

Mill Updates

Doug Reid – Neuryon

Company name change

Chris Brennan – All North

Non wood pulping with Sustainable Fiber Technology (SFT). WA state (Columbina Pulp) just started up. (Keeping All North very busy). Construction of a new Essity mill in Manheim, Germany. CADSIM Projects: Rayonier Fernandina Bleach; Domtar Kamloops; Verso Quinnesec; Exponala (Just kicking off). Energy audit on B-line MCO2 line, analyzing the MC pump power demand.

Brian Labrash – Quinnesec

New rejects screen to replace Johnson screens. New white liquor clarifier to start up this year (Sprung a leak in an old carbon steel clarifier)

Peter Lauo – Alpac

Shut down (May 20 to June 12) – added in a new screen prior to washing. D2 upflow tower J-tube (duplex 2507 SS material) to fix corrosion issue on 16' section. Multinip in first press scheduled for 2020.

Rohan

Bought swedish company for filtration.

Joe volk – Crofton

Big change being purchased by paper excellence (Positive influence, more resources now for kraft operations). Focus on printing and writing paper machines (Migrating to new grades on P&W machines). Proper MPC was added to R8 generator & debottlenecked the process. Slotted screens have been added (used to be perforated) (This stabilized the feed to bleach and reduced operational costs, as a hidden benefit to having new screens). New condenser/ heaters in the evaporators. Working on corrosion issues of concrete vat (They have been gradually replacing the vats in their bleach plant). Number of energy projects, new condenser.

Dan Kaknevicus – Northwood (Canfor)

Added a condensing turbine. (plenty of steam savings projects around the mill to take advantage of the new turbine) Reducing electricity usage to keep the mill profitable. D0 tower is no longer bypassed (It was bypassed due to holes which developed in the tower, now lined with SS), this brings them from 1.5 minutes of retention to 30 minutes. Struggling with fibre constraints (lots of curtailments in BC). New Bleaching controls through Spartan (Going well, lots of iterations, Std on brightness looks nice now)

PG pulp – Canfor

Fiber constraint in BC. Hard to source fiber. Focusing on fiber loss reduction projects.

Thomas Gross – Crofton

Getting away from Provox, going to Delta V (Taking small steps due to budget constraints).

Phil – ERCO

Superior plus (Parent company), will be trying to sell ERCO as they try focusing more on energy. Looking for suitable buyer.

Alison Rowat – International Paper

So many mills. No real updates, only bleaching project was replacement of 2-series Kajaani Kappa analyzer (Circa 1994) with kappa Q at Franklin, & everything on control, 3 grades, going well.

Dan – Valmet

Integration is going well from GL&V to Valmet acquisition

Les Adams – Irving

Over budget by 5000 tonnes. Startup of tissue mill in Macon, Georgia (They made more softwood due to this, 60 to 80% internal integration). Irving tissue starting 200" tissue TAD. Came out of Sept shutdown 2 days early. Relayed the brick in their lime kiln (Critical path of the shutdown). Talks about a new pulp dryer and a new treatment plant.

Chip screening upgrades. With the new digester, they find opportunities every winter.

They have switched more areas to Delta V (Recaust this year). They found lots of issues by testing it ahead of time with operators.

Changed top separator (3rd since 2016). They have a rock problem in the feed. Working on it.

Rebuilt D0 Canon washer Vat. Now the E1 washer doesn't run well.

Still planning to demolish the old batch digesters

Mike – Nalco

Eco lab is adding lots of Microsoft into Nalco. Much more into the digital space for monitoring and controls.

Robert Gallant – TAC West

Diversified into refractories, structural concrete, and FRP. Also fire proofing.

Brooke Fraser – Kamloops (Domtar)

Critical path, Doublefelting machine, going well. Going to downflow on digester. (Upgraded to Andritz 2 stage downflow and LS cooking)

Need to improve bleach plant instrumentation. Issues with carryover due to higher production rates.

Marty – Solenis

More and more digital. Internet, controls, connectivity. He is new to Solenis.

Chris – Spartan Controls

Projects: Northwood, Howesound, Celgar. New graphics package in delta V.

Almer Fetahovic – Mercer Peace river

Upgrades digester MCC and wash screens with Andritz, higher open screen area. Converted from 3 stage to 2 stage downflow cooking with higher MCC and wash extraction flows. Replacing decking on CB washers (D0 and E0 stages). DMI was acquired by Mercer.

