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Honorable Members of PUPID,
Well, it is already the third week of May and it's starting to warm up a bit.

Just like last month, we still need a Director-Elect, and a symposia coordinator. The Director-Elect will train in 2011 and take over as Director for the 2012/2013 biennium. If you can only do it for a single year, then we can look at single terms. In return for the work, you’ll get your ISA Fall Conference registration.

Again this year, I am on the Wireless & Networking Track Committee (this year as chair) for the ISA Automation Week 2011 at the Renaissance Riverview Hotel and the Arthur R. Outlaw Mobile Convention Center in Mobile, Alabama. If you’ve thought about getting involved with a technical conference and/or writing a paper, this is for you. Come on down o the “Redneck Riviera” and see where Mardi Gras started (that's right, Mobile only loaned Mardi Gras to New Orleans, but had Mardi Gras first!)

Please do not hesitate to contact me at either (251) 454-1200 or brad.carlberg@bscengineering.com to discuss how you can help PUPID.

Now, that’s enough of my pitch. I hope you’ll get some info about sootblowing and from the following papers:

- “Use of IR Imaging Technology to Optimize Heat Transfer in Power Boilers”
  By Enertechnix's Dave Suplicki
- “Brownstock Washer Advanced Control: Reducing Fresh Water Usage While Improving Pulp Quality” by Capstone Technoloy's Jukka Perala

There's some good news regarding the PUPID membership; with 20 new and 1 renewing members, the membership has increased 3.2% since last January with a total of 456. Welcome to all of you new members!

I hope it is an encouragement to you to become more involved with the Division and to enroll more members from the great international pulp & paper community.

Do feel free to forward the Newsletter to your friends and colleagues who may have an interest in it.
TUNING TIP: ESTABLISHING A BASIS FOR PERFORMANCE
BY JOHN GERRY, P.E.; EXPERTUNE

ABSTRACT

To get a useful historical perspective from performance monitoring, several key items must be established. Loop health must be defined in terms of performance metrics and then a method for combining these metrics in a useful way must be set up.

The first step is for the plant to choose the metrics that will make up loop health. This may vary somewhat depending on the loop type. Once these metrics are chosen, a method for combining the metrics to arrive at a single health number must be decided. This method defines the baseline of performance for every loop. Different categories of loops will have a different basis for performance.

For example, flow temperature, pressure, and level may all have a different basis of performance. Also the plant may want the basis of performance to be based on historical metrics or a time when the plant was running well.

DEFINITION OF LOOP HEALTH

To get metrics on the health of entire unit operations, plants, and the entire company, and to put this all in a historical perspective requires a definition of loop health. Loop health can be defined as a combination of metrics or assessments. The method of combining them can be difficult to determine. Here is one way that allows for flexibility in the assessment:

1. Assessments that are key to the performance of the business are chosen.
2. Next establish baseline values and threshold values for each key assessment for every control loop. This sounds like a daunting task but can be made simple as discussed in a later section.
3. Next assign an economic weight to each loop. A possible overall loop health assessment then becomes:

   Loop Health = Average of % Towards Thresholds for each key assessment (1)

   Where: % Towards Threshold = 100 x (Threshold - Assessment) / (Threshold - Baseline)

   Assessment = current value of the metric
   Threshold = User chosen threshold value
   Baseline = User chosen baseline

   Assessments occur on a unit operation basis and the period of this calculation should be adjustable. A good value for assessment time on a fast unit operation might be 4 hours. On a slow moving unit operation, a good value might be 12 hours.

   With this definition of loop health, the health of an entire unit operation can be determined by averaging the individual assessments of all the loop health weighted by the economic weighting factor. If baselines and thresholds are set so that the typical percent towards threshold is between 0 and 100%, then the average percent towards threshold for each loop will be in the range of a region between 0 and 100%. This can make for a simple way of targeting loop health as value between 0 and 100% where 0 is the healthiest and increasing percentages indicate increasing opportunity to make the plant run better by optimizing that loop.

HOW TO CHOOSE A BASIS FOR PERFORMANCE

Choosing a basis for performance seems like a daunting task. However,
TUNING TIP BY JOHN GERRY (CONTINUED)

it can be fairly simple. This paper looks at 2 potential methods. The first method is a simple method that chooses the performance basis dependant on the type of loop. The second is dependant on loop type and using data based on a time period when the plant is running well. The latter method is potentially more accurate, but if you do not have a time period when the plant was running well, the first method suffices.

CHOICE OF KEY PERFORMANCE METRICS

Key performance metrics will vary from plant to plant. One possible set of performance metrics are:

<table>
<thead>
<tr>
<th>Metric</th>
<th>Abbreviation</th>
<th>Metric Name</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg Abs Error</td>
<td>Absolute Error</td>
<td>Error between set point and PV</td>
<td></td>
</tr>
<tr>
<td>SP Crossings</td>
<td>Set Point Crossings</td>
<td>Number of times PV crosses the set point</td>
<td></td>
</tr>
<tr>
<td>Harris (normalized)</td>
<td>Harris (normalized) or CLPA</td>
<td>Statistical measure of performance compared to minimum variance control.</td>
<td></td>
</tr>
<tr>
<td>Oscillating</td>
<td>Oscillation detection</td>
<td>Likelihood that the loop is oscillating or not.</td>
<td></td>
</tr>
<tr>
<td>Osc – valve</td>
<td>Oscillation caused by valve</td>
<td>Likelihood the loop is oscillating because of valve stiction or hysteresis</td>
<td></td>
</tr>
<tr>
<td>Valve travel</td>
<td>Valve travel</td>
<td>Distance valve moves in %</td>
<td></td>
</tr>
</tbody>
</table>

Note that all of the metrics should be normalized in units and normalized over time. Why these key assessments? Avg Abs Error, and SP Crossings, are inferential quality variables. For example, they may represent how close the plant can push up against constraints. Output standard deviation and valve travel for many processes can be an indication of an opportunity to achieve the same performance with less valve movement, reducing maintenance costs. Harris (normalized), Oscillating, and Osc-Valve, are problem indicators. Loops that are oscillating are almost always problem loops.

