, Sweden, Jan. 12, 2018 (Press Release) -The Chilean folding boxboard maker Cartulinas CMPC S.A has bought two PulpEye online analyser systems to its mill in Maule, one of the world's biggest folding boxboard mills. This is the first PulpEye order to Chile. One system will be installed in the BTMP pulp mill and the other in the board mill's stock preparation.

Cartulinas CMPC S.A., an affiliate of Empresas CMPC S.A., manufactures and markets folding boxboard since 1951. Cartulinas CMPC S.A. produces its folding boxboard products in two mills, one located close to the city of Valdivia and the other in the Maule region. Inaugurated in 1998, the Maule mill is located 280 km south of Santiago and has an annual output capacity of its board machine of 380,000 tonnes per year in the grammages 200 – 400 g/m<sup>2</sup>.

The PulpEye analyser for the BTMP production is initially equipped with modules measuring fibre and shive modules and the blow line sampler RefinerEye. In the stock preparation the PulpEye unit is equipped with a module for freeness. The order also includes a complete control package as well as the new PulpOnTarget package for calculation of bulk and strength properties on the end product.

“When the PulpEye online analysers are installed we will get an even better on-line measurement and hence an improved on-line process control,” says Jorge Aldana, Technical Director at CMPC Papeles Business Line. “By having continuous data from the pulp production we will get reliable prediction of critical variables in the board machine, which will increase productivity and quality even further.”

## Who's Doin' Anything? (CONTINUED)

"The PulpEye delivery to Cartulinas CMPC Maule is an important breakthrough into the Chilean pulp and paper industry for this top of line technology," says Juan Carlos Ruiz, Regional Manager at Elof Hansson International in Chile. "I am very satisfied that Cartulinas CMPC Maule, one of the biggest folding boxboard mills in the world, will make good use of the technical possibilities offered by PulpEye equipment in their production."

### **EDF Renewable Energy and Kimberly-Clark announce commercial operation of Oklahoma wind project to supply Jenks mill**

December 20, 2017 - 17:03

SAN DIEGO, Dec. 20, 2017 (Business Wire) -EDF Renewable Energy (EDF RE) announced today that the 154 megawatt (MW) Rock Falls Wind Project (Project) has begun commercial operation. Kimberly-Clark Corporation (KMB) signed an agreement earlier this year with EDF RE for 120 MW of generation which marks Kimberly-Clark's first utility scale use of renewable energy.

Rock Falls Wind Project, located in Kay and Grant Counties in northern Oklahoma, consists of wind turbines and various components manufactured in the USA. The project has created more than 150 jobs since start of construction in July 2017 along with millions of dollars injected into the local economy.

"We applaud America's corporate sector and companies like Kimberly-Clark, who through the purchase of wind energy demonstrate leadership in the drive for a low-carbon economy," said Ryan Pfaff, Executive Vice President for EDF Renewable Energy. Their commitment allowed Rock Falls to proceed, providing an economic boost to the Oklahoma economy, through new construction and operations jobs, expanded tax base, and recurring, long-term income for participating landowners."

"We are proud to partner with EDF Renewable Energy on the Rock Falls project, which marks a significant step in Kimberly-Clark's Energy and Climate strategy," said Lisa Morden, Global Head of Sustainability, Kimberly-Clark.

Kimberly-Clark operates a number of manufacturing facilities across North America (and other parts of the world), including a tissue and towel manufacturing facility in Jenks, Oklahoma, which produces products for the Kleenex, Scott, Cottonelle and Viva brands. "As a point of comparison, the electricity purchased from the Rock Falls wind project would offset 1.5 times the greenhouse gas emissions associated with the electricity consumption at the Jenks, Oklahoma manufacturing plant," said Morden.

Rock Falls marks EDF RE's second project in Oklahoma. In 2016, the Company completed the Great Western Wind Project which supplies Google with its output of electricity.

EDF RE is the #1 developer among corporate buyers with 930 MWs contracted, which demonstrates the trust that environmentally-conscious companies place in EDF RE to deliver value. Kimberly-Clark joins the Company's growing North America portfolio of corporate purchasers including Google, Microsoft, Salesforce, Walmart and Yahoo.

