

Pulp &amp; Paper Industry Division Newsletter

# The Logger

**Summer 2018**Editor: [Brad S. Carlberg, P.E.](#)

## Editors Message

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

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

**On Pages 4 – 11,** Find out what's happening around the world of pulp & paper in the "Who's Doin' Anything" section

**On Page 12** See the 2018 ISA PUPID Calendar

**On Page 13,** read the presentation from the last TAPPI conference

**On Page 14,**

**On Page 16,** get the answers to the CCST & CAP Questions & Tuning Tip

**On Page 17,** meet the PUPID officers & become one yourself!

Well, as I write this the third weekend of August, and Summer is almost over, with Labor Day just ten days away. The weather is getting hot!

I am also pleased to announce that [Ronaldo Ribeiro of Cenibra](#) will start immediately as PUPID Director. Welcome Ronaldo!

The bad news is that in the last quarter, PUPID has only had 3 new members and is down from 216 to 187 members; and we have 29 members that are in active grace status.

In this Spring "Logger" newsletter, I am pleased to include "[Improving Consistency Control](#)" by [Mike Hendricks of BTG](#) presented at the 2017 TAPPI PaperCon April 23 – 26 conference in Minneapolis, MN. You can see his paper by clicking on the link on page 13.

We are in the final stage of programming for the [ISA@Montreal2018 Symposium](#) to be held at The Hyatt Regency Montreal this upcoming October 16 & 17, immediately following the Fall leaders Meeting. PUPID will have a single 90-minute session on Tuesday at 10:50 am – 12:30 pm:

- "Coming To Terms With PID" by [Patrick J. Dixon](#), P.E., PMP; of GPA
- "A Practical Approach for Process Control Optimization During Startup" by [Marc Tardif](#) of BBA
- "A.P.C. in The Fiber Line" by [Michel Dion](#) of Honeywell

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.

**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)

**Calendar of Events**

going to the Calendar at:

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

**2018 BLRBAC Meetings**

Fall Meeting: October 22 – 24 , 2018

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

**International Woodfiber Resource and Trade Conference**

September 17 - 19, 2018

Southern Sun Elangeni & Maharani, Durban, South Africa

**2018 ISA FALL LEADERS MEETING**  
**FRIDAY, October 12, 2018 THROUGH**  
**MONDAY, October 15, 2018**

Hyatt Regency

MONTREAL, PQ CANADA

Come meet your leaders & get involved!

**ISA@Montreal2018 SYMPOSIUM**

TUESDAY, October 16, 2018 THROUGH

WEDNESDAY, October 17, 2018

Hyatt Regency

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, OCTOBER 29, 2018 THROUGH

THURSDAY, NOVEMBER 1, 2018

[Houston WESTIN Memorial City](http://www.houstonwestin.com)

HOUSTON, TX

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

Industry Applications Society (IAS)

June 23 – 27, 2019

Hyatt Riverfront

Jacksonville, FL

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

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

1 In figure S-1, If only the open flow area (X) of the feedwater control valve increased, which of the following best describes how the mass flow (F) would change?

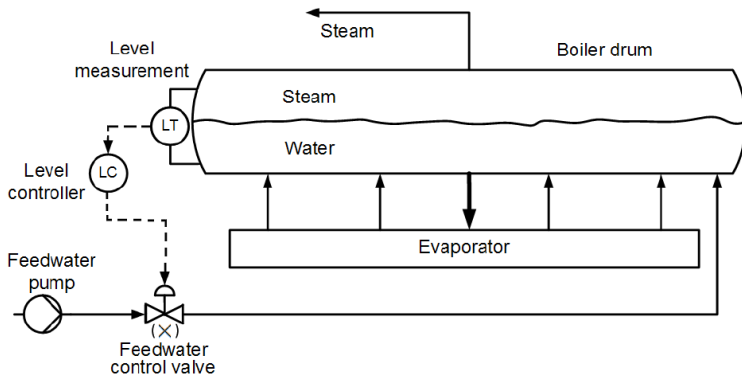


Figure S-1

- a.  $F_2 = F_1(X_1/X_2)^{0.5}$
- b.  $F_2 = F_1(X_2/X_1)^{0.5}$
- c.  $F_2 = F_1(X_2/X_1)$
- d.  $F_2 = F_1(X_2/X_1)^2$