PERFORMANCE METRICS BASED ON LOOP TYPE - NO BASELINE DATA AVAILABLE

If the plant currently does not have data collected for the loops to be monitored, then the baseline of performance can be chosen dependant on the loop type alone. For example, on a flow loop the baseline for average absolute could be set to zero as this represents an ideal value. The threshold for average absolute error might be set at 10%. This would allow % towards thresholds for flow loops to average between 0 and 100%. SP crossings are not important in flow loops, so this metric would not be used. Output standard deviation for flow loops may generally be between 0 and 25% - a flow loop may have to be working hard to handle flow upsets. A baseline then would be 0% with a high threshold of 25%.

Standard templates can be built for each of flow, pressure, level, averaging level, and temperature loops.

PERFORMANCE METRICS BASED ON LOOP TYPE - DATA AVAILABLE

If assessed operating data from the plant is available, then templates can be set up that use this data to set baselines and thresholds. For example, we may want to set the baseline of average absolute error on a flow loop to zero. However we can use the data to set the threshold. The threshold could be the six sigma value of the past 10 assessments of average absolute error. The threshold value for output standard deviation could be set in the same manner.

TEMPLATES SIMPLIFY THE DAUNTING TASK

Templates for either method of choosing baselines and thresholds can be set up very quickly to allow the health of entire classifications of loops. For example, first one would set up a template of baselines and thresholds for flow loops using one of the methods described above. Then, the user would make a selection of all flow loops in the plant and apply the template to all of the flow loops.

CONCLUSION

A basis for performance can be determined by first establishing key assessments. Next a method for determining baselines and thresholds can be performed even if there is not working plant data. Setting up loop health for a large plant can happen very quickly once the plant chooses the method of setting up baselines and thresholds.

This Tuning Tip was excerpted from “Establishing a Basis for Performance” by ISA Fellow John P. Gerry, P.E. of Expertune from the ISA Expo 2004. ISA Members can download this paper FOR FREE from the ISA website.
WELCOME TO THE 31 NEW ISA PULP & PAPER INDUSTRY DIVISION MEMBERS SINCE NOVEMBER 2010

| Brian Cruickshank | Louis Halvorsen | Charles Holter |
| Dr. Theodore Meyer Garver, Jr. | Jorge Cesar Meneli | Jorge Arturo Martinez |
| Vaishali B. Mungurwandi | Zachary M. Murphy | Brandon Miller |
| Senthilnathan Mylswamy | Nestor Ulises Rivas Figueroa | Ms. Arunachalam Suguna |
| Diwakar Pandian | Daniel Schuck | Daniel R. Vellieux |
| Louis Pasquale Reeves | Ryan Schuerger | Ryan DeHut |
| Mark Whitley | Johannes Sols | Kevin Anton DeWitt |
| John J. Ellis | Richard Harold Bansley, III | Bron Dodds |
| Benito A. Garcia | Daniel G. Egan | Patrick W. Hall |
| Cesar H. Gonzalez | | |

THANKS TO THE MEMBER WHO RENEWED THEIR MEMBERSHIPS

Kenneth A. Power

HERE’S A REMINDER TO THE 48 ISA PULP & PAPER INDUSTRY DIVISION MEMBERS WHO NEED TO RENEW THEIR MEMBERSHIP

| Jerry Ammel | Amit Kumar | Haresh Sankar Raj |
| Michael Ballard | Leonard Lamarsh | Ms. Maria Filomena Santos Henrique |
| Kevin J. Bean | Ms. Thais Laporta | Andrew Sare |
| Ms. Madhumita Chowdhury | Steven A. Mattson | Mervin Saunders |
| Robert S. Cooper | John Miller | Cristiano Rogério Sousa |
| Haroldo Selegato De Freitas | Jeffery A. Miller | Ms. Lakshmi Srinivasaragavan |
| Leonardo Felicio Galhardo | Ms. Roberta Nelson Nelson Shea | Christopher Stoner |
| Chandra Sekhar Gosu Venkata | Guenter Oexler, Sr. | Slavko Stuhec |
| James Douglas Hall, Jr., James | Joseph O. Onibudo | Ms. Vasantha Surya Subramanian |
| James W. Hebert | Luis Henrique Ribas Pereira | Eric Tetzl |
| Joe P. Hodges | Ms. Princy C Perpetua | Donald Thibeault |
| Heikki Isotalo | David Pugh | Michael J. Tucker |
| Mrs. Beverly T. James | Walt Randolph | Arthur J. Vanore |
| David A. Johnson | Javier Romero | J. Vicente Nereu Vedoy, Sr. |
| Jonathan S. King, IV | Terry Ross, CST,CCST | Duane Whisler |
| Pekka Kormano | Ms. Sindhu S | David Jack Withey |

DON’T FORGET TO RENEW!
New 3D Imaging Technology Boosts The Use Of Mill Broke In The Paper Industry
April 29, 2011

A measurement device developed by Numcore Oy and based on impedance tomography produces a three-dimensional image in real time from the inside of pipelines and tanks used by the process industries. The pulp and paper industry is one segment that could benefit greatly from the technology. Numcore was recently awarded the ATIP 2010 Innovation Trophy in France for the most innovative paper technology company.

In terms of paper industry, Numcore has for now focussed on optimizing the use of mill broke. The dosing of broke is an important stage in the paper manufacturing process, as broke is constantly generated, and fluctuations in dosing, particularly in coated broke, may disrupt the wet-end process.

The measurement device is being used as part of a pilot in a few paper and corrugated board mills and is connected to, in addition to the mills’ own monitoring systems, Numcore’s IT system. The device was realised as a CoreApus flow-through sensor with electrodes that continuously measure the electric conductivity differences in the various phases of the flowing mass.