EDF Renewable Services, the leading provider of renewable operations and maintenance services in North America, will provide balance-of-plant operations and maintenance for the facility.

EDF Renewable Energy is one of the largest renewable energy developers in North America with 9 GW of wind, solar, storage, biomass, and biogas projects developed throughout the U.S., Canada, and Mexico.

## Who's DOIN' ANYTHING? (CONTINUED)

About EDF Renewable Energy:

EDF Renewable Energy is a leading US independent power producer with over 30 years of expertise in the renewable industry, covering all range of services from project origination, development, sales and marketing, to long-term asset management. EDF Renewable Energy specializes in wind and solar photovoltaic with presence in other segments of the renewable energy market: distributed electricity, storage, biogas, and biomass. EDF Renewable Energy's North American portfolio consists of 9 gigawatts of developed projects with 4.4 gigawatts of installed capacity throughout the US, Canada, and Mexico. The operations and maintenance subsidiary, EDF Renewable Services, operates 10 gigawatts throughout North America. EDF Renewable Energy is a subsidiary of EDF Energies Nouvelles. EDF Energies Nouvelles is the renewable energy arm of the EDF group, the leading electricity company in the world. For more information visit: [www.edf-re.com](http://www.edf-re.com)

About Kimberly-Clark:

Kimberly-Clark (KMB) and its well-known global brands are an indispensable part of life for people in more than 175 countries. Every day, nearly a quarter of the world's population trust Kimberly-Clark's brands and the solutions they provide to enhance their health, hygiene, and well-being. With brands such as Kleenex, Scott, Huggies, Pull-Ups, Kotex and Depend, Kimberly-Clark holds No. 1 or No. 2 share positions in 80 countries. To keep up with the latest news and to learn more about the company's 145-year history of innovation, visit [www.kimberly-clark.com](http://www.kimberly-clark.com) or follow us on Facebook or Twitter.

[Power](#)

### **Graphic Packaging to invest \$136 million to modernize Macon, GA, kraft paperboard mill, add curtain coater**

December 04, 2017 - 21:53

ATLANTA, Dec. 4, 2017 (Press Release) -The Georgia Department of Economic Development (GDEcD) and the Macon-Bibb County Industrial Authority (MBCIA) today announced that Graphic Packaging International (GPI), a leading company in the design and manufacturing of packaging for commercial products, will invest \$136 million in the modernization of its Macon mill. GPI employs more than 1,330 employees in Georgia, and the Macon mill investment will help retain more than 460 manufacturing jobs.

"Georgia has a rich history in manufacturing, and many strategic assets that enable companies in this industry sector to find success here and abroad," said GDEcD Commissioner Pat Wilson. "GPI's decision to modernize its operations is a testament to our state's position as a global leader in the industry, and we are excited to see the company flourish in Macon."

GPI's Macon mill makes paperboard used in packaging for the food and beverage industry. The investment will enhance its capability by adding a state-of-the-art curtain coater, automate certain processes, and upgrade the water, generator and air systems to improve the mill's environmental profile.

"After a thorough analysis of our manufacturing needs and the available local resources, it was clear that Macon – Bibb County was ideal for this capital investment," said Michael Doss, President and CEO of Graphic Packaging International. "A number of factors influenced our decision, including the facility location; access to a diverse, educated and skilled local workforce; and our relationship with Macon – Bibb County and the State of Georgia."

## Who's DOIN' ANYTHING? (CONTINUED)

"I'm delighted Graphic Packaging is investing in its plant here and making a commitment to be a part of our community for many years to come," said Macon-Bibb County Mayor Robert Reichert. "Our location in the state and country makes us a prime location for companies to be successful and expand."

Georgia successfully competed against other states to win this investment. GDEcD regional project manager, Candice Scott, represented the Global Commerce division in partnership with Stephen Adams at MBCIA, Central Georgia Technical College and GDEcD's Workforce Division.