Find the answers to these questions on page 16

## WELCOME TO THE 3 NEW ISA PULP & PAPER INDUSTRY DIVISION MEMBERS

Jeff Stanton

Daniel Dudley

Ayoub El Fouih

## HERE'S A REMINDER TO THE 29 ISA PULP & PAPER INDUSTRY DIVISION MEMBERS WHO NEED TO RENEW THEIR MEMBERSHIP

Craig R. Goodwin  
Sam C. Wilkerson, III  
Ake Hansson  
Robert J. Billy  
Gordon R. Beatty, Master  
Randal R. Claus  
Shahaji R. Zambre  
Mike Howard  
Fernando Tadeu Rios Dias  
Jimmy W. Key

Basa Sarat Chandra  
Mark Noble  
F G. Long  
Jack M. DeJong  
William Michael Sutton, CAP  
Tim Rogers  
Robert Anderson, CSE  
Glen Brown  
Rafael J. Bertoli  
James P Thomas

Amol Karandikar  
Lester Scott  
Denis Rogerio da Silva  
Abdulkareem Alhussaini  
Gary Sharp  
Matthew Sharp  
Mike Camden  
Raúl Gustavo García Pascacio  
Edwin David Morales Cerén

### DON'T FORGET TO RENEW!

#### CCST question

There are approximately \_\_\_\_\_ time constants from the point at which the process reaction curve begins to change and reaching its maximum value.

- A. 1
- B. 3
- C. 5
- D. 7

#### CAP question

**On-call contract maintenance done by a third party BEST describes**

- A. equipment or system audits.
- B. service level agreements (SLAs).
- C. system utilization services.
- D. preventative maintenance.

See page 21 for the answers to the CCST and CAP questions

## WHO'S DOIN' ANYTHING?

### COLUMBIA PULP OPENS PILOT PLANT PRODUCING PAPER PULP FROM WASTE STRAW IN WASHINGTON

Columbia Pulp (Dayton, Wash., USA) announced Wednesday (Aug. 15, 2018) that the company has completed construction on its 18,000 sq ft pilot plant in Pomeroy, Wash. While construction is still underway for North America's first tree-free pulp mill outside of neighboring Starbuck, Washington, this pilot plant will replicate Columbia Pulp's innovative pulp-making process on a smaller scale.

Columbia Pulp expects the pilot plant to produce 10 short tons of pulp per day, and to be fully operational by September.

"Our Pomeroy pilot plant will employ up to eight full-time employees, and provide them the opportunity to learn the manufacturing process and hone their skills on a smaller scale ahead of the Lyons Ferry Pulp Plant opening," said Columbia Pulp CEO John Begley. "This pilot plant allows us the opportunity to provide prospective customers with product samples comparable to what they can purchase from the full-scale mill."

Ultimately, the first-of-its-kind Lyons Ferry Pulp Plant is expected to provide 90 jobs in the communities of Dayton, Starbuck and surrounding areas while eliminating the need to burn 230,000 tons of straw waste annually. The Lyons Ferry Pulp Plant is planned to produce 400 tons of pulp per day in its 140,000 sq ft facility. Along with producing pulp for use in papermaking, the mill will produce environmentally friendly biopolymers, which can be used on roads, in animal feed, and more.

Once construction is completed on the Lyons Ferry mill, the pilot plant will remain open to produce smaller client orders.

[Columbia Pulp](#) operates a Pilot Facility in Pomeroy, Wash. and reported it is finishing construction on a state-of-the-art industrial scale mill in Starbuck, Wash. Both facilities convert wheat straw and seed alfalfa into pulp and biopolymers, used in the manufacture of sustainable, tree-free paper and packing products, as well as numerous specialty chemical applications.

### KRUGER MAKES CONTAINERBOARD INVESTMENTS IN QUEBEC MILLS

Kruger (Montreal, Que., Canada) reported this week it has invested heavily in its Quebec packaging sector operations, with a recent CA\$250 million (\$191 million) expenditure at its Trois-Rivières facility to convert from newsprint production to recycled-content containerboard followed by recent CAD \$20 million (\$15.3 million) modernization projects at both the Place Turcot and LaSalle mills.

