I would like to first express my excitement of being your PUPID Director. As a longtime PUPID member I can tell you that we can offer something for everyone whether you are an engineer fresh out of school, and possibly the recipient our annual scholarship or a seasoned veteran looking for a refresher training course.

However, I am curious to learn just what your needs and expectations are.

We are all aware that in addition to basic instrumentation and control challenges, the industry and our jobs have definitely changed the past few years. From wireless integration to advanced process control, to information processing, there certainly are many topics to explore.

During the upcoming weeks we will be requesting your input for topics of interest. We will also continue to invite you to author papers for upcoming conferences and symposia.

I encourage you to get out and participate at your local Sections. This is important and truly makes ISA what it is. Your input is always appreciated so please feel free to contact myself or any of the listed officers. Enjoy the Newsletter.

Division membership is down to 321 members; we need to get back to our former “glory days” What can you do towards that end?

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

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

Division membership is down to 321 members; we need to get back to our former “glory days” What can you do towards that end?

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

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

Division membership is down to 321 members; we need to get back to our former “glory days” What can you do towards that end?

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

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

Division membership is down to 321 members; we need to get back to our former “glory days” What can you do towards that end?

I hope to encourage you to become more involved with the Division and to enroll more members.
TUNING Tip CSE PE REviEw QUeSTiON: DIGITAL CONTROL SYSTEMS


Questions 1 – 4 concern a supervisory control systems shown in Figure P301.

The system in Figure P301 reads and records the controller output, setpoint, and process variable for the four controllers.

A small computer requires 4 microseconds (µsec) per instruction and 100 instructions to address a multiplexer line and to read in and to process data on that line. The ADC requires 30 µsec to perform the conversion and capture the value of an input, and the multiplexer requires 20 µsec to select an input.

Flow loops are sampled and recorded five times as often as the level loop, and pressure loop twice as often as the level loop.

1. As an independent system, the multiplexer and ADC would have a maximum conversion rate (in conversions per second) that is most nearly equal to:
   A. 2.200
   B. 2.500
   C. 20,000
   D. 33,330
   E. 50,000

2. For the system as shown, the total time (in microseconds) to process all of the controllers is most nearly equal to:
   A. 1,600
   B. 4,800
   C. 5,400
   D. 5,850
   E. 17,550

3. If all of the controllers were used for level control and the group of inputs was scanned every 30,000 microseconds, the total time (in microseconds) available for other functions would be most nearly:
   A. 12,450
   B. 24,600
   C. 25,200
   D. 26,000
   E. 29,400

4. If all of the controllers were used for flow control and the scanning requirements were the same as defined previously, how many controllers could be handled in 30,000 microseconds:
   A. 4
   B. 5
   C. 22
   D. 25
   E. 66

Figure P301

Calendar of Events

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

2016 ISA Summer LEADERS MEETING
FRIDAY, June 11, 2016 THROUGH TUESDAY, June 16, 2015
COURTYARD RALEIGH CRABTREE VALLEY
Come meet your leaders & get involved!

2016 BLRBAC Meetings
Spring Meeting: June 4 – 6, 2016
Fall Meeting: October 3 – 5, 2016
www.blrbac.org

ABTCP 2016-49th Pulp & Paper
International Congress & Exhibition
10/6/2016 to 10/8/2016
Transamerica Expo Center
Sao Paulo, Brasil
http://www.abtcp2016.org.br/ingles/

2016 ISA FALL LEADERS MEETING
FRIDAY, September 24, 2016 THROUGH TUESDAY, September 27, 2015
NEWPORT BEACH, CA
Come meet your leaders & get involved!

China Paper 2016
23rd International Exhibition & Conference
10/14/2016 to 10/16/2016
Intex Shanghai, China
http://www.chinaexhibition.com/

2016 ISA PROCESS CONTROL & SAFETY SYMPOSIUM
MONDAY, NOVEMBER 7, 20165 THROUGH THURSDAY, NOVEMBER 10, 2016
HOUSTON WESTCHASE MARRIOTT
HOUSTON, TX
HERE’S A REMINDER TO THE 35 ISA PULP & PAPER INDUSTRY DIVISION MEMBERS WHO NEED TO RENEW THEIR MEMBERSHIP

Richard Kirkland  
Morton Granier  
Gene Pecora  
Roderick Williams  
John Pelfrey  
Ms. Diamond L Kline  
Emilian Axinia  
Chirag Lalwani  
José De Filippo  
Sumeet Sahu  
Jones Essuman  
Jimmy Allen Ormand  
Brant Heaton  
Koichi Nagano  
Yevgeniy Sidorov  
Joshua Paulraj  
Douglas Swanson  
Matt Thompson  
Hector Ibarra  
Simi Santosh  
George Van Horne  
Osama Elsadek  
Efrem Michael Villena  
Karla Davidson  
Anant Dixit  
Naveen Wadhwa  
Nirmal Kumar Balaraman  
Phuoc Loc Pham  
Eleisha Carlson  
Ajay Narula  
Adriano Costa  
Masum Shah  
Ekeneme Justin, C.B.  
Almuhannad Aljohani  
Robert Deaton