### About Graphic Packaging International

Graphic Packaging Holding Company (NYSE: GPK), headquartered in Atlanta, Georgia, is committed to providing consumer packaging that makes a world of difference. The Company is a leading provider of paper-based packaging solutions for a wide variety of products to food, beverage and other consumer product companies. The Company operates on a global basis, is one of the largest producers of folding cartons in the United States, and holds leading market positions in coated unbleached kraft paperboard and coated-recycled paperboard. The Company's customers include many of the world's most widely recognized companies and brands. Additional information about Graphic Packaging, its business and its products is available on the Company's web site at [www.graphicpkg.com](http://www.graphicpkg.com).

### **PMP successfully partners to start up Smurfit Kappa's PM 1 at Barbosa mill in Colombia**

November 21, 2017 - 04:34

JELENA GORA, Poland, Nov. 21, 2017 (Press Release) -In January 2016, Smurfit Kappa signed another contract with PMP for a press part rebuild of PM1 in its Mill in Barbosa (Colombia). PMP (Paper Machinery Producer) has been chosen again as a strategic partner supporting Smurfit Kappa's development. Thus, it is our pleasure to announce that PM1 has started-up successfully on 18th July 2017, at 21:45 of local time.

Project goals were focused on generating energy savings, improving PM1's runnability, and increasing paper properties as well as its annual capacity by 31%. The main idea was to apply a state-of-the-art Intelli-TriNip Press Section with an Intelli-Nip Shoe Press. The shoe press technology played a key role in the final success, bringing ultra-high dryness (from 43.5% 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 PM1's runnability increase.

PMP's scope of delivery included the Intelli-TriNip 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 IntelliTriNip is ensuring reduction of open draws and is significantly increasing PM1'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 covered also Intelli-DCR (Deflection-Compensation Roll), PM auxiliaries systems such as PM controls & panels, mechanical drives, press pulper, as well as base plates and spare parts. Structural machine components are designed for a design speed of 1000 m/min. PMP was also responsible for on-site services, including on-site erection and start-up supervision.

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.

## WHO'S DOIN' ANYTHING? (CONTINUED)

### 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 €8.2 billion in 2016. Smurfit Kappa is located in 21 countries in Europe, and 13 in The Americas. The 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 collaborates with forward thinking customers by sharing superior product knowledge, market understanding and insights in packaging trends to ensure business success in their markets. The 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 34 countries. Company with headquarters in Jelenia Góra, Poland, owns 6 facilities in 4 countries (Poland, USA, China, Italy).