The LaSalle Packaging mill has received a new converting line that will operate constantly, 24 hours each day, and account for more than one-third of the plant's ability to meet growing demand in the eco-friendly packaging sector. At the Place Turcot mill adjacent to downtown Montréal, which Kruger described as being "North America's pioneer in 100% recycled containerboard," investments have been made to reduce both emissions and water usage. The Place Turcot containerboard mill was one of the first in North America to manufacture using 100% recycled containerboard beginning in 1961.

Since 2015, Kruger now has invested more than CAD \$500 million (\$383 million) in its facilities in Québec to convert existing equipment, purchase new equipment, modernize some facilities, and diversify into new growth products.

Kruger was founded in 1904 and currently makes tissue products, containerboard, corrugated packaging, publication papers, specialty papers, biomaterials, and also produces energy, and wines and spirits. The company has facilities in Québec, Ontario, British Columbia, and Newfoundland and Labrador in Canada, and in the U.S. states of Tennessee, Maine, New York, Virginia, and Rhode Island.

### VOITH TO SUPPLY STOCK PREP SYSTEM FOR COPAMEX CONTAINERBOARD MILL IN MÉXICO

Voith Paper N.A. (Appleton, Wis., USA) today (Aug. 2.) in a recent afternoon 1:00p.m. update published by the LesProm Network (Russia), is reported by the service as having recently reached a deal with Copamex of Monterrey, México, for the installation of a BlueLine stock preparation system at their mill in Anáhuac, which is being converted to drive Copamex's growth into the containerboard and packaging markets in México.

Previously, Copamex focused on printing and writing grade paper, but the new BlueLine stock preparation system from Voith is a key step in their expansion plans. The system will utilize a variety of raw material including Old Corrugated Containers (OCC) and mixed waste.

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

As full-line supplier, Voith and MERI Environmental Solutions (a Voith company) will be working together to provide Copamex with all of the elements of the stock preparation system, including reliable material handling with automatic wire cutting, reject compactors, sludge handling, water clarification, and effluent treatment. The project is also environmentally friendly as steps have been taken to limit energy and water consumption, as well as making waste management improvements.

When the new stock preparation system starts up in early 2019, the mill will output 260,000 metric tons of testliner and corrugated medium annually for use in containerboard production.

Voith Paper is a Group Division of [Voith](#) and the leading partner and pioneer in the paper industry.

### VERSO ANNOUNCES STRATEGIC INVESTMENTS AT ITS ANDROSCOGGIN MILL

Verso (Memphis, Tenn.) announced this week that it will make strategic investments in its Androscoggin Mill in Jay, Me., USA, focused on technology upgrades that will increase the release liner paper capacity of its PM 4. Made over the next 18 months, these investments will better position Verso to meet the growing needs of pressure sensitive laminators worldwide.

"The Androscoggin Mill and its number 4 paper machine have a rich history of manufacturing specialty products," said Verso's President of Graphic Papers Mike Weinhold. "When enhanced with these technology upgrades, the No. 4 paper machine's six-meter width, technical capabilities and fully integrated pulp platform will be particularly well suited to support the growing release liner market. Additionally, these investments advance Verso's strategy to reposition 100 percent of the Androscoggin Mill's production to serve specialty paper and packaging markets."

The investments will be spread across two project phases which include technology upgrades in pulping and refining systems, stock flow piping, and paper winding capabilities. The first project phase is scheduled for completion in the third quarter of 2018 with completion of the second project phase expected in 2019.

Verso's release liner and pressure sensitive label paper portfolio includes over 60 highly engineered paper grades made across four Verso U.S. mills. Verso specialty papers are described by the company as being shipped worldwide and backed by the very highest levels of technical and customer service.

### Stora Enso to install new steam turbine and biomass storage at Maxau mill

HELSINKI, July 20, 2018 (Press Release) -Stora Enso has decided to install a new steam turbine with a closed-loop cooling system and additional biomass storage at its mill in Maxau, Germany. The investment cost is approximately EUR 25 million and implementation of the project is scheduled to start during the third quarter of 2018 with completion in 2020.

Stora Enso wants to secure the long-term profitable energy production in Maxau Mill by increased electricity generation and higher efficiency. The new 57 MW extraction-condensing turbine complements the existing Combined Heat and Power (CHP) plant which started up in 2010. The investment will reduce the energy cost and secure long term cost competitiveness of the paper mill. Once installed, the payback time will be around four years.