HERE’S A REMINDER TO THE 25 ISA PULP & PAPER INDUSTRY DIVISION MEMBERS WHO NEED TO RENEW THEIR MEMBERSHIP

Bruce Honda  
Kenji Fukuda Yamashita  
Gary Northam  
Prof. Jerker Delsing  
Glen M. Gallagher  
JOHN B. BIRKS  
Marcilio Antonio V Pongitori, Sr., Mestre  
Luiz Henrique Falcão Lamarque, Sr.  
Carlos A. Marin  
Dr. Alan G. King  
Carlos Alberto Grosman  
Gerson M. Moita  
Andrae D. Rauch  
James G. Weit  
David J. Mack  
Thomas Randy Dean  
Adam C. Hamer  
Ms. Grishmita Abhay Deshpande  
Rick Van Fleet  
Renan Pasqualini Scarazzatti  
Israel Bispo Jr  
Danny Villanueva  
Steve Byrnes  
Doug Phillis  
Joseph Maskery SR

DON’T FORGET TO RENEW!
Who’s Doin’ Anything?

Kruger taps Pöyry for conversion of its PM 10 from newsprint to recycled containerboard in Trois-Rivières, QC

VANTAA, FINLAND, Feb. 5, 2016 (Press Release) - Kruger Trois-Rivières L.P. has awarded Pöyry (Montreal) Inc. detailed engineering services assignment for the rebuild of the Trois-Rivières No. 10 newsprint machine into a state-of-the-art lightweight and high-strength recycled linerboard production facility. The assignment covers the recycled old corrugated container plant (OCC), paper machine inter-connections, balance-of-plant, upgrade engineering to the mill control systems, extensive migration engineering of the existing control system, and engineering for dismantling of replaced systems.

Kruger is a leading paper producer in North America. The Trois-Rivières project is one of their most important capital expenditures in recent years. The modernisation project includes the installation of a modern OCC production facility and a comprehensive rebuild of the existing PM 10 newsprint machine to a high-quality and high-performance lightweight linerboard machine. Pöyry's assignment includes services for the installation of a new starch system, chemical systems, heat recovery and modifications to the existing stock approach system.

During the 20-month conversion project, the existing newsprint machine will be extensively modernised to incorporate advanced containerboard manufacturing technology. The new production line will produce 360,000 metric tons per year of lightweight and high-strength linerboard using 100% recycled corrugated containerboard as raw material.

"Thanks to Pöyry's proven track record, we trust that this production line rebuild will be highly successful and that PM10 will rank among the very best lightweight and high-strength containerboard production lines in North America," says Christian Lemay, Project Manager at Kruger Trois-Rivières L.P.

"The assignment is an important continuation for this key client relationship, and previous studies carried out by Pöyry will be a significant reference strengthening Pöyry's strong position as a leading engineering consultant for pulp & paper industry in the North American market," says Vilho Salovaara, President of Pöyry's Regional Operations North America.

The value of the order is not disclosed. The order was recognised within the Regional Operations order stock in Q4/2015.

Pöyry is an international consulting and engineering company. We serve clients globally across the energy and industrial sectors and provide local services in our core markets. We deliver management consulting and engineering services, underpinned by strong project implementation capability and expertise. Our focus sectors are power generation, transmission & distribution, forest industry, chemicals & biorefining, mining & metals, transportation and water. Pöyry has an extensive local office network employing about 6,000 experts. Pöyry's net sales in 2014 were EUR 571 million and the company's shares are quoted on Nasdaq Helsinki.

Sweden's Innventia explores 20% cost cuts of CO2 capture in process industry

STOCKHOLM, Feb. 3, 2016 (Press Release) - To reduce greenhouse gas emissions is one the most important challenges of our time. The four year CO2stCap project investigates where and how CO2 capture may be applied cost efficiently to the process industry. The working hypothesis is that cost reductions of at least 20% should be possible to achieve through implementing partial capture and technological optimizations.

The energy intensive process industry has a series of tools to reduce their emissions of CO2: increased use of solar and wind power as well as biomass, energy efficiency measures, and carbon capture and storage (CCS). The CO2stCap project, which started in 2015, investigates where and how partial CO2 capture may be applied cost efficiently to emission intensive industry, focusing on cement, pulp and paper, steel and ferroalloys.

In process industry, utilization of waste heat energy may reduce the need for additional energy supply, or even eliminate the need completely. The project’s working hypothesis is that cost reductions of around at least 20% should be possible to achieve through implementing partial capture including associated technological optimizations. Even if waste heat amounts are limited on a given site, capture cost may be reduced. The overall aim is, thus, to suggest a cost effective carbon capture strategy for future CCS systems considering utilization of waste heat and intermittent power generation, a more efficient use of biomass resources, different capture technologies and optimization, as well as changed market conditions.