The 3D image produced by the device can only be generated, however, using inverse calculation, i.e. highly advanced mathematical modelling, which is where Numcore's core knowledge lies.

"The pilot devices are highly important product development tools for us, as the measuring data they generate allows us to precisely pinpoint the actual correlation between changes in mass flow and specific production problems. This has helped us to develop the modelling such that the data generated by the measuring device can be used to directly regulate the production process and boost its efficiency," explains Jukka Hakola, Numcore’s Vice President of Sales and Marketing.

Close inspection of broke dosing

One of the pilot mills is Stora Enso’s Veitsiluoto paper mill in Kemi, Finland, where Numcore's measuring device has been installed in the broke dosing stage of Paper Machine 5, which manufactures magazine paper. The broke consists of both base paper and coated broke.

"Here we can regulate the refining and total amount of broke as well as the proportion of base and coated paper broke to an extent that the quality of the base paper and the runnability of the paper machine improve," says Jukka Hautamäki, Process Development Manager, Veitsiluoto Mill, Stora Enso.

He says immense demands are being placed on the measuring device, because the machine's runnability was already very good.

"Numcore's technology is simple to use and it was easy to install the sensor in the process. The sensor generates approximately 20 indices, which are displayed on the operator's monitor and can be integrated alongside other machine parameters in our Savcor Wedge process analysis system. This allows us to seek correlations between, for example, the brightness of a base paper and the degree of refinement in specific broke."

In the spring, progressive tests involving gradual changes to broke refining will be carried out. The changes will be compared with indices generated by the measuring system, with the quality of the base paper and with the runnability of the machine.

"In the tests, we will work the machine to an extent that we will be able to see what the measurement device actually sees. The tests will be conducted until the end of April, at which time we will be able to see how well the device meets the special demands of our production processes. The ultimate goal is to use the device for automatic broke dosing," says Hautamäki.

Major savings possible

Another pilot mill is Powerflute Savon Sellu Oy in Kuopio, which manufactures corrugated board. There, Numcore's device measures the mass flow from the mixing tank.

"Thanks to the measuring device, we have already noticed that certain changes in mass flow clearly correlate with breaks that happen later on in the process. If we can determine as early as possible that there is the risk of an impurity in the process which will later on lead to a break, we are more efficiently able to regulate the process and thus avoid the break," says the mill's Operations Manager, Martti Laatikainen.

According to him, the mill is particularly concerned with changes in the amount of broke and variations in the amount of fines in the pulp.

"If the device helps us to find out the causes of breaks, it would bring us major annual savings. For that reason we were happy to take part in the development work for the measuring device," says Laatikainen. /ins
WHO’S DOIN’ ANYTHING?: (CONTINUED)


Numcore in brief

Numcore Oy develops new-generation measurement devices providing 3D imaging based on impedance tomography and the calculations and result reporting necessary for them. The company's products can be used for solving problems and boosting efficiency in paper, mining, chemical and food industry processes.

The company has been accepted to the second phase of the Finnish Funding Agency for Technology and Innovation’s (Tekes) Young Innovative Company program aimed at rapid business development and expansion to the global markets.

Caption 1: Stora Enso's Veitsiluoto Mill in Kemi is the northernmost paper mill in the world. Numcore's measurement device has been installed in the dosing process of the PM5 magazine paper machine, where the refining and total amount of broke as well as the proportion of base and coated paper broke can be regulated to an extent that the quality of the base paper and the runnability of the paper machine improve. The ultimate goal is to use the device for automatic broke dosing. © Stora Enso Oyj

Caption 2: Savon Sellu Oy's mill in Kuopio is a major producer of semi-chemical fluting for corrugated board. Using Numcore's device, the mill measures the mass flow from the mixing tank with the goal of identifying impurities which may affect the process at an early enough stage and changing the process parameters accordingly, thereby avoiding potential breaks. © Savon Sellu Oy

Caption 3: Numcore's measuring device based on impedance tomography is integrated with the paper mill's process. The entire unit includes, in addition to the sensor, the voltage feed and measuring unit and the application for analysing the measuring results. © Numcore Ltd

SOURCE: Numcore Ltd.

Pilot Plant Construction Announced; Initiative Builds On Tembec Competencies In Specialty Pulp And Chemical Businesses
April 27, 2011

Tembec recently announced that it will proceed with the construction of a pilot plant for the development of a high performance structural product known as Next Generation Sustainable Fibre ("Next Gen"). This project is based on an innovative, Tembec patented process that will use Tembec's Forest Stewardship Council ("FSC") certified pulp and FSC certified lignosulfonates within a modified phenolic resin to produce a structural material with unique strength-to-weight and durability characteristics.

"The Next Generation Sustainable Fibre initiative recognizes the growing demand for environmentally friendly, lightweight structural composites suitable for applications in such areas as infrastructure and engineered components," said Randy Fournier, Senior Vice President, Chemical Products and Kraft Pulp. "Our initial end-use application will be a railway tie for environmentally sensitive areas, with other applications such as automotive components, land and marine transportation infrastructure, and electrical energy generation and transmission infrastructures to be assessed."

The cost of the pilot plant is estimated at approximately $ 8.4M, with the majority of the funding being provided equally by the Quebec and Federal Governments. Support from the Province of Quebec in the amount of $ 3.45M will come from the Ministère des Ressources naturelles et de la Faune, through FPInnovations, and the Ministère du Développement économique, de l’Innovation et de l’Exportation. Federal funds of $ 3.45M will come from Natural Resources Canada/FPInnovations, through the Federal Transformative Technologies Pilot Scale Demonstration Program.

"Tembec is among the world's leaders in Specialty Pulp, and Next Generation Sustainable Fibre is a natural extension of the Company's product and technology development. Applications such as "Next Gen" offer the potential to continue the Company's focus on higher margins in less volatile businesses," said James Lopez, President and CEO of Tembec. "The project announced recently, with timely and active support from the Quebec and Federal Governments, will allow this opportunity to be fully developed. It fits with the Company's strategy of building on core competencies such as our specialty pulp and chemical knowledge."