Lee Bankroft – Bankroft

Agents for new MPS new role, getting momentum. Western Canadian GLV partner. Operator turnover / lack of training (Alparsons and Lee have been getting a lot of requests for training)

James – Valmet

Lots of retirements/turnover

Jon Odonnell – Domtar

Continuous improvement.

Bleaching and recaust are a focus.

Capital – Windsor: pressure diffuser replacement (Old one was undersized) – Espanola: moving from 2 fibrelines to one

Plymouth, North Carolina – Energy initiative on boiler and water systems – Now looking at atmospheric diffusers in their bleach plant.

Paper markets are hurting them (they closed 2 machines in US)

Michael Doucet – BTG

Being purchase by Voith. Will be part of the products and services division and still using the same name. Should be a seamless transfer since there is not a lot of overlap. Process control group (MACS) has doubled. Have completed the following MPC projects in the past year: 5 bleach plants, 3 kilns, 2 digesters, a recovery boiler and a set of evaporators.

Honey Nampak – Harmac

New kappa QC. It is working well and the old one is removed. Screen room (Cleaners) has been replaced and is now automated (Used to use valve threads to balance them). Installed a new pre bleach wash press. Papricycle washer will be installed in the last week of November. Added evaporators to Delta V.

Mill Questions

Piece River

Last stage is D2 (usually 0.5 to 1pt reversion). Sometimes that gap is higher (2 points). Same pH's, caustic addition. Is there something that they should be looking into.

Paul Earle: Look at the fines in your white water. There was a good Paprican FP Innovations paper about it by John Bouchard. Get D2 pulp and white water and make 2 handsheets and compare the difference. If only a 2 point drop, you are doing well.

Joe Volk: Acid addition to the headbox was an issue at his past mill caused a similar issue.

Dan – Northwood

Problem D1 washer. Vat level blip up, vacuum drops at the same time. Happens every 10 seconds while they are running. More dilution helps it out. They are operating on the edge, too much dilution will not go through the sheet and cause washer to overflow. No automatic dilutions. Has been an issue for 10 years. Sometimes works fine.

Brian Labrash: Checked end valve? **Yes**. Do you run autom vat dilution? **No**. **Now using defoamer on washing**. Does cycle repeat same frequency? **No**. **nothing to indicated timing valve. Seems to get better with higher rates**. Look for holes in the dropleg/ check the level transmitter in the seal tank.

Chris (All North): Are you getting air in the drop leg? Or are you flashing? **70C should not be a concern. Pipe velocity on the low end, but not disaster**. Port Alice story: reduced the diameter of the downcommer to increase the velocity and improve the vacuum. This helped Port Alice, but they were not seeing blips.

D. Brouillette: washer is burping – get and lose vacuum – could be if size is too big for production. Add defoamer in drop leg. Air reduces drainage a lot. Have tried defoamer to seal tank and different types of defoamer. Maybe a smaller dropleg would improve it. Air entrainment could cause it. Look at the filtrate tank design (were baffles removed?) It sounds like it is burping (You should focus on removing air entrainment).

Phil S: need to vent seal tank, if vent is plugged can cause problems burping.can get more velocity with hgiher showers rather than dilution.

Mona Henderson: Have you tried moving the defoamer application area.**They tried it in the seal tank.**

Phil – ERCO: Sometimes the vent system can be plugged. (A plugged condensate drain line.) The shower flows should be constant all the way across.

Brian Labrash: You could try adjusting the vacuum valve to cut vacuum a little earlier. This is just a way to troubleshoot the process a little better. If drying out too soon and pulling air, then can try adding showers or adjusting valves.

PG PULP

Is ash removal system working in anyone's mill. (From burnt wood)

Dan Davies: Ensure that you debark a lot so that you don't get it to begin with.

Brian Labrash: Are you using Talc. **They do add talc**. If cleaner system work, the talc should attach to the talc & remove it from the process.

Brook – Kamloops

High defoamer usage in bleach plant is very high (Compares to brownstock). Not just one washer, all of them. They have been pushing production rates, and some baffles have been removed from the seal tanks, could these be contributing to the problem?

Brian Labrash: Work with your defoamer supplier. Do a washer evaluation. Could be vat levels, drop legs, seal tanks, showers, etc.

Dan Brouillet: Baffles may be necessary due to running higher production than they were designed for.