Innventia is a research partner in this four-year project coordinated by the Norwegian research institute Tel-Tek. The other partners are Telemark University College, Chalmers, Swerea MEFOS and industry partners Elkem, SSAB, Norcem and AGA Gas as well as Global CCS Institute and IEA Environmental Projects. Marie Anheden is one of Innventia’s experts:

“One specific challenge for the pulp mill is that the available low temperature heat possible to use for CO2 capture has a relatively high use and value compared to other industries, and that the excess heat is at too low temperature. Ways to overcome this challenge will be investigated in the project. An additional challenge is that the economic incentives for capture of CO2 which originates from biomass, which is the case in the pulp and paper industry, are unclear.”
**WHO’S DOIN’ ANYTHING? (CONTINUED)**

Cellwood to supply new KRIMA dispersing system to tissue mill in China

NASSJO, Sweden, Feb. 4, 2016 (Press Release) -Cellwood just signed a contract for complete dispersing unit to a tissue mill in the Guangdong province in China. The capacity is 135 BDTPD and one of the main properties that lead to the order was the possibility to bleach in-line. The system will be commissioned during the autumn, 2016.

Nearly 300,000 ha of APP’s South Sumatra plantations burned

SINGAPORE, Feb. 5, 2016 (Local News) -Peat fires burned 293,065 hectares of land within concessions managed by Asia Pulp & Paper (APP) suppliers during last year’s haze crisis, an area amounting to 37 per cent of its holdings in South Sumatra, finds a new analysis released by a coalition of Sumatra-based environmental groups.

Of that area, 86,004 hectares was plantations, representing 26 per cent of APP’s total planted area in the province. The findings, say the coalition, put APP’s fiber supply for its new OKI Mill in question since the Indonesian government has indicated that it will prevent replanting of areas burned in 2015. “Our analysis raises serious questions about how this significant plantation loss will influence the fiber supply for APP’s new mega-scale pulp mill, PT. OKI Mill,” said the statement released Thursday.

Eco-Business - Fires burned 26% of forestry giant’s South Sumatra plantations in 2015

Metsä Board starts up new 400,000 tonne/yr machine at Husum

ESPOO, Finland, Feb. 4, 2016 (Press Release) - Metsä Board, part of Metsä Group, has started up a new folding boxboard production line at its Husum mill in Sweden. The company is aiming the 400,000 t/a volume of the production line at the Americas, as well as at food service end-uses such as cups, plates and trays globally.

“Metsä Board is well known for its high-quality, lightweight folding boxboards, used widely in packaging globally. Thanks to the new production line and our recent product development, we are now able to respond to food service packaging requirements and demand better than ever before,” comments CEO Mika Joukio.

Several suppliers have brought their best expertise to the production line project from planning to start-up. During the actual installation phase of the folding boxboard machine, spanning from mid-October until January, over a thousand external workers were employed at Husum. After the start-up, the target is to assure smooth running and high product quality as soon as possible.

The folding boxboard machine BM1, supplied by Valmet, is the most significant part of the EUR 170 million investment programme carried out at Metsä Board’s Husum mill site. As part of the programme, enhancements have also been made at the pulp mill and the mill site’s own port. As a whole this investment programme completes the company’s transformation process to a pure paperboard company.

Last November, Metsä Board also announced it is investing an additional EUR 38 million in a new extrusion coating line and related infrastructure in Husum. This line will be taken into use at the beginning of 2017.

Metsä Board is a leading European producer of folding boxboards and white linerboards made from fresh forest fibres. Its lightweight paperboards are developed as the perfect fit for consumer goods, retail-ready and food service packaging. The pure fresh forest fibres Metsä Board uses are a renewable resource, traceable to origin in northern forests. The global sales network of Metsä Board supports customers worldwide, including brand owners, converters and merchants. In 2015, the company’s sales totalled EUR 2.0 billion, and it has approximately 2,600 employees. Metsä Board, part of Metsä Group, is listed on the NASDAQ OMX Helsinki.

Two lawsuits filed by Halalt First Nation against Catalyst Paper

RICHMOND, BC, Jan. 25, 2016 (CNW) - Catalyst Paper announced today that it has been served with two Notices of Civil Claim by the Halalt First Nation and its business partners. Catalyst denies the allegations contained in both claims and intends to vigorously defend itself.

The first claim was filed by the Halalt and its members alleging Catalyst has illegally trespassed on, and caused damages to, the Halalt’s asserted territories and fisheries resources through the operation of Catalyst’s Crofton Mill since 1957. The Halalt is seeking an interim and permanent injunction restraining Catalyst from conducting its operations at the Crofton Mill that interfere with the Halalt’s claimed riparian, water and land rights and are also seeking approximately $2 billion in damages.