Tembec is a large, diversified and integrated forest products company which stands as the global leader in sustainable forest management practices. The Company's principal operations are located in Canada and France. Tembec's common shares are listed on the Toronto Stock Exchange under the symbol TMB and warrants under TMB.WT. For more information, visit www.tembec.com.

SOURCE: Tembec
Who’s Doin’ Anything?: (continued)

ABB To Update Automation Systems At Arjowiggins Creative Papers Mill In Scotland
April 27, 2011

2011-04-08 - Comprehensive automation and collaborative production management systems will increase product quality and overall efficiency at Arjowiggins Creative Papers Stoneywood Mill

Dundalk, Ireland - ABB, the leading power and automation technology group, recently won a contract to provide new automation, quality control and collaborative production management solutions to Arjowiggins Creative Papers’ Stoneywood Mill in Aberdeen, Scotland, U.K. The new systems are part of a modernization project that will increase productivity, product quality and energy efficiency.

Arjowiggins is a leading manufacturer of creative and technical paper, the company’s Stoneywood mill produces papers for corporate communication and promotion, luxury packaging, industrial release papers and other creative papers and specialty applications. The mill’s two manufacturing sites collectively produce 200 metric tons of paper per day.

The delivery includes ABB’s award-winning System 800xA Extended Automation to control the central boiler house and integrate with other mill systems. System 800xA will protect Stoneywood Mill’s paper machines’ steam and electrical supplies by replacing older, less reliable equipment, while helping to optimize energy efficiency. Its unique operator interface will give workers clear visibility into mill status information at all times.

The new Quality Control System integrated with the 800xA control system for PM10 will maximize product quality and help sustain the Arjowiggins Creative Papers’ high-quality brands. ABB’s integrated control system significantly improves mill productivity by increasing operator effectiveness and reducing transition times during shade and grade changes.

ABB’s delivery also includes several collaborative production management solutions. cpmPlus, Smart Client information management software will provide users with easy access to real time and historical process data. With Smart Client, Arjowiggins Creative Papers supervisors can make better decisions and improve mill management. cpmPlus Loop Performance Manager has tuning and auditing tools that will keep the mill running at peak levels with minimal engineering staff effort.

SOURCE: ABB

Metso Concludes An Agreement To Supply Pulp Mill Key Technology To Suzano In Brazil
April 27, 2011

Helsinki, Finland (Marketwire) - Metso Corporation’s stock exchange release on April 18, 2011 at 4:00 p.m. local time

Metso has concluded an agreement to supply all main technology for the 1.5 million tonnes greenfield pulp mill of Suzano Papel e Celulose S.A., to be built in the state of Maranhão in the northeastern part of Brazil. Start-up is scheduled for the first half of 2013. A stock exchange release regarding the advanced negotiations between Metso and Suzano was published on March 1, 2011.

The value of the order is not disclosed. However, a typical value of an order of this size and scope is EUR 800-900 million. About 60 percent of this is made up by Metso-supplied equipment and systems and they will be recorded as Metso’s new orders and consequently in net sales during the delivery period. The rest covers equipment and related services from other suppliers and partners, which are also within Metso’s responsibility but is invoiced directly from Suzano by the subcontractors. About 50 percent of the Metso-supplied content is included in Paper and Fiber Technology’s second-quarter orders received and about 50 percent in Energy and Environmental Technology’s second-quarter orders received.

Metso’s scope of supply covers the main parts of a green field pulp mill comprising wood handling, cooking plant and fiberline, pulp drying and baling, evaporation, power boiler, recovery boiler, causticizing and lime kiln, including an integrated automation solution for all process areas. The new mill will produce 1.5 million tonnes of bleached eucalyptus market pulp per year.

“The order from Suzano emphasizes Metso’s strong capabilities as a full- scope supplier for the global pulp industry. It is a result of the hard work our dedicated and knowledgeable employees have done in developing and providing leading-edge technologies”, says Pasi Laine, President of Metso’s Paper and Fiber Technology.
**WHO’S DOIN’ ANYTHING? (CONTINUED)**

Suzano Papel e Celulose is a forestry-based company and one of the largest vertically integrated producers of pulp and paper in Latin America. The company’s main products, sold on the domestic and international markets, are eucalyptus pulp, printing and writing paper and paperboard.

Metso is a global supplier of sustainable technology and services for mining, construction, power generation, automation, recycling and the pulp and paper industries. We have about 28,500 employees in more than 50 countries. www.metso.com

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SOURCE: Metso Corporation

**TAPPI Announces Process Control Division Award Recipients At PAPERCON 2011**

**April 27, 2011**

TAPPI's Process Control, Division award recipients will be recognized at the PAPERCON 2011 conference May 1-4 in Covington, KY. The winners to be recognized are:

Keith Masters, Business Manager – Pulp and Paper Systems, ABB, will be awarded the Division's Leadership & Service Award. He has a B.S. in Forest Products from Pennsylvania State University and M.S. from Oregon State University.

"Keith Masters' hard work and dedication for more than three decades have brought great benefit to the Process Control Division of TAPPI and its members," notes Shih-Chin Chen, Division Chairman. "His service in a variety of leadership positions and most recently his work to encourage professional involvement with the association make him an outstanding choice for the Division Leadership and Service Award."

Masters previously worked with Honeywell, Bailey, and Measurex and has been involved with pulp and paper industry automation since 1979. He has contributed to TAPPI TIPs, authored and presented several papers on automation applications for the pulp and paper industry and contributed in panel discussions at industry conferences.

Keith’s recent focus has been on encouraging people in the industry to get involved with TAPPI. Within the Process Control Division, he led the creation of a Company Champion program focused on reaching out to process control professionals. He has served as the secretary, vice chairman, and chairman of the Process Control Committee and was involved in redefining the mission of TAPPI's Process Control Division.