## 2018 ISA Pulp & Paper Industry Division Calendar

	S	S	M	T	W	T	F		S	S	M	T	W	T	F		
<b>JAN</b>	31	31 New Year's Eve	1 New Year's Day	2	3	4	5	<b>1</b>	<b>JUL</b>	30	1	2	3	4 Independence Day	5	6	<b>27</b>
	6	7	8	9	10	11	12	<b>2</b>		7	8	9	10	11	12	13	<b>28</b>
	13	14	15 MLK Day	17	17	18	19	<b>3</b>		14	15	16	17	18	19	20	<b>29</b>
<b>JAN</b>	20	21	22	23	24	25	26	<b>4</b>	<b>JUL</b>	21	22	23	24	25	26	27	<b>30</b>
<b>FEB</b>	27	28	29	30	31	1	2	<b>5</b>	<b>AUG</b>	28	29	30	31	1	2	3	<b>31</b>
	3	4	5	6	7	8	9	<b>6</b>		4	5	6	7	8	9	10	<b>32</b>
	10	11	12	13 Mardi Gras	14 Valentines Day	15	16	<b>7</b>		11	12	13	14	15	16	17	<b>33</b>
<b>FEB</b>	17	18	19 Pres' Day	20 Lunar	21	22	23	<b>8</b>		18	19	20	21 Lunar	22	23	24	<b>34</b>
<b>MAR</b>	24	25	26	27	28	1	2	<b>9</b>	<b>AUG</b>	25	26	27	28	29	30	31	<b>35</b>
	3	4	5	6	7	8	9	<b>10</b>	<b>SEP</b>	1	2	3 Labor Day	4	5	6	7	<b>36</b>
	10	11	12	13	14	15	16	<b>11</b>		8	9	10	11	12	13	14	<b>37</b>
	17 St. Patty's Day	18	19	20	21	22	23	<b>12</b>		15	16	17	18	19	20	21	<b>38</b>
<b>MAR</b>	24	25	26	27	28	29	30	<b>13</b>	<b>SEP</b>	22	23	24	25	26	27	28	<b>39</b>
<b>APR</b>	31	1 Easter	2	3	4	5	6	<b>14</b>	<b>OCT</b>	29	30	1	2	3	4	5	<b>40</b>
	7	8	9	10	11	12	13	<b>15</b>		6	7	8 Columbus Day	9	10	11	12	<b>41</b>
	14	15	16	17	18	19	20	<b>16</b>		13 ISA FLM Montreal PQ	14 ISA FLM Montreal PQ	15 ISA FLM Montreal PQ	16	17	18	19	<b>42</b>
<b>APR</b>	21	22	23	24	25	26	27	<b>17</b>	<b>OCT</b>	20	21	22	23	24	25	26	<b>43</b>
<b>MAY</b>	28	29	30	1	2	3	4	<b>18</b>	<b>NOV</b>	27	28	29	30	31 Halloween	1	2	<b>44</b>
	5 ISA SLM Raleigh, NC	6 ISA SLM Raleigh, NC	7 ISA SLM Raleigh, NC	8	9	10	11	<b>19</b>		3	4	5 ISA PC&S Symposium Houston Westchase Marriott	6 ISA PC&S Symposium Houston Westchase Marriott	7 ISA PC&S Symposium Houston Westchase Marriott	8 ISA PC&S Symposium Houston Westchase Marriott	9	<b>45</b>
	12	13 Mom's Day	14	15	16	17	18	<b>20</b>		10	11 Valentine Day	12	13	14	15	16	<b>46</b>
<b>MAY</b>	19	20	21	22 Lunar	23	24	25	<b>21</b>		17	18	19	20 Lunar	21	22 Thanksgiving	23	<b>47</b>
<b>JUN</b>	26	27	28 Memorial Day	29	30	31	1	<b>22</b>	<b>NOV</b>	24	25	26	27	28	29	30	<b>48</b>
	2 D10 DLC Canmore, AB	3 D10 DLC Canmore, AB	4	5	6	7	8	<b>23</b>	<b>DEC</b>	1	2	3	4	5	6	7	<b>49</b>
	9	10	11	12	13	14	15	<b>24</b>		8	9	10	11	12	13	14	<b>50</b>
	16	17 Dad's Day	18	19	20	21	22	<b>25</b>		15	16	17	18	19	20	21	<b>51</b>
<b>JUN</b>	23	24	25	26	27	28	29	<b>26</b>	<b>DEC</b>	22	23	24	25 Christmas	26	27	28	<b>52</b>
									<b>JAN</b>	29	30	31	1 New Year's Day	2	3	4	<b>1</b>

Conferences
Logger Newsletter
Holidays
US Tax Day / Election Day

"Lime Kiln Principles and Operations"

by  
Terry N Adams

"NCG Collection and Incineration"

by  
Ben Lin, Ph.D.  
A.H. Lundberg Systems Limited



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### **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

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Nothing from anyone there this time!

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Nothing from anyone there this time!

### FROM THE LAND OF THE MIDNIGHT SUN

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### CENTRAL & SOUTH AMERICAN CORNER

## LETTERS TO THE EDITOR

- 
- - **Send your comments on this newsletter to me at [brad.carlberg@bsc-engineering.com](mailto:brad.carlberg@bsc-engineering.com) or post a message to the ISA PUPID Technical Discussion Forum List Serve & “get something started”!**
  -
-

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31

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### CCST Answer

The correct answer is **D**: process detectors or sensors.

According to the ISA Dictionary, a *primary element* is "The system element that quantitatively converts the measured variable energy into a form suitable for measurement." Also refer to ANSI/ISA-51.1.

For example, a magnetic flow meter is a primary element which senses/detects the velocity of a flowing conductive fluid through a magnetic field, and converts this measurement into a millivolt signal proportional to the measured velocity (Faraday's Law) .