The second claim was filed jointly by the Halalt, Sunvault Energy Inc. and Aboriginal Power Corp. alleging Catalyst disclosed certain confidential information pertaining to a proposed anaerobic digester facility in breach of a confidentiality agreement. The plaintiffs are seeking, among other things, approximately $100 million in damages from Catalyst in connection with the alleged breach of contract and a permanent injunction restraining Catalyst from constructing, owning or operating an anaerobic digester facility.

About Catalyst Paper
WHO’S DOIN’ ANYTHING? (CONTINUED)

Catalyst Paper manufactures diverse printing papers such as coated freesheet, C1S, coated and uncoated groundwood, newsprint, directory, as well as market pulp. Customers include retailers, publishers and commercial printers in North America, Latin America, the Pacific Rim and Europe. With five mills across North America, Catalyst has annual production capacity of 2.3 million tonnes. Catalyst is headquartered in Richmond, British Columbia, Canada, and is ranked by Corporate Knights magazine as one of the 50 Best Corporate Citizens in Canada.

Kadant receives orders of $7 million from two paper producers

WESTFORD, MA, Jan. 29, 2016 (Business Wire) - Kadant Inc. announced it received orders totaling $7 million from two paper producers in North America for chemical pulping equipment and a recycled fiber processing line. The chemical pulping equipment will be used to recover chemicals in the kraft pulping process and the recycled fiber processing system for the production of linerboard. The orders were booked in the fourth quarter of 2015 and are expected to ship in 2016.

“We are pleased to have been selected to supply the fiber processing system for these significant projects which reinforces our leading position in both chemical pulping equipment and recycled fiber processing systems used in the production of packaging,” said Jonathan W. Painter, president and chief executive officer of Kadant.

About Kadant

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 $402 million in fiscal 2014 and 1,800 employees in 18 countries worldwide.

Andritz to supply two tissue machines with 20 feet steel Yankees to Guizhou Chitianhua in China

GRAZ, Austria, Jan. 27, 2016 (Press Release) - International technology Group ANDRITZ has received an order from Guizhou Chitianhua to supply two tissue machines (TM5, TM6) with steel Yankees for a mill in Chishui city, Guizhou Province, for the production of high-quality facial wipes, toilet paper, and handkerchief paper. The start-up of TM5 is scheduled for the end of 2016 and of TM6 for the beginning of 2017.

The new PrimeLineST tissue machines have a design speed of 2,000 meters per minute and a paper width of 5.6 meters. The machines of this type are currently unique on the market because they combine a high-performance Yankee with a steam-heated hood. Both Yankees for Guizhou Chitianhua are made entirely of steel, have a diameter of 20 feet, and hence are among the largest in the world. They enable a high drying capacity and achieve remarkable cost savings compared to systems operated with gas because of usage of steam.

Both Yankees will be manufactured at the ANDRITZ steel Yankee business center in Foshan, China, which offers customers in China state-of-the-art manufacturing, local field service, and quality management.

The 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. The publicly listed technology Group is headquartered in Graz, Austria, and has a staff of almost 25,000 employees. ANDRITZ operates over 250 sites worldwide.

ANDRITZ PULP & PAPER

ANDRITZ PULP & PAPER is a leading global supplier of equipment, systems, and services for the production and processing of all types of pulps, 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 board; the calendering and coating of paper; as well as treatment of reject materials and sludge. The service range includes modernization, rebuilds, spare and wear parts, service and maintenance, as well as machine transfer and second-hand equipment. Biomass, steam, and recovery boilers, as well as gasification plants for power generation, flue gas cleaning plants, production equipment for biofuel (second generation), biomass torrefaction equipment, plants for the production of nonwovens, dissolving pulp, plastic films, and panelboards (MDF), and recycling plants are also allocated to the business area.

Kemira awarded startup contract at Kotkamills

HELSEINKI, Feb. 1, 2016 (Press Release) - Kemira has been awarded a start-up contract in the "Flying Eagle" project of Kotkamills mill in Kotka, Finland. During the project, the current magazine paper machine (PM2) will be converted into a high performance food service board (FSB) machine. Kemira will supply the start-up with sizing, retention and drainage, board hygiene, and microbe control technologies. The start-up of the rebuilt machine is scheduled for June 2016, and the production capacity will be 400,000 t/a of high quality Nordic folding boxboard and recyclable barrier board for the food industry.
WHO’S DOIN’ ANYTHING? (CONTINUED)

"Kemira is proud to have the opportunity to participate in the new Kotkamills board machine start-up", says Kimmo Strengell, Marketing Manager, Strength & Tissue Additives, Pulp & Paper EMEA. "With our expertise, service capability and broad portfolio of board making chemistries, we are able to support Kotkamills in reaching the desired quality and productivity targets of the new board grade."