The investment contributes to Stora Enso's carbon neutral roadmap and science-based targets through higher share of biomass and higher efficiency (>50 000t CO2 savings per year). The closed loop cooling system will relieve the Rhine River significantly by less thermal output and considerably lower river water extraction.

"We are happy to announce this important investment which underpins our long-term commitment to serve our customers with high-quality paper products from cost-efficient and sustainable operations. It also highlights our ambition to replace fossil-based materials and to contribute to a greener economy," says Kati ter Horst, EVP Head of Paper Division.

#### Maxau Mill

Located on the Rhine River near Karlsruhe in southwest Germany, Maxau Mill is the key pillar in the Uncoated Magazine Paper (SC) product segment. The mill is strategically and geographically well located to serve its customers, including major European publishers, retailers and printing houses. It has a short distance access to all raw materials and biofuels. The two paper machines produce approx. 530 000 tonnes of uncoated magazine papers per year. Paper for Recycling (PfR) serves as the main raw material for the paper production.



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

Part of the bioeconomy, Stora Enso is a leading provider of renewable solutions in packaging, biomaterials, wooden constructions and paper globally. We believe that everything that is made from fossil-based materials today can be made from a tree tomorrow. Stora Enso has some 26 000 employees in over 30 countries. Our sales in 2017 were EUR 10 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).

### Midwest Paper, Formerly Appleton Coated, Reaches Milestone in Comeback

According to an article published this week in the *Post-Crescent* (Appleton, Wis., USA), the former Appleton Coated mill, now called Midwest Paper Group, has reached a milestone that 10 months ago seemed virtually impossible. The mill is now running all three of its paper machines around the clock, every day of the week. The machines will operate continuously from now on, only silent for maintenance periods. Anyone who sat through Appleton Coated's courtroom receivership hearings last fall wouldn't imagine this is the way it would turn out. Appleton Coated shut down in September, putting most of its 600 employees out of work.

In October, the mill was sold for \$21 million to just one bidder, the combined Industrial Assets Corp. and Maynards Industries USA, two businesses that primarily buy and sell used machinery and conduct liquidations and auctions. It appeared that Appleton Coated was destined to be scrapped.

But when the new buyers learned the mill could be valuable as an ongoing manufacturing plant, they invested many millions more to upgrade the facility. Machines restarted one by one beginning in December. About 310 employees were recalled.

Midwest Paper president Kyle Putzstuck declined to pin down the exact dollar amount of the additional investment by the new owners, other than to say "they're doubling down." It was apparently a bet that paid off.

The company is now near capacity, even while on its startup curve with a new OCC pulping system put into operation July 2. The system essentially recycles old corrugated cardboard boxes to make material for new corrugated boxes.

"It's taken less than six months from concept to startup of our OCC recycling process that is now supplying the majority of fiber to our machines," said Managing Director Doug Osterberg.

"I'm not aware of anyone anywhere building a similar pulping system in this short timeframe," Osterberg said. "This doesn't happen in six months. Usually putting in a system like this would take 18 months," said John Mazuroski, head of sales and marketing. "It was essentially a ballet of moving the equipment in while the mill was operating, while we were producing paper and selling it to customers."

Midwest Paper gets its post-consumer waste boxes from grocery stores, department stores, and other recycling sources in Wisconsin and the upper Midwest. Two-thirds of the company's production now is in brown paper used for containerboard grades for packaging, which are in high demand.



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

Kyle Quaintance, a third hand with Midwest Paper Group, prepares the master roll on PM 7 for a slitter change, which will take the master roll and slit it down into smaller rolls. (Photo: Danny Damiani/USA TODAY NETWORK-Wisconsin)

Before going into receivership, which is an alternative to bankruptcy, the company made mostly printing grades of white paper used in advertising, fliers and direct mail — categories in declining demand — and had only begun to test brown paper. The new owners didn't waste time putting in the waste-recovery system to cut down the escalating cost of new pulp. Production has ramped up to 1,200 tpd, putting the mill within reach of its 400,000-tpy capacity.

"We're doing exceptionally well here," Putzstuck said. "Industrial Assets is thrilled with the progress."

The new owners' concerns have eased over the riskiness of the investment, he noted.

"It's only with significant investment that you pull this off. There are no limitations. We have the equipment, the employees, and the customers. There's no more 'if we had this, we'd have that.' We've removed all the capital constraints," he said.