Mona Henderson: Have tank levels changed (Making it that you don't have time to vent). Leaky seals could be adding air. Look for sources of air. And places where air is supposed to be vented.

Joe Volk: Do you notice it happening at specific times of the year? Pine beetle wood will contribute to additional soap? Greener woods as opposed to pine beetle may require you to return to a past washing strategy.

Les Adams - Irving

Saltcake filter wire. Had to change 4 or 5 of them this year. Lots of opportunity to change them, but as they run more and more softwood, there will be less opportunity. The wire seams to pull apart.

Arkima – Carlos: Have you checked filter decking? **There may be an installation issue** Do you stretch the decking? **No** It helps.. Check the installation too.

Brian labrash: Are there showers underneath the doctor board? **He would like to try that.** Is there buildup on the filter?

Peter – ALPAC: Did you change the group which changes it? **They have a wire crew at their mill. They haven't changed vendors for wires either.** Do you use OEM for wire? Has vendor changes? **No.** Try getting the vendor on site while it is changed.

Carlos – Arkema: Do you have bands and clips? **No**

Denis – ERCO: Sometimes they will notice stretches across the filter when the water temperature changes. If temperature gets low, saltcake doesn't wash off and there is more friction. If you go on standby frequently, it will put wrinkles in the water. (Shutdown the wire if you are running it without water on it.) Vendor may have different Ti wires, flexibility of cloth may be different, some may stretch and tear more easily than other. Have installers watch install video. A well installed Erco wire can last up to 5 years, others say shut to shut.

Phil S – ERCO: Water cleanliness, temp, wire cleaning – blow off? All can affect.

Northwood CANFOR: They found something internal which they had to weld down and smooth it out so that it wouldn't damage their wire anymore. (They had the same issue, they fixed it a year ago and haven't had to replace a wire since.

ALPAC

Any mills use pitch dispersant and Talc in brownstock area? No one. Do you add it at the beginning or end of the bleach plant?

North wood adds it after the knotter and at the beginning of the bleach plant.

Crofton adds it after screening, before O2 delig (before first stage)

Michael from Nalco says that it depends on your species. Hard to compare different amounts of stages and HW compared to SW. You should add Talc at the point that the resins come out to prevent it from agglomerating.

Piece river adds it in the diffuser and on the last washing stage.

Pitch control and dispersants depend a lot on species. Hard to compare SW and HW. Hard to compare HW and SW.

Talc at very end of BS? Brian, prebleach and at bleach plant Quinnisec. Mill 2 several locations in BS

Brian Labrash

Who is concerned of the future of Talc use (Due to lawsuits involving talc companies)

IP is taking it out

A few other hands were raised around the room.

All North

How do you manage having conflicting drawings from a mill. (Working on P&ID and PNC updates) Do you do it internally or bring in an engineering firm?

Brian – Verso: They have a “Library Checkout”. We release the drawings to a consultant with a P&ID which has a standard which must be followed.

Canfor has a library system

Les Adams: No control whatsoever

Chris -AllNorth: Has seen more PNC in Western Canada, Simpler. Challenging working off a process that is not correctly documented.

Honey Nampak

Question about bleach broke. Vacuum washer before blend chest. (They would add broke to the blend chest) It would calm down the first washer. Now that they have the new press washer, they would like to add it at a further stage since they do not need to dilution anymore. Where do you add broke to your bleach to the system?

International paper: In New Bern, broke is brought back in through the cleaners, Lower brightness is then blended with higher bleach pulp. (They will raise the brightness target to utilize lower brightness broke) Other mills add it to the beginning of the bleach plant (Especially if there are issues with shives)

MARTY HOSKINS: Bring it back to the beginning of the bleach plant if you have a problems with shives.

Brooke – Kamloops: They can add it to the beginning of bleach, E1 and E2. Typically they add it to the Ep washer.

Brian – Verso: Bring it back to pulper and machine.

Irving: They add it to the brown Hi D. They used to be able to use it in the machine chest.

Alison Rowat – International Paper

Fluff softwood mill. Brightness loss of reversion. Leaving D2 washer. The loss is worse when they have high brightness runs. What are the likely causes? Is it Conjugation. They have done no testing.

Paul Earl: He would suspect loss due to deposition instead of reversion. Brightness is non linear, 80 and 90 doesn't give 85. A deposition would impact a higher brightness pulp more than lower brightness pulp.