Kemira microbe control programs ensure hygienic quality of the food service board. Hygienic quality control is critical for FSB machines: if the final board doesn’t meet the expected hygienic quality standards, converters can reject the whole production. Optimal retention and drainage programs are a prerequisite for improved runnability, productivity and board quality. Kemira sizing technologies are applied to control liquid resistance and to improve the printability of the board.

By converting the paper machine to packaging boards, Kotkamills secures its position as a globally significant manufacturer of forest industry products. Kotkamills’ bleached CTMP (Chemi-thermomechanical Pulping), high-quality Nordic folding boxboard and recyclable barrier board products are suitable for various types of end-use applications, such as frozen, chilled and dry food, beverages, cup-stock and plates, confectionery, pharma, and cosmetics. The Flying Eagle contract will further strengthen the long-lasting and strong partnership that utilizes core strengths of both parties.

Kemira is a global chemicals company serving customers in water-intensive industries. We provide expertise, application know-how and chemicals that improve our customers’ water, energy and raw material efficiency. Our focus is on pulp & paper, oil & gas, mining and water treatment. In 2014, Kemira had annual revenue of EUR 2.1 billion and around 4,250 employees. Kemira shares are listed on the NASDAQ OMX Helsinki Ltd.

Kotkamills pulp and paper operations consist of the new board machine BM2 (PM2) and Absorbex paper machines PM1 and PM7, as well as corresponding pulp lines: CTMP (Chemi-thermomechanical Pulping) for board, RCF (recycled fibre) and sawdust kraft for PM1 and PM7. Laminating paper capacity of the two machines is 200,000 t/a. In addition, Kotkamills Oy has a 200 000 m3/a sawmill and two impregnation machines, which utilize ca. 25,000 t/a of laminating paper in vertical integration.

Valmet to supply new high consistency bleaching system to Rottneros pulp mill in Sweden

ESPOO, Finland, Jan. 28, 2016 (Press Release) -Valmet will deliver a new high consistency bleaching system to Rottneros pulp mill in Sweden.

This is the first step in a larger rebuild project, called Agenda 500, at the mill. The longterm goal is to increase both availability and the total production volume of Rottneros two pulp mills to reach a capacity of 500,000 ton per year.

Planned delivery time for the bleaching system is in July 2016. The order is included in Valmet’s fourth quarter 2015 orders received. The value of the order will not be disclosed. Typically an order of this scale is valued at around euro 2-4 million.

"In our investment project we aim to increase capacity and lower our chemical consumption. We have had a long and good relation with Valmet over the years, which is one of the reasons for choosing them as supplier," says Nils Hauri, Production Manager at Rottneros mill.

"Valmet's bleaching system offers high availability with low operational cost, including energy and chemical consumption and maintenance costs. We are convinced that this bleaching system will live up to all expectations in this project," says Johan Eurenius, Sales Manager at Valmet.

Details about the delivery Valmet's delivery includes machinery and erection, training, commissioning and start-up services. The new high consistency bleaching system consists of a chemical mixer and a bleaching tower, two washing stages with screw presses and mc pumps. This project aims to lower the peroxide consumption, increase capacity and keep maintenance costs to a minimum.

About the customer Rottneros Rottneros produces market pulp and has an annual production capacity of just under 350,000 tonnes of pulp, produced at two mills in Sweden. In 2014 Rottneros employed around 250 people, the majority in Sweden and had sales amounting to approximately SEK 1.5 billion. Rottneros' shares have been listed on what is now Nasdaq Nordic, Stockholm since November 1987.

Valmet is the leading global developer and supplier of technologies, automation and services for the pulp, paper and energy industries. Valmet's vision is to become the global champion in serving its customers.

Valmet's services cover everything from maintenance outsourcing to mill and plant improvements and spare parts. The strong technology offering includes pulp mills, tissue, board and paper production lines, as well as power plants for bio-energy production. Valmet's advanced automation solutions range from single measurements to mill wide turnkey automation projects.

Valmet's net sales in 2014 were approximately EUR 2.5 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 OMX Helsinki Ltd.
**WHO’S DOIN’ ANYTHING? (CONTINUED)**

**Stora Enso installs Valmet calendering technology at Ingerois**

ESPOO, Finland, Feb. 1, 2016 (Press Release) - Valmet’s new aqua cooling calendering technology has been taken into use first time at customer site at Stora Enso Ingerois Board Mill in Finland. Stora Enso decided to modernize the precalender of its board machine BM 4 to improve the quality of the produced board and lighten the board - i.e. increase its bulk - without compromising its properties. BM 4 produces folding boxboard for the consumer packaging industry.

The new aqua cooling technology has now been successfully used in production for a few months. The technology has made it possible to lower the basis weight of the end product at BM 4 while maintaining the functional and visual properties of the board.

"The new aqua cooling technology enables developing and optimizing the machine's operating method to achieve bulk saving potential. This brings significant energy and raw material savings throughout the value chain of the product," says Taisto Nevalainen, Mill Director of Stora Enso's Ingerois Board Mill.