Åke Hellström wins TAPPI Process Control Division Technical Award

Åke Hellström, ABB, will receive the Division's Technical Award. He had a B.S. in Mechanical Engineering and received an M.S. in Engineering Physics from Chalmers University of Technology, Gothenburg, Sweden.

"During a long and very distinguished career that spanned four decades Åke Hellström made major contributions that have advanced the industry's knowledge of process automation, sensors and scanner technology," notes Shih-Chin Chen, Division Chairman. "He developed scanner and sensor technology that is the foundation for what is widely in use today. For these contributions he is an ideal choice for the Division Technical Award."

Hellström's long and distinguished career includes work on both sides of the Atlantic. In 1969, he joined Industrial Nucleonics, Columbus, Ohio. In 1971 he returned to Sweden as a systems engineer in the subsidiary AccuRay Scandinavia. He rose to become chief engineer providing technical support.

He returned to Columbus in 1975, to join the Industrial Nucleonics R&D group. In 1984 he began work on development of a new scanner as chief designer. The product was launched in 1986 as the Measurement Platform. His basic design and various enhancements have been utilized for the past 25 years. Several thousand are in operation today around the world. His work with scanner and sensor development continued, e.g. he lead the developments of compact scanner, GT caliper, fiber orientation sensor, optical caliper, and related papermaking application programs.

Hellström holds 13 U.S. and many international patents. After 40 years with the company he retired in 2009. He is currently a part time consultant for paper makers worldwide, and also works in a new field of medical technology inventions. He was a contributor for the new TAPPI Handbook Paper Machine Quality Control Systems. He serves on the Board for Scandinavian Club of Columbus, is Chairman for Chalmers University of Technology USA-Canada Alumni, and a member of the Swedish-American Chamber of Commerce.
WHO’S DOIN’ ANYTHING?: (CONTINUED)

About TAPPI:
TAPPI is the leading association for the worldwide pulp, paper, packaging and converting industries and publisher of Paper360° and TAPPI JOURNAL. Through information exchange, events, trusted content and networking opportunities, TAPPI helps members elevate their performance by providing solutions that lead to better, faster and more cost-effective ways of doing business. It has provided management training and networking to the industry's leaders for more than 95 years. For more information, visit www.tappi.org.

SOURCE: TAPPI

Russian JSC Syassky Pulp & Paper Mill Invests In A New Toscotec Tissue Line
April 1, 2011

Syassky Pulp and Paper Mill, based in St. Petersburg, Russia has recently signed an agreement with the Italian manufacturer Toscotec for the supply of a new Tissue line to be installed in the company's mill in Syasstroy. The new machine will replace the existing PM2.

Syassky PPM, one of the oldest and important pulp and paper mill in the USSR period, was founded in 1928, with the unique aim to cover the needs of the domestic market.

Actually, Syassky Pulp and Paper Mill is one of the most modern enterprises of the north west Russian region and the only tissue producer in this area to have an integrated production having in line pulp mill, tissue production (PM2 PM3 and PM5) and converting as well as packaging facilities. The Company has been reorganized as joint stock company with the result to be able to satisfy the growing demand for domestic but also for AFH export markets.

The Company manufacturing facilities annual capacity is in the following ranges:

Bleached Softwood Sulphite Pulp 120,000 tpy
CTM Pulp 100,000 tpy
Tissue Paper 71,000 tpy
Lignosulphonate liquid? 200,000 tpy
Fodder Yeast 4,000 tpy
Toilet Paper 280 million rolls
Paper Napkins 20 million packs
Roller Towels 15 million rolls

The main tissue brand produced by Syassky is Myagky Znak that in 2010, according to AC Nielsen Market Research, has reached a 21% market share in Moscow and St.Petersburg regions.

In the last two years Syassky PPM put in progress a huge investment process that resulted in the start up of new converting lines, packaging lines and of a new Toscotec TT Wind-H winder that successfully came on stream in September 2010.

In line with these last investments and to better expand its growing market in terms of quantity and quality the company has decided to replace the existing tissue machine PM2 with one of Toscotec last generation tissue line.

The new Toscotec AHEAD 1.5M crescent former machine consists in a single layer headbox, single press configuration TT SPR 1050, a 3660 mm diameter Steel Yankee Dryer TT SYD 12FT and a renewed reel TT REEL-P.

The scope of supply includes also upgrading of the existing stock preparation plant, approach flow system, gas heated hood, steam & condensate system as well as electrification & control system. Engineering and services (erection supervision, commissioning & start up assistance and training) complete the Toscotec package. Machine speed will be up to 1400 npm with a trim width of 4200 mm, for a daily production of 125 tons.

Thanks to its Crescent Former configuration and to the high level of technology the machine will be extremely flexible, compact and capable of producing high quality tissue from virgin pulp (dry & slush) with a reduced energy consumption.

Syassky Pulp and Paper Mill long experience and modern facilities combined with the Toscotec technical and process know how will ensure good opportunity to increase production and cover the market needs focusing also on energy saving.

The PM2 start up is scheduled for the end of this year.
WHO’S DOIN’ ANYTHING?: (CONTINUED)

International Pulp Bleaching Conference Brings Industry Leaders To Portland
April 1, 2011

Norcross, GA - New trends are becoming apparent in the world of pulp bleaching. At the 2011 International Pulp Bleaching Conference to be held in Portland, Oregon, October 5-7, 2011, one of these growing trends will be highlighted - the movement away from traditional models of pulp and paper production and toward the biorefinery concept.

The International Pulp Bleaching Conference (IPBC) is held every three years, rotating between venues in the U.S., Canada, Finland and Sweden. This year's event is hosted by TAPPI. It will be co-located with another pulp and paper industry conference, PEERS, formerly the TAPPI EPE Conference. With PEERS focus on pulping, sustainability, environmental issues, and biorefineries in the pulp and paper industry, there will be a strong association between the two pulp and paper conference audiences. Other supporting organizations include the Pulp and Paper Technical Association of Canada (PAPTAC), the Finnish Paper Engineers Association (FI), and the Swedish Association of Pulp and Paper Engineers (SPCI). Dr. Jean Bouchard, Principal Scientist at FP Innovations, served as Technical Program Committee Chairman for the 2008 Conference in Quebec City and will be the 2011 Conference Chairman. "Most of the comments from both industry and research people who attended the last IPBC emphasized the quality and usefulness of the information they brought back to their organizations," Bouchard said.