Osterberg said local firms were key in helping refurbish, convert, and install equipment, including Poyry Appleton, BKB Construction, Pieper Electric, Piping Services, and Voith. Poyry Appleton, for example, did engineering design for the pulping system. Poyry's EVP, Roger Marsicek, lives near the mill and said while the accelerated speed of the installation was stressful, he was like many in the village who were rooting for the mill to come back to life.

"People still remember the Kimberly mill and that being torn down," he said. "The community here is excited to see the mill start up again and get people back to work."

Pieper Electric of Neenah was another firm eager to help with the mill's rebirth.

"This plant has kept many of our local electricians employed for 20-plus years," said Jamie Darkow, department supervisor. "We are grateful for the opportunity to be able to help Midwest Paper Group and the community of Combined Locks."

News | June 5, 2018

## Columbia Pulp Partners With The Paradigm Group To Market Biopolymers For Dust, Ice Control Markets

DAYTON, WASH.--(BUSINESS WIRE)--

Columbia Pulp, LLC is announcing that The Paradigm Group (TPG) will serve as its national sales agent for Columbia Pulp's line of dust control and de-icing biopolymers. The biopolymers are a co-product of Columbia Pulp's wheat straw pulp production, the first of its kind in the nation. This strategic agreement will enable Columbia Pulp to effectively market its emerging technologies into both market sectors across the U.S.

"We're excited to bring TPG's technical expertise and industry knowledge on to our team," Columbia Pulp CEO John Begley said. "We revolutionize industries. And we need excellent partners like TPG to do that."

Columbia Pulp is constructing an innovative wheat straw pulping facility near Lyon's Ferry, Washington, which is expected to be completed by the end of 2018. A pilot facility located in nearby Pomeroy, Washington, is slated to begin producing commercial-grade samples this July. In addition to wet-lap pulp, both facilities will also produce co-products of lignin biopolymers, which will enter a number of supply chains, including the dust and ice control markets.

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

"No other facility does what we do, or produces what we do," Columbia's product manager for biopolymer co-products K.C. Kuykendall said. "These biopolymers are going to prove valuable in a number of key applications. TPG's staff of scientists have been involved in bringing new dust palliatives and de-icing technologies to prominence in the markets they serve. It's great to be teamed up with them."

### About Columbia Pulp

Columbia Pulp is located in Dayton, Washington. The company is finishing construction on a state-of-the-art mill that converts wheat straw and seed alfalfa into pulp and biopolymers, used in the manufacture of sustainable, tree-free paper and packing products, as well as numerous specialty chemical applications. To learn more about the company, please visit [www.columbiapulp.net](http://www.columbiapulp.net).

### About The Paradigm Group

The Paradigm Group, LLC is a Colorado-based company that specializes in innovative and environmentally friendly solutions in the de-icing and dust control industries.

View source version on businesswire.com: <https://www.businesswire.com/news/home/20180605006826/en/>

### News | May 26, 2014

## Zellstoff Celgar Improves Its Testing Capabilities With Metso's Next-Generation Automatic Pulp Laboratory

Helsinki, Finland - Immediately available quality measurements by using significantly faster testing capabilities - Metso.com. MEO1V.HE

Zellstoff Celgar, a major supplier of market kraft pulp, located in Castlegar, British Columbia, Canada, has placed an order with Metso for a next-generation automatic pulp laboratory. With the new equipment, the mill will be able to improve its pulp testing capabilities to better meet its customer quality needs. The automatic pulp laboratory will be installed in July 2014.

"We were convinced by Metso's proven technology and ability to support us locally with their North American service teams," says Scott Spencer, Manager, Strategic Development, Zellstoff Celgar.

Metso will supply a Pulp Expert automatic pulp laboratory with consistency, freeness, tensile, dirt, brightness and High-Definition fiber and shive measurements as well as a proprietary Quality Assurance Tracking program to maximize the use of the measurements.

Metso has the world's widest scope of automation solutions and services for the pulp and paper industry - from single measurements to mill-wide turnkey automation projects. It is the market leader in quality control systems as well as in control and on-off valves for this industry sector. The company also holds a market-leading position in pulp performance optimization with its advanced Kappa analyzers and inline sensors. Metso's system-independent solutions help customers lower their operating and maintenance costs.