"Cooperation with Stora Enso was excellent from the very first contact to the start-up and the whole process was exceptionally fast. Using the new aqua cooling equipment in practice has confirmed the earlier results from our pilot machine. Installation of the equipment itself went well, and thanks to its compact structure, the equipment fits in perfectly despite the narrow space available," says Mika Viljanmaa, development manager from Valmet's Paper Mills Business Unit.

A result of focused R&D work

Valmet focuses in its research and development work on three areas: 1) ensuring advanced and competitive technologies and services, 2) enhancing raw material, water and energy efficiency, and 3) promoting renewable materials. The now introduced aqua cooling technology focuses especially on improving the material and energy efficiency in paper and board making process.

The idea of aqua cooling is that the paper web is cooled down by evaporating moisture from the web. The effect can be enhanced by adding a small amount of water on the web surface before cooling. The cooler the web is before it reaches the calender, the more quality improvement and raw material savings can be obtained.

Information about the customer Stora Enso

Stora Enso is a leading provider of renewable solutions in packaging, biomaterials, wood and paper on global markets. Stora Enso's aim is to replace non-renewable materials by innovating and developing new products and services based on wood and other renewable materials. Stora Enso employs some 27 000 people in more than 35 countries, and the sales in 2014 were EUR 10.2 billion. Stora Enso shares are listed on Nasdaq Helsinki and Stockholm.

Valmet is the leading global developer and supplier of technologies, automation and services for the pulp, paper and energy industries. Valmet's vision is to become the global champion in serving its customers. Valmet's services cover everything from maintenance outsourcing to mill and plant improvements and spare parts. The strong technology offering includes pulp mills, tissue, board and paper production lines, as well as power plants for bio-energy production. Valmet's advanced automation solutions range from single measurements to mill wide turnkey automation projects.

Valmet's net sales in 2014 were approximately EUR 2.5 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.

**SCA wastewater problem forces shutdown at Arizona tissue mill**

FLAGSTAFF, AZ, Jan. 22, 2016 (Local News) -Operations at Wildcat Wastewater Treatment Plant hit a temporary hiccup earlier this month due to a malfunction at SCA Tissue's Flagstaff facility.

The company's in-house water treatment system malfunctioned, causing an increase in the inert fibers and inorganic materials like sand, clay and carbonates in the plant’s wastewater. At their highest, the levels of suspended solids were nearly four times the limits of the city permit of 1,200 milligrams per liter.

SCA noticed the problem on Jan. 4 and notified the city the same day because its wastewater is discharged into the municipal sewer system. Human health or safety impacts weren’t a concern because water treated at Wildcat wasn’t being fed back into the city’s reclaimed wastewater system at that time, Flagstaff Utilities Director Brad Hill wrote in an email. The city's other treatment plant, Rio de Flag, was not affected.

Arizona Daily Sun - SCA wastewater problem forces plant shutdown

**Georgia-Pacific's Cedar Springs mill completes waste heat recovery project**

ATLANTA, GA,(Press Release) - It’s said that one man’s trash can be another man’s treasure. And for our paper mills, sometimes one machine’s waste can become a treasure when it’s reused.

The team at our Cedar Springs, Georgia, mill recently completed a project that turns what used to be waste into real cost savings. The Waste Heat Recovery Project was designed to capture the heat in condensate, a byproduct of the black liquor evaporation process. (Black liquor is an industry term for the material that’s left over from the pulp washing process.)

This hot material, before being disposed of, now transfers its heat to de-mineralized (or boiler feed) water, resulting in a significant stream of savings per year. How’s that for turning trash into treasure?
WHO’S DOIN’ ANYTHING? (CONTINUED)

Process Engineer Ramsey Phillips explained how the new setup equates to savings. “It takes fuel to make steam. So if we don’t make as much steam, we don’t use as much fuel. If we don’t use as much fuel, we save money.” The project, which took about six months to complete once construction began, is an example of reducing waste and increasing the efficiency of the manufacturing process. “What we’re here to do is to make the best out of what we’ve got. We are always looking at ways to operate our equipment and processes more efficiently and to capture the most energy that we can,” said Phillips.

Did you know?
Black liquor is the material that’s left over from the pulp washing process. It’s burned for fuel in the recovery boiler. But before that happens, its moisture level needs to be reduced. Coming out of the washer, black liquor is less than 20 percent solids. It’s put through the evaporation process to increase the solids to around 75 percent, so that it can be burned.

Verso sells Verso Androscoggin Power in Maine to Eagle Creek Renewable Energy for $62 million

MEMPHIS, TN, Jan. 7, 2016 (PRNewswire) - Verso Corporation (VRSZ) announced today that it has sold one of its subsidiaries, Verso Androscoggin Power LLC (VAP), to Eagle Creek Renewable Energy, LLC, for a purchase price of approximately $62 million in cash. VAP owns four hydroelectric generation facilities associated with Verso's Androscoggin pulp and paper mill located in Jay, Maine. The parties contemporaneously entered into a purchase agreement and consummated the transaction.