The unique feature of a TAPPI produced conference is the peer reviewed nature of the conference program. Limited commercialism allows for more technically-focused presentations. Furthermore, the quality of the international scientific committee of IPBC is also a guarantee for bringing the best to Portland. A call for papers was just recently announced.

In addition to the conference program, there will be a mill tour scheduled for the Weyerhaeuser Longview's bleach plant, featuring a Lurgi generator and an adjacent Solvay peroxide plant. The number of spaces available for this tour may be limited so please register early.

SOURCE: TAPPI

Honeywell To Provide Integrated Controls For Major Pulp Facility In China
April 1, 2011

Zhanjiang, China - Honeywell will supply the integrated control system for ZhanJiang Chenming Pulp and Paper Company's new 700,000 ton-per-year pulp facility in China's Guangdong Province. The integrated solution – which includes an array of Honeywell's highest-profile technologies for the process industries – is expected to help Chenming increase its production while promoting the delivery of high-quality paper products.

Honeywell will provide its Experion Process Knowledge System (PKS), Da Vinci Quality Control System (QCS) and OptiVISION manufacturing execution system (MES) as part of the agreement. Additionally, Honeywell has agreed to provide its Safety Manager solution to manage safety subsystems at the site's power generation and chemical facilities.

The ZhanJiang Chenming Pulp and Paper Co. is part of Shandong Chenming Paper Holdings Ltd. and specializes in a variety of paper products such as light-weight coated paper, duplex press paper, writing paper, news press paper and paperboard. The new facility is expected to be commissioned in the first half of 2011.

"Fast and efficient production is important for today's pulp and paper mills, but even more critical is the ability to maintain excellent product quality," said Li Wei, assistant general manager of ZhanJiang Chenming Pulp and Paper Co. and the Zhenjiang project manager. "Honeywell's offerings are best suited for these challenges because its measurement and control solutions are proven to improve quality and productivity while reducing energy costs and waste."

The integrated system's advanced process control capabilities, for example, will help Chenming reduce additive costs and the amount of rework required for coatings and colors. Additionally, OptiVision will simplify order scheduling and overall workflow management.

The Da Vinci QCS system also enables online coating measurements, one of Chenming's key requirements for this project. The system provides the industry's most comprehensive suite of online sensors combined with fast scanner and data processing speeds to deliver precise, high-resolution measurements.
"In the face of increasing worldwide demand for pulp, we're continuing to see more of our customers in the pulp and paper industries turn to integrated systems to increase output while maintaining quality," said Jon Lippin, vice president and general manager, Honeywell Process Solutions Asia Pacific. "Chenming's new ZhanJiang facility is the latest example of this trend and illustrates how tight integration can reap a range of benefits from energy savings to more-precise coatings measurement."

For more information about Experion PKS, Da Vinci QCS, OptiVision MES, SMS and other Honeywell solutions that improve business performance in the pulp and paper industries, visit www.honeywell.com/ps.

SOURCE: Honeywell International

**Metso To Rebuild Tissue Machine For Syktyvkar Tissue Group In Russia**

April 1, 2011

Metso will rebuild the existing PM 1 tissue line of Syktyvkar Tissue Group, JSC at their Syktyvkar mill in the republic of Komi in Russia. The first stage of the rebuild of the line is scheduled to be completed at the end of this year. The value of the order will not be disclosed.

Metso will rebuild the PM 1 tissue line to be of the Advantage DCT 100 type, similar to the mill's PM 2 tissue line built by Metso. Metso's delivery will in the first stage comprise a Metso deinking line with stock preparation equipment, an Advantage DCT 100 former section including an OptiFlo II TIS headbox, a press section, an Advantage AirCap hood and a reel. The delivery will also comprise Metso QCS and DCS systems.

The 2.7-meter-wide PM 1 tissue machine is designed for a speed of 1,600 m/min and the line for a daily production of 75 tons of tissue.

The tissue industry in Syktyvkar, since 2005 operated by Syktyvkar Tissue Group, has been present in the paper and tissue business for more than 20 years and is today one of the best known companies on the Russian market for tissue products. The company employs more than 420 people, and annually produces approximately 40 000 tons of tissue.

SOURCE: Metso

**National Center For Pulp And Paper Technology Training Announces New Partnership With Northeast Wisconsin Technical College**

April 1, 2011

Thomasville, AK - The National Center for Pulp and Paper Technology Training announced that Northeast Wisconsin Technical College (NWTC), Green Bay, Wis., joined The National Network for Pulp and Paper Technology Training (NPT2). The Network is a national partnership of community colleges and industry representatives that arms students with the training and experience necessary to meet the increasing demand for advanced technology workers in the pulp and paper industry. The Network is part of the Technologically Advanced Workforce (TAW) platform supported by TAPPI and the American Forest and Paper Association's (AF&PA) special project group, Agenda 2020.

"We are very excited to add NWTC to our network of community colleges offering Pulp and Paper technology training across the country," said T.J. Murphy, executive director of The National Center for Pulp and Paper Technology Training. "NWTC has state-of-the-art facilities, award-winning instructors, and one of the premier Engineering and Mechanical programs in the country."

"Northeast Wisconsin Technical College's partnership with NPT2 will strengthen our existing technical programs and prepare students for the high-skill, high-pay jobs of pulp and paper industry in Wisconsin," said Pam Mazur, associate dean, Trades and Engineering Technologies at NWTC. "This partnership will enrich NWTC's mission of providing education, training and life-long learning opportunities for individuals and businesses leading to the development of a skilled workforce."