The output from a primary element will usually need further processing to be useful in a control system. In this case, a transmitter would also be required to convert the electrical signal into a standard signal for the control system (4-20ma, HART, ProfiBus, etc.).

Reference: Goettsche, L.D. (Editor), [Maintenance of Instruments and Systems, 2<sup>nd</sup> Edition](#) (2005), ISA Press

### CAP Answer

The answer is **D**: "Zones".

ANSI/ISA-99 introduces the concepts of 'zones' and 'conduits' as a way to segment and isolate the various sub-systems in a control system. A zone is defined as a grouping of logical or physical assets that *share common security requirements* based on factors including criticality and consequence.

PC's, PLC's, network switches, etc., all have capability for providing certain security functions and capabilities, such as authentication. If the security requirements of a zone are higher than what the equipment in that zone is capable of delivering, then extra security measures must be taken.

Communications between zones is accomplished via a defined conduit, which controls access to/from the zones, provides safeguards against DoS attacks, shields the zone from other networks, and protects network traffic integrity and confidentiality. Conduits can provide the extra measure of security for a zone when the equipment in a zone does not inherently meet the security requirements.

Reference: Trevathan, Vernon L., [A Guide to the Automation Body of Knowledge, 2<sup>nd</sup> Ed.](#), 2006

## ANSWERS TO THE TUNING TIP

$$C_v = \frac{q}{F_p \sqrt{\frac{\Delta p}{G_f}}} = \frac{800}{\sqrt{0.5}} = 113.13$$

Note: If piping were the same size as the valve, we're done.

From Table A11 - Properties and Sizing Coefficients of Globe Valves, we find a 3" Globe Valve (equal percentage) has a maximum  $C_v$  of 136 at full open. But we want to throttle at 50%, so pick a 4" with a  $C_v$  of 224. Now we will plug this  $C_v$  into the piping geometry equation to get the installed valve  $C_v$ .

$$\Sigma K = K_1 (\text{the entry factor}) + K_2 (\text{the exit factor})$$

$$\Sigma K = K_{1+2} = 1.5 \left( 1 - \frac{d^2}{D^2} \right)^2 \quad \text{Note: } K_1 + K_2 = (0.5 + 1) \left( 1 - \frac{d^2}{D^2} \right)^2 \text{ same size piping}$$

$$\Sigma K = K_{1+2} = 1.5 \left( 1 - \frac{4^2}{8^2} \right)^2 = 0.844 \quad \text{Note: } 4 = \text{valve size, } 8 = \text{pipe size}$$

$$F_p = \left[ 1 + \frac{\Sigma K}{890} \left( \frac{C_v}{d^2} \right)^2 \right]^{-1/2} \quad \text{Note: } F_p = \text{piping geometry factor.}$$

$$F_p = \left[ 1 + \frac{0.844}{890} \left( \frac{224}{4^2} \right)^2 \right]^{-1/2} = 1.1859^{-1/2} = 0.918$$

Find the corrected  $C_v$  for the installed valve.

$$C_v = \frac{q}{F_p \sqrt{\frac{\Delta p}{G_f}}}$$

$$C_v = \frac{800}{(0.918) \sqrt{0.5}} = \frac{800}{6.238} = 123.24 \text{ or } 124$$

This shows a 3" valve is too small; it will require the 4" with the maximum  $C_v = 224$ .

$$\% = \frac{124}{224} = 55.4\% \text{ of maximum } C_v \text{ and about } 75\% \text{ open}$$

In Table A11 - Properties and Sizing Coefficients of Globe Valves, a Fisher type ED (equal percentage) valve is used. A 3" valve would be correct with a  $C_v$  of 136, but it is too small. The valve would be (124/136) or 91% of maximum  $C_v$ , and you might not get the required flow through the valve for throttling. Remember, valves start choking at about 75% throttle, so size your  $C_v$  to fit at about 50% maximum  $C_v$ . Size your valves for 200%  $C_v$ .

### 2018 Pulp & Paper Industry Division Officers

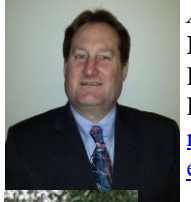
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