The sale of VAP is part of Verso's efforts to raise funds to address its previously disclosed cash flow and liquidity concerns. Verso continues to evaluate other potential asset sales in connection with its exploration of various debt restructuring alternatives.

The sale of VAP is expected to have no impact on the operations of the Androscoggin mill. The mill purchased electricity from VAP before the transaction, and it will continue to do so with VAP now under Eagle Creek's ownership. Moreover, the mill operates its own energy cogeneration facilities – consisting of two recovery boilers, a biomass boiler, three steam turbines, and three gas turbines – and also purchases electricity from Central Maine Power Company. Most importantly, the sale will not affect the Androscoggin mill's ability to manufacture its high-quality products and will not cause any interruption in serving its customers.

About Verso
Verso Corporation is the turn-to company for those looking to successfully navigate the complexities of paper sourcing and performance. The leading North American producer of printing and specialty papers and pulp, Verso provides insightful solutions that help drive improved customer efficiency, productivity, brand awareness and business results. Verso's long-standing reputation for quality and reliability is directly tied to our vision to be a company with passion that is respected and trusted by all. Verso's passion is rooted in ethical business practices that demand safe workplaces for our employees and sustainable wood sourcing for our products. This passion, combined with our flexible manufacturing capabilities and an unmatched commitment to product performance, delivery and service, make Verso a preferred choice among commercial printers, paper merchants and brokers, converters, publishers and other end users. For more information, visit us online at versoco.com.

About Eagle Creek
Eagle Creek Renewable Energy, LLC (www.eaglecreekre.com) is an owner, operator and developer of hydroelectric generation facilities and provides safe, clean, economic renewable energy to electricity consumers in the U.S. Eagle Creek currently owns and operates in excess of 130 MW from 47 facilities. Eagle Creek was founded in 2010, is privately owned and is headquartered in Morristown, New Jersey.

Nippon and biomass-boiler supplier settle lawsuits over Washington mill project; $17 million in charges as court date neared

PORT ANGELES, WA, Jan. 11, 2016 (Peninsula Daily News) - In just nine weeks, Nippon Paper Industries USA and biomass-boiler manufacturer FSE Energy had been set to do battle in federal court over $17 million in disputed monetary charges.
Instead, Nippon and Covington, La.-based FSE Energy have reached an out-of-court settlement involving Nippon’s $85 million biomass cogeneration plant, the companies announced last week.
But who gets what in the end is a mystery: The settlement terms are confidential, according to the companies’ joint statement, issued Thursday.
Peninsula Daily News - Nippon and biomass-boiler maker settle lawsuits. $17 million in charges as court date neared
RISI is not responsible for the reliability or availability of content on external websites.

Paper companies say they will be hurt by proposed Washington carbon standards

LONGVIEW, WA, Jan. 8, 2016 (Longview Daily News) - On Wednesday, the Washington Department of Ecology gave its first glimpse into what the state’s first-ever limits on carbon pollution could look like.
And to major local emitters such as KapStone Paper and Packaging Corp., Weyerhaeuser Co., the Cowlitz County landfill and Cardinal Glass Industries in Winlock, they’re not looking good.
Gov. Jay Inslee’s rule would hurt jobs, raise prices and increase global carbon emissions by pushing companies out of Washington to states and countries with more lenient air quality standards, said Chris McCabe, executive director of the Northwest Pulp & Paper Association, which includes KapStone and Weyerhaeuser.
WHO’S DOIN’ ANYTHING? (CONTINUED)

Longview Daily News - Local industries say proposed carbon standards will hurt them and their customers

Domtar Kamloops pulp mill celebrates 50 years

KAMLOOPS, BC, Dec. 4, 2015 (CNW) - Employees, elected representatives, community leaders joined company executives today at the Domtar pulp mill in Kamloops to mark the mill’s 50th year of operations.

The operation began in 1965, when a new and innovative concept for utilizing waste materials from regional sawmilling operations was developed. Sawmill residuals or waste in the form of sawdust and wood chips would be used to make pulp, thereby providing not only economic development in the region, but also addressing a significant environmental challenge facing sawmills of the day. A group of innovative entrepreneurs saw this opportunity and set to constructing a pulp mill in Kamloops.

"Since 1965, this mill has grown with the local community," said Michael Garcia, Domtar President of the Pulp and Paper Division. "I thank all of the Kamloops mill employees for their work and focus on optimizing this mill and driving continuous improvement in a highly competitive market."

Fast-forward to the modern pulp mill of today that produces specialty pulp for its customers along with renewable green energy for the operation and exports to the provincial power grid. Significant environmental focus and improvement has been and continues to be the focus of the mill.

"We all have a role to play in ensuring this mill remains a competitive economic engine in our region," said Carol Lapointe, General Manager of the Kamloops pulp mill. "We thank the people of Kamloops and the region for their continued support."