Brian Labrash: Look at pH control on the machine on high bright runs, is it as good as low bright? Are you using diffuse method for bright testing of pulp? If there is change in your surface roughness. You can combat that by making TAPPI handsheets to prevent "losing brightness" due to press marks.

Paul Earl: Fluff mill, do they add a debonding agent. Can make sheet less packed and more irregular, will affect scattering. **They do, but only on the lower brightness grades. Not the high brightness.**

James Goldman – Valmet

Vat level control. What do people use for vat level measurement, is there anything new?

Everything is using DP, nothing new.

Brian Labrash: There are Sonic, but they have issues with foam

Northwood

Moving DCS to a new color scheme (Black to gray)

Harmac: Are you going to Human centered design? They went from gray, with lots of colors. Now they are using no color, and only have color when there is an alarm. The operators didn't like the new displays, so they ended up adding in a little. (Green, Red and black)

Irving: They have gray pipes, and a standard peach colored background. They are standardizing it across the mill as the areas switch to Delta V.

Domtar: Black and neon colors, and they aren't going anywhere soon.

Les – Irving

Top half of the washer (Shower bars). Replaced scrubber packing for recovery boiler in the 2018 shutdown. Started finding packing in hot water system everywhere. They plug up the shower bars. They isolated & tried to blast them out with high pressure (ended up putting holes in the shower bars). Are there best practices in cleaning out the shower bars?

Brian Labrash: Get big guys and jump on them until they break. Use the stainless steel instead of fiberglass.

Nalco Water: Open at side and blast them out or use a J-tube to clean out the nozzles on the run. Or take the whole bar out and clean it.

Joe Volk: High pressure on the run (Isolate the bars with valves)

Dan – Northwood: They isolate it, and high pressure clean them. Sometimes works

Phil S – ERCO: Pull caps off, put a brush down there. Whirly nozzle. Whirly brushes install

Kamloops

Trying to increase rate but having washing issues. Lot of carry-over to the bleach plant. Any online measurements for carry over?

Skookumchuck :They use the BLT

Northwood: They have BLT. They work well and they use them for control. Kappa, carryover and brightness measurement.

Irving: They have a Bleach load transmitter (BLT) in D0. They operate based on bleach load factor instead of kappa factor.

Chris Robert: DLT (Disolved Lignin Transmitter) tends to plug up at the beginning of the bleach plant. Use the BLT (Bleach Load Transmitter) instead.

Peter – ALPAC

R8 test for % Chlorate or ppm chloride.

Northwood: % Chlorate. Also looking at feeding a sample to their fitnir.

Canfor: They test % chlorate once per week if they have a COOP student.

What is the carryover target?

ERCO

Dan – Canfor: % Chloride 1 to 2 is a good day. It is hard to get a representative sample though.

You can do the test in the manual for % chlorate in the saltcake. 0.3% on a filter which is running well. 0.4 to 0.5% is not very good. He has seen as good as 0.25%. You can also due an acid check to see how much acid is carried over.

Joe Volk – Crofton

Operator training programs? Train the trainer? App based? If you are doing something different, what did you do?

Harmac: 6 weeks of training with a trainer who will then certify them. Washer press project has a simulator. They retrain experienced operators with that simulators. Now the operators want the whole bleach plant onto a simulator.

Les Adams: Trainer guides and material. Looking to update it soon. Weekly meetings with the operators to talk about different areas of the mill (Supt, trainer, operators – Cover different stages). Also, walking the process and quizzing the operators on it. The new Digester included a simulator (They used it to train the operators on the new digester).

Mona Henderson: It is different from a new piece of equipment, or an operator brand new to the area. Class room trainings are good for new pieces of equipment. Simulators are popular too. Retraining from the OEM is also popular which is a little more interactive.

ERCO- Denis: Heard good things about simulators. Make your junior operator do an interlock checkout with a Junior operator. They will learn more about what can knock them out and why different alarms/interlocks are in place.

Phil – ERCO: Schedule Junior operators on startups so that they can learn from that experience. Since it doesn't happen often.

Honey Nampak

Is there a document with common issues for vacuum washers. The operators are having issues with their last washer.

Brian Labrash: There is an old TAPPI short course on drum washers

Phil Sekerek: There was a presentation from Daniel (in 2017 at IRVING) about troubleshooting vacuum washer. Phil S put together a troubleshooting summary based on that presentation.

Paul Earl: There was a presentation on washers at the last Castlegar meeting. (2008)

Les – Irving

Anyone not using bands on washer wires?