Getting a full picture of total pulp quality

Metso Pulp Expert is significantly faster and has about ten times more testing capacity than the traditional laboratory. The reliable, immediately available quality measurements are related to laboratory standards and provide pulp mills with a full picture of total pulp quality.



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

Featuring the latest technology, the pulp laboratory's design has been especially created to meet the ever-increasing market requirements for measurement precision, user friendliness and the low need of maintenance. Depending on the application, the service interval can be up to one month. The unique, modular multi-measurement system enables mills to increase their production and maximize their gain. This has been proven with over 200 Pulp Expert installations in pulp and paper mills around the world.

Zellstoff Celgar, part of Mercer International Group, is one of the largest and most modern single line kraft pulp mills in North America. It produces approximately 520,000 ADMTs annually. The mill is well-situated with respect to fiber supply and the growing Asian and North American markets. Celgar is a modern, efficient ISO 9001 certified NBSK pulp mill. [celgar.com](http://celgar.com)

Metso's automation solutions are designed to maximize the profitability of our customers' businesses by improving their production performance and their cost, material and energy efficiency. Our extensive range of flow control and process automation solutions and services is supported by a worldwide network of automation experts. The Automation business' biggest customer industries are oil & gas, and pulp and paper. We also have a strong growth focus in mining and construction and power generation.

Metso ([metso.com](http://metso.com)) is a leading process performance provider, with customers in the mining, construction, and oil & gas industries. Our focus is on the continuous development of intelligent solutions that improve sustainability and profitability. Metso's shares are listed on the NASDAQ OMX Helsinki Ltd. Metso employs around 16,000 professionals in 50 countries. Expect results.

*SOURCE: Zellstoff Celgar*

### News | June 5, 2018

## International Paper Will Not Make Offer To Acquire Smurfit Kappa

MEMPHIS, TENN.--(BUSINESS WIRE)--

International Paper Company (NYSE:IP) confirmed today that the company will not make an offer for Smurfit Kappa Group plc ('Smurfit Kappa'), given the lack of engagement by Smurfit Kappa's Board of Directors and Management.

In February 2018, International Paper provided representatives of Smurfit Kappa's Board of Directors with a proposal to acquire the company. Following discussions with shareholders of both companies, IP put forward a revised proposal on March 26, 2018. IP believes the revised proposal was highly attractive and formed a sound basis for engagement, which the company viewed as essential to determining the full value potential of the combination.

"While we continue to believe in the strategic and financial potential of this combination, our commitment was to proceed in a disciplined manner that would create value for both sets of shareholders," said Mark Sutton, Chairman and CEO of International Paper. "Moving forward, we remain focused on executing our strategy and are excited about our outlook. We have many levers to create shareholder value and will be responsible stewards of our shareholders' capital," added Sutton.

As a result of this announcement, International Paper is bound by the restrictions set out in Rule 2.8 of the Irish Takeover Rules. International Paper reserves the right within the next 12 months to set aside this announcement where so permitted under Rule 2.8 (including Rule 2.8(c)(ii)).

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

### About International Paper

International Paper (NYSE: IP) is a leading global producer of renewable fiber-based packaging, pulp and paper products with manufacturing operations in North America, Latin America, Europe, North Africa, India and Russia. We produce corrugated packaging products that protect and promote goods, and enable worldwide commerce; pulp for diapers, tissue and other personal hygiene products that promote health and wellness and papers that facilitate education and communication. We are headquartered in Memphis, Tenn., and employ approximately 52,000 colleagues located in more than 24 countries. Net sales for 2017 were \$22 billion. For more information about International Paper, our products and global citizenship efforts, please visit [internationalpaper.com](http://internationalpaper.com).

### Statements required by the Irish Takeover Rules

*The Directors of International Paper accept responsibility for the information contained in this announcement. To the best of their knowledge and belief (having taken all reasonable care to ensure that such is the case), the information contained in this announcement is in accordance with the facts and does not omit anything likely to affect the import of such information.*

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News | March 14, 2018

### **Saving Power And Energy For The Pulp And Paper Industry For More Than 45 Years**

Huntington Beach, CA /PRNewswire/ - Komax Systems, Inc. is no stranger to the pulp and paper industry with multiple products in place within different process lines throughout pulp and paper mills around the world. With our [Direct Injection Steam Heater](#) used for instant water heating, keeping our tank at a consistent temperature with our Scepter Tank Heater, desuperheating steam with our [Desuperheater](#), or reducing chemical usage with our Hi-Sub Bleach Mixer using our unique "Triple Action Mixer," there is no doubt that Komax can help you reduce power and energy with our products.