Joining NPT2 makes NWTC a conduit for pulp and paper training in Wisconsin. It also gives NWTC access to curriculum materials related to the pulp and paper industry, which should be especially valuable in closely related degree programs like Electro-Mechanical Technology, Automation Engineering Technology and the new Applied Engineering Technology.

Specialized facilities at NWTC make it ideal for delivering the technical training that the network provides to two-year colleges. The Manufacturing Technology Center features PLC simulators, both instructor-led and self-paced learning areas, and integrated manufacturing equipment to provide students with hands-on experience in the highly technical, networked systems typical of a modern manufacturing environment.
**WHO’S Doin’ Anything?: (CONTINUED)**

Founded in 1912, Northeast Wisconsin Technical College is recognized as one of the nation's fastest growing two-year colleges, serving about 42,000 students and employed adults annually. With campuses in Green Bay, Marinette, and Sturgeon Bay, and five regional learning centers located throughout Northeast Wisconsin, NWTC offers nearly 200 degrees and certificates, and transfer agreements with 28 colleges and universities.

The National Network for Pulp and Paper Technology Training (NPT2) was created to provide the pulp and paper sector of the US forest products industry with a Technologically Advanced Workforce (TAW) by offering exciting and effective education and training. The National Network is an alliance of community colleges, universities, industry partners and the National Science Foundation offering a proven program for recruiting, training, placing, and retaining future pulp and paper workers by providing technical curriculum, continuing education, scholarships and internships. The National Network for Pulp and Paper Technology Training's scholarships-internships-jobs model succeeds because its partnerships address the complete cycle of worker training and development, from recruitment of new students to retention of existing workers.

SOURCE: Northeast Wisconsin Technical College
USE OF IR IMAGING TECHNOLOGY TO OPTIMIZE HEAT TRANSFER IN POWER BOILERS

DAVE SUPLICKI

ENERTECHNIX, INC.

MAPLE VALLEY, WA, USA
Use of IR Imaging Technology to Optimize Heat Transfer in Power Boilers
Outline

• Uses of Imaging Technology
  – Mobile, Fixed, In-Boiler Inspection

• Benefits

• Use of Image Processing
  – Systematically Capture Value
  – Value Estimation
IR Boiler Inspection
Mobile Inspection

- Waterwall Tube Leak
Mobile Inspection

- Sootblower Assessment & Inspection
Fixed Mount/Retract/Port Cleaner
Fixed Mount

• Superheat Entrance
PyrOptix Dual Use
Benefits

• Improved Heat Transfer Efficiency
  – Heat Rate Improvement
    – Reduced CO₂ Emission
    – Reduced De-Rate

• Increased Life of Steam Tubes
  – Identification of Tube Leaks

• Maintenance Reduction

• Improved Boiler Availability
  – Load Stabilization

• Emissions Reduction
Systematic Capture of Benefits

- Inspection Procedures
- Automation
- Image Processing
  - Underlying Technology
  - Demonstration
  - Quantitative Estimate of Benefits
Image Processing Technology

- IR Camera
- Frame Selection
- Selected Frame
- Filtering and Histogram Adjustment
- Cluster Pixels with Gaussian Mixture Model
- Binary Mask
- Slag Index
- DCS

Spring 2011
Demonstration
Data from Power Boiler

Slag Index

Sootblower Index
Enhancement of SB Controls

- SlagIndex™ Software
- Existing Sootblowing Controls
- Existing retract blowing system
- Existing wall blowing system
- Existing or future water cannon system
- Control System Inputs (if required)

PyrOptix Video Hardware
Energy Savings Assumptions

- Heat Transfer to Superheater: 18 kBTU/hr-ft$^2$
- Heat Transfer Degradation: Up to 20%
- Area Viewed: 4,000 ft$^2$
- Time to Reach 100% Slag Coverage: 3 hrs
- Slag Coverage Growth Approx Linear in Time
- SI = 20 (0% Coverage) SI = 30 (100% Coverage)
- One SB Cycle Consumes 8,000 lb Steam
- 1,200 BTU/lb Steam

Spring 2011
Energy Savings

Energy Savings from Improved Heat Transfer

SB Energy Costs

Optimum Set Pt

Net Energy Savings

MBTU/hr vs Slag Index

Spring 2011
Cost Savings

For 4,000 ft² Superheater Surface

- Energy Savings = 4.0 MBTU/hr
- BTU/lb Steam = 1,200
- Steam Cost: $0.006/lb
- Savings = $175,000/year
Summary

• IR Imaging has been Used for On-Line Furnace Monitoring for About 25 Years
  – Technology Continues to Improve
    – Current Generation: 2.5
• Image Processing can Systematically Capture Benefits
  – Energy Savings Significant
• IR Imaging/Image Processing provides an Intuitive and Systematic Performance Improvement
**Brownstock Washer Advanced Control:** Reducing Fresh Water Usage While Improving Pulp Quality

By Jukka Perala; Capstone Technology; Atlanta, GA
JPerala@capstonetechnology.com

Optimal control of brownstock washing is critical for minimizing fresh water usage and producing uniform quality washed pulp. However, due to process variable interactions, long time constants in washer lines and long transport delays, a conventional PID dilution-factor control typically yields only lackluster performance.

Using a dynamic model of the washer line, Capstone’s MACS model predictive control system accounts for interactions between shower flows, conductivities, and filtrate tank levels inherent to brownstock washing. Using the model, the controller “understands” how filtrate solids, pulp conductivity and filtrate inventories respond to process changes. The controller uses this built-in knowledge to both reduce fresh water usage and decrease the variability of washed pulp carry-over. The reduced water usage leads to higher weak black liquor solids and thus reduces evaporation costs. Likewise, reduction in pulp conductivity variability can reduce bleach plant chemical consumption and in integrated unbleached kraft processes improve the operations of paper and board machines. Evaporation savings alone from improved brownstock washing can easily range from $1.00 to $2.25 per ton of pulp produced.