The Kamloops facility employs more than 325 people, and the operation supports another 200 transportation jobs delivering fiber to the mill. Today, 22 sawmills in the region supply fiber to the operation, demonstrating that the revolutionary concept of using sawmill waste as raw material for making pulp still makes sense 50 years later.

About Domtar

Domtar Corporation designs, manufactures, markets and distributes a wide variety of fiber-based products, including communication papers, specialty and packaging papers, and absorbent hygiene products. The foundation of our business is a network of world-class wood fiber-converting assets that produce papergrade, fluff and specialty pulp. The majority of our pulp production is consumed internally to manufacture paper and consumer products. Domtar is the largest integrated marketer and manufacturer of uncoated freesheet paper in North America with recognized brands such as Cougar®, Lynx® Opaque Ultra, Husky® Opaque Offset, First Choice®, EarthChoice® and Xerox® Paper and Specialty Media. Domtar is also a marketer and producer of a broad line of absorbent hygiene products marketed primarily under the Attends®, IncoPack® and Indasec® brand names. In 2014, Domtar had sales of $5.6 billion from some 50 countries. The Company employs approximately 9,800 people.
### 2016 Pulp & Paper Industry Division Calendar

<table>
<thead>
<tr>
<th>JAN</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td>29</td>
<td>30</td>
<td>31</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MAR</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>28</td>
<td>29</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APR</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MAY</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>JUN</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>29</td>
<td>30</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>JUL</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AUG</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>31</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEP</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCT</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>29</td>
<td>30</td>
<td>31</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOV</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DEC</th>
<th>M</th>
<th>T</th>
<th>W</th>
<th>T</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
</tr>
</tbody>
</table>

**Conferences**
- ISA SLM Summit
- ISA FLM Symposium
- ISAPC & S Symposium

**Holidays**
- New Year's Day
- Memorial Day
- 4th of July
- Labor Day
- Columbus Day
- Thanksgiving

**US Tax Day / Election Day**

---

Winter 2016
REVISED STEADY-STATE MODEL FOR CHLORINE DIOXIDE BRIGHTENING THAT CONSIDERS EXTRACTION WASHER CARRYOVER EFFECTS

BY: BRIAN N. BROGDON

FutureBridge Consulting Services, LLC

Brian.Brogdon@gmail.com

Originally presented at the 2016 Paperweek Canada Conference at the Fairmont Queen Elizabeth Hotel in Montreal on Thursday, February 4, 2016
LETTERS TO THE EDITOR

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 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.pima.web.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)

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 you 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!

CENTRAL & SOUTH AMERICAN CORNER

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

1. The time required for one conversion is 20 + 20 = 50 microseconds, hence the conversion rate is most nearly

\[
\frac{10^6}{50} = 20,000 \text{ conversions/second}
\]

If a few computer instructions are required to address the multiplexer and if they cannot be overlapped with the multiplexer – ADC operation, this rate would be decreased somewhat.

The best answer is (C).

2. Each input requires 4 * 100 + 20 + 30 = 450 microseconds. Each controller has three inputs to the multiplexer. Flow controllers are sampled five times as often as levels, and the pressure controller twice as often.

Therefore, the number of inputs per cycle is 3 * [(1) (1) + (1) (2) + (2) (5)] = 3 * 13 = 39

Level  pressure  flow

The total time is (39) (450) = 17,550 microseconds

The correct answer is (E).

3. If all the loops were level control loops, the time required would be (4) (3) (450) = 5,400 microseconds. Out of 30,000 microseconds, the time available for other functions would be 30,000 – 5,400 = 24,600

The correct answer is (B).

4. The time required for a flow loop is (3) (5) (450) = 6,750 microseconds. In 30,000 microseconds, the system could handle \[
\frac{30,000}{6.750} \approx 4.44 \rightarrow 4 \text{ controllers}
\]

The correct answer is (A).
2016 Pulp & Paper Industry Division Officers

Director
Rick Van Fleet
rvanfleet59@hotmail.com
(602) 316-6774

Past-Director
Brad S. Carlberg, P.E.
BSC Engineering
brad.carlberg@bsc-engineering.com
(251) 454-1200

Director - Elect
vacant

Education Chairman
Patrick J. Dixon
Dixon Process
Automation Services, Inc.
PatJDixon@DPAS-INC.com

Advisor
Richard E. Britton, P.E.
Retired – International Paper
richardbritton1@comcast.net

Advisor
Larry E. Wells, P.E.
CCSA, LLC
ccsallc@bellsouth.net

Paper Review Coordinator
vacant

Environmental Chairman
vacant

Secretary / Treasurer:
Vacant

Programs / H&A:
Vacant

Standards & Practices
vacant

ISA Pulp & Paper Industry Division
P.O. Box 12277
Research Triangle Park, NC 27709

ADDRESS CORRECTION REQUESTED