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

### No Moving Parts, What Does That Mean to Me?

Depending on your process flow and desired results, Komax Systems will design a product unique to your application. With our patented Triple Action Mixing technology and Equalizer Modules, a set of fixed elements are calculated, welded by ASME B31.1 standard, and encapsulated within the desired material of construction for your process flow.

With no motors and no moving parts, there is no auxiliary power needed and little to no maintenance required. The static mixing and heat occurs by gravity and the process flow alone. This also provides low vibration and no water hammering for a quiet working environment compared to load-motor driven mixers that have a much shorter life expectancy while the same, if not better, mixing and heating results are achieved! Don't believe us? Check out our case studies [here!](#)

### Typical Applications

- [Direct Injection Steam Heater](#) is used for instant water heating and by the pulp and paper mills for heating starch, green liquor and pulp stock.
- Desuperheating steam with our [Desuperheater](#)
- Consistent heated temperature and suspended particles with our Scepter Tank Heater
- Hi-Sub Bleach Mixer using our unique "Triple Action Mixer" creates back mixing which produces the high shear that is needed to separate the pulp fibers. Fluidization of the pulp also occurs, allowing excellent chemical contacting which reduces chemical usage.

*SOURCE: Komax Systems Inc.*

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**See the PUPID session on Tuesday, October 16 at 10:50 am – 12:30 pm**

- "Coming To Terms With PID" by [Patrick J. Dixon](#), P.E., PMP; of GPA
- "A Practical Approach for Process Control Optimization During Startup" by [Marc Tardif](#) of BBA
- "A.P.C. in The Fiber Line" by [Michel Dion](#) of Honeywell

## 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	1	<b>JUL</b>	30	1	2	3	4 Independence Day	5	6	27
	6	7	8	9	10	11	12	2		7	8	9	10	11	12	13	28
	13	14	15 MLK Day	17	17	18	19	3		14	15	16	17	18	19	20	29
<b>JAN</b>	20	21	22	23	24	25	26	4	<b>JUL</b>	21	22	23	24	25	26	27	30
<b>FEB</b>	27	28	29	30	31	1	2	5	<b>AUG</b>	28	29	30	31	1	2	3	31
	3	4	5	6	7	8	9	6		4	5	6	7	8	9	10	32
	10	11	12	13 Mardi Gras	14 Valentines Day	15	16	7		11	12	13	14	15	16	17	33
<b>FEB</b>	17	18	19 Pres' Day	20 Lobster	21	22	23	8		18	19	20	21 Lobster	22	23	24	34
<b>MAR</b>	24	25	26	27	28	1	2	9	<b>AUG</b>	25	26	27	28	29	30	31	35
	3	4	5	6	7	8	9	10	<b>SEP</b>	1	2	3 Labor Day	4	5	6	7	36
	10	11	12	13	14	15	16	11		8	9	10	11	12	13	14	37
	17 St. Patty's Day	18	19	20	21	22	23	12		15	16	17	18	19	20	21	38
<b>MAR</b>	24	25	26	27	28	29	30	13	<b>SEP</b>	22	23	24	25	26	27	28	39
<b>APR</b>	31	1 Easter	2	3	4	5	6	14	<b>OCT</b>	29	30	1	2	3	4	5	40
	7	8	9	10	11	12	13	15		6	7	8 Columbus Day	9	10	11	12	41
	14	15	16	17	18	19	20	16		13 <a href="#">ISA FLM Montreal, PQ</a>	14 <a href="#">ISA FLM Montreal, PQ</a>	15 <a href="#">ISA FLM Montreal, PQ</a>	16 <a href="#">ISA@Montreal Montreal, PQ</a>	17 <a href="#">ISA@Montreal Montreal, PQ</a>	18	19	42
<b>APR</b>	21	22	23	24	25	26	27	17	<b>OCT</b>	20	21	22	23	24	25	26	43
<b>MAY</b>	28	29	30	1	2	3	4	18	<b>NOV</b>	27	28	29 <a href="#">ISA PC&amp;S Symposium Westin Houston Memorial City</a>	30 <a href="#">ISA PC&amp;S Symposium Westin Houston Memorial City</a>	31 <a href="#">ISA PC&amp;S Symposium Westin Houston Memorial City</a>	1 <a href="#">ISA PC&amp;S Symposium Westin Houston Memorial City</a>	2	44
	5 <a href="#">ISA SLM Raleigh, NC</a>	6 <a href="#">ISA SLM Raleigh, NC</a>	7 <a href="#">ISA SLM Raleigh, NC</a>	8	9	10	11	19		3	4	5	6	7	8	9	45
	12	13 Mom's Day	14	15	16	17	18	20		10	11 Veterans Day	12	13	14	15	16	46
<b>MAY</b>	19	20	21	22 Lobster	23	24	25	21		17	18	19	20 Lobster	21	22 Thanksgiving	23	47
<b>JUN</b>	26	27	28 Memorial Day	29	30	31	1	22	<b>NOV</b>	24	25	26	27	28	29	30	48
	2 <a href="#">D10 DLC Canmore, AB</a>	3 <a href="#">D10 DLC Canmore, AB</a>	4	5	6	7	8	23	<b>DEC</b>	1	2	3	4	5	6	7	49
	9	10	11	12	13	14	15	24		8	9	10	11	12	13	14	50
	16	17 Dad's Day	18	19	20	21	22	25		15	16	17	18	19	20	21	51
<b>JUN</b>	23	24	25	26	27	28	29	26	<b>DEC</b>	22	23	24	25 Christmas	26	27	28	52
									<b>JAN</b>	29	30	31	1 New Year's Day	2	3	4	1