One of the main controlled variables of the MACS model predictive controller is the cleanliness of the pulp leaving the washers. The feedback for the controller can be provided by an on-line pulp conductivity measurement or by a laboratory test. In latter case, to provide continuous feedback for the controller, a MACS soft sensor is implemented to predict the pulp cleanliness and the soft sensor is updated by the periodical laboratory tests. Even with the case of having an on-line pulp conductivity sensor providing continuous feedback for MACS controller, the soft sensor can be used to correct the drift in sensor reading, a quite typical issue with conductivity measurements.

In addition to the washer controls described above, advanced controls have also been implemented to coordinate brown stock production rate from the digester blow tanks to the high density storage tanks following the washers. With improved coordination the production rate changes can be made smoothly based on the changes in digester production rates and the fiber demand by bleach plant or paper machines. By minimizing the frequency and rate of production rate changes improves further the overall brown stock washing operations, resulting additional decrease in carry over liquor variability and increase in weak black liquor solids.

The following data illustrate results from an actual MACS advanced control application. Figure 1 below shows the fresh water usage distribution both before and after completion of the advanced control project. Water usage is shown on gallons per ton basis. The MACS control achieved a 10% reduction in average wash water use. This wash water reduction directly leads to higher black liquor solids (example data shown in Figure 2).
It is important to note that the increase in liquor solids shown in Figure 2 was achieved while simultaneously decreasing washed pulp liquor carryover. The improvement in washing is illustrated by the 400 μMHO decrease in pulp conductivity shown in Figure 3. Furthermore, pulp conductivity variability was reduced by nearly half after implementation of the MACS advanced control. The reduction in liquor carryover can lead to greatly reduced bleaching costs and better brightness uniformity in the bleach plant. In unbleached kraft applications, the reduction in liquor carryover variability can improve the upstream paper/board machine operations and optimize the level of liquor carryover sent to the machines.
The results shown above confirm the advantage of the MACS model predictive control system over conventional dilution-factor control. By utilizing an internal model of the washer line, the advanced controller was able to optimally manage shower flows and filtrate inventory in order to stabilize washer operations. The end result is significantly reduced overall operating costs. MACSwash controls have been implemented for conventional vacuum washers, pressure washers and belt washers such as Chemiwasher.
MEET RYAN SCHUERGER: 2011 ISA PUPID SCHOLARSHIP WINNER
BY PATRICK J. DIXON, P.E. - PUPID EDUCATION CO-CHAIR

Ryan W. Schuerger, a junior majoring in Chemical Engineer with a Paper Science focus at Miami University of Ohio in Oxford, Ohio, hails from North Royalton, Ohio where he attended North Royalton High School. Ryan is the son of Ron, who works for Busch Funeral Homes as the Plant Operations Supervisor and Cindy Schuerger, who works for American Greetings Card Company as a Marketing Analyst, and his sister Nicole is a freshman at Bowling Green State University. Ryan will graduate in May 2012 and currently has a GPA of 2.73 while working for the Chemical and Paper Engineering office as a student assistant.

For fun, Ryan participates in intramural football, baseball, broomball and hockey at Miami; and he enjoys watching movies, relaxing with friends, pick-up football and basketball games, and staying active as much as possible. Ryan says he would like to take the time to thank his family for always being there for him, and for being his inspiration throughout his academic career and everything he does. He also thanks all of those individuals that support him; he wouldn’t be where he is without them all all.

The ISA Pulp & Paper Industry Division is pleased to award a $2000 scholarship to a college student pursuing a career in pulp & paper.

This year, the winner is another “top-notch” student with an impressive scholastic record as well as extracurricular activities and having demonstrated a significant interest in the instrumentation/process control component of the pulp and paper industry.

The winner is Ryan W. Schuerger. Ryan sent in his completed application form from the PUPID website, an official transcript from his university, three letters of recommendation from persons familiar with his character, and answered three questions describing his interest in the pulp and paper industry, his educational accomplishments, his school activities and his leadership roles. You can read a little bit about him in the rest of this article.
LETTERS TO THE EDITOR

Send your comments on this newsletter to the ISA PUPID Technical Discussion Forum & “get something started”!

You can reach the site at http://www.isa.org/scripts/lyris.pl?enter=pupid&text_mode=&lang=english or by going to the PUPID or the main ISA websites and looking for the “ISA Technical Divisions”
Links to Related Websites

ISA Pulp & Paper Website
http://www.isa.org/paper/

ISA Pulp & Paper Technical Discussion Forum
http://www.isa.org/scripts/lyris.pl?enter=pupid&text_mode=0&lang=english

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

Pulp & Paper Research Institute of Canada
http://www.pa.nrcan.ca/

TAPPI
http://www.tappi.org/

PIMA
http://www.pimaweb.com/

American Forest and Paper Association
http://www.afa.org/

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

Swedish Royal Institute of Technology
http://www.pmi.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=topica&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 “Pulp & Paper Technical Discussion Forum” in the pick box, click “Go”, and enter you email address and a password.

ISA Email Address for All Members
Any ISA member can register for a free email address and online mailbox. If you set it up, your ISA email address will be yourname@member.ISA.org. To register, go to http://www.isa.org/membership/benefits/, and follow the registration instructions.

ISA PUPID Calendar
Get a quick overview of ISA PUPID events for 2002 by going to the Calendar at:
http://www.isa.org/~pupid/2002_PUPID_Calendar.htm
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<thead>
<tr>
<th>WORLD CORNERS</th>
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<td><strong>CANADA CORNER</strong></td>
<td>Nothing from anyone there this time!</td>
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<tr>
<td><strong>CENTRAL &amp; SOUTH AMERICAN CORNER</strong></td>
<td>Nothing from anyone there this time!</td>
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<td><strong>FROM THE LAND OF THE MIDNIGHT SUN</strong></td>
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<tr>
<td><strong>EUROPEAN CORNER</strong></td>
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