Nalco: Ensure the tool is the same material as the bands. (Otherwise it will fall apart)

A few folks not using bands. Alpac, Crofton.

Brooke – Kamloops

Washer doctoring issues?

Northwood: Check the gap in the doctor boards. With water doctors, you shouldn't have any issues (Northwood has water doctors).

Brian Labrash: Check to ensure the internal header isn't plugged up with pulp. Check the pressure with a monometer. If you only have a single air doctor blower, you may need to consider having one on each end. Water doctors work great in the bleach plant.

ERCO – Phil: Sometimes there is a plugged suction screen on the place that the air is pulled from for the air doctor. Face cleaning shower pressure, is pressure robbed? Air doctors, suction screen sealed over with pulp?

Peter – ALPAC

Anyone use combined condensate from the evaporators in the bleach plant?

IP: Grande Prairie uses it on extraction stage washing. Alison has seen a negative impact. Mostly quality issues. Cost as well. It should only be used in brownstock.

CANFOR: Combined condensate can kill the fish out of the effluent if you use it in the bleach plant. Lots of soaps from it. It can be used if you have safeguards in place.

NALCO: Tank to Castlegar. They have been running it on the extraction stage for a long time.

Paul Earl: Methanol will show up as COD instead of conductivity. Black liquor droplets will show up as conductivity. Combined condensate is typically used in the last stage of brownstock washing.

IP: Contact Dominic from grand prairie. Unsure of the status at that mill. They have the option to valve it in and out.

Honey from Harmac

Using prebleach press washer with a proper seal tank, are you expecting to use defoamer.

Northwood: If you added a press washer, you should end up using more defoamer if you are sending the filtrate back. Since it is an open washer, the defoamer should be about the same.

Les Adams: He can look up some information from when they added in a press washer.

CANFOR: Control conductivity with defoamer. (Depends on the speed as well)

Michael – Nalco: Equipment/fibreline specific. A bleach plant shouldn't need defoamer (only if you are running well above design with high carry over). He can't tell you how much, until you trial it.

Valmet – Mona: Depends a lot on filtrate management (Baffles, internals of the seal tank, stock tank levels (If you have them), mills are often using standpipes instead of stock tanks, Southern Pine brownstock has a lot of foam (species dependent). Bleach shouldn't have foam, you should focus on filtrate management in brownstock.

Buckman: If adding defoamer, what are you getting in return for better drainage? Many people focus on getting rid of foam. It is also a drainage aid which will help with carryover issues. Silicone defoamer will have silicone in the final pulp sheet, depends on if customer is sensitive to that.

Peter – ALPAC

How long do you go without outages? ALPAC is on an 18-month shutdown cycle and debating switching to a 12 month cycle.

Many people tried 18 months, but then went back to 12.

Verso Quinnesec, does 24 months.

IP is all 12 months.

Honey: They would have 8-hour line shutdown. They cannot use that word anymore. They try and do repairs with the other areas running.

Brian Labrash Quinnesec

Has anyone removed the blend chest and gone directly to the tower.

Crofton goes directly to the tower.

Kamloops went directly to the tower.

Robert Gallant

**Has anyone removed the tangential agitators in downflow tower dilution zone, 10-12% in LC tower?
This is in order to remove the mechanical agitators**

Elk falls did, but mill has been down. Works fairly well, but with varying cons. Dilution zone goes higher up and reduce retention time in tower.

BRIAN Labrash

Calcium Oxylate problem in D1. Now the problem has moved to D2 stage after fixing D1 ph control. It deposits on their brick towers. Has anyone seen this?

Robert Gallant TAC west: Leave it there because it protects the joints of the tower. **It will get worse if they go 4 years without cleaning there will be more.. it may cause them to have a small tower haha**

Mike – Nalco: If moving scale formation to tower, right pH/temperature – leave it if it is not causing quality problems. Biggest risk: If temperature shock causes it to fall off and creates dirt issue. Maybe you need a little more dilution.

Kamloops

Is anyone using the same defoamer in bleach as they are using in brownstock.

IP and canfor use different ones.

Irving is using the same one in both

Northwood uses the same.

Mike Nalco: Don't use the same, pitch and carryover will be carried direct to the machine since BS defoamer is highly hydrophobic.

Buckman: It depends where you are sending your pulp. Silicon may not be optimal to your customer to add to the bleach plant if they don't want silicon in their final product.