Conferences
Logger Newsletter
Holidays
US Tax Day / Election Day

# "Improving Consistency Control"

by

Mike Hendricks

BTG

PRESENTED AT THE 2018 TAPPI PAPERCON APRIL 15 – 18 CONFERENCE IN CHARLOTTE, NC



### 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](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](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.afandpa.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)**

<http://www.appita.com.au/>

#### **AUSTRALIAN PULP & PAPER INSTITUTE**

<http://www.engg.monash.edu.au/chemeng/appi.htm>

#### **ISO STANDARDS TECHNICAL COMMITTEE LIST**

<http://www.iso.ch/iso/en/stdsdevelopment/tc/tclist/TechnicalCommitteeList/>

#### **ISA STANDARDS COMMITTEES LISTSERVER**

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## **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!

**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”!**
  -
- 

## ISA CONFERENCES / SYMPOSIA

AUG	<b>7</b>	<b>2018 ISA Water and Wastewater and Automatic Controls Symposium</b>
OCT	<b>16</b>	<b>2018 ISA@Montreal</b>
OCT	<b>30</b>	<b>2018 Process Control and Safety Symposium and Exhibition (PCS)</b>

## CCST Answer

The correct answer is **C**: Five time constants.  
The process time constant, in a percentage of final change, is given as:

$$\% \text{ Change} = [1 - e^{-N}] * 100\%$$

Where N = number of time constants.  
This gives:

Time Constants	% Change Realized
1	63.2%
2	86.4%
3	95.0%
4	98.2%
5	99.3%

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

## CAP Answer

The answer is **B**: "service level agreements (SLAs)". A service level agreement (SLA) is a contract between a service provider (either internal or external) and the end user that defines the level of service expected from the service provider. SLAs are output-based in that their purpose is specifically to define what the customer will receive.

An SLA for on-call maintenance would address issues such as response time, stocking of spare parts, minimum qualifications for service providers, and resolution reporting and documentation.

Other items typically addressed in SLA's are fees and payment terms, customer responsibilities (providing access to equipment, plant safety training, etc.), and agreement benchmarks and contract termination.

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

## ANSWERS TO THE TUNING TIP

1 The correct answer is "C":

The flow of the mass is proportional to the area multiplied by the velocity.

$$F_1 = V_1 A_1 \text{ and } F_2 = V_2 A_2$$

$$\frac{F_1}{A_1} = V_1 \text{ and } \frac{F_2}{A_2} = V_2$$

If the velocity was constant:

$$\frac{F_1}{A_1} = \frac{F_2}{A_2}$$

$$F_2 = F_1 \left( \frac{A_2}{A_1} \right)$$

The best answer is C =  $F_2 = F_1(X_2/X_1)$

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