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ROUNDTABLE TOPIC

Water Reuse in Recycle Mills - Challenges & Solutions

REGISTRATION

Register for the RPTA Roundtable **HERE**¹.

ROUNDTABLE CHAIR

Dana Pelletier, General Manager, Greif, Fitchburg & Current Chair of the RPTA Operating Board

¹ https://forms.office.com/Pages/ResponsePage.aspx?id=BJ9PRgDoHEa2jiMi8felus7jGXgLpthJiK1Z-7NZ0S9UQ09EMEhSRjJLRkxFNkpQSDRSV0tIUEM0NS4u

VENUE/HOTEL

The Roundtable seminar will be at the Renaissance Atlanta Waverly Hotel & Convention Center, 2450 Galleria Parkway SE, Atlanta, GA 30339.

SLEEPING ROOM RESERVATIONS

You can book your <u>sleeping room</u> at the Waverly <u>HERE</u>². (Please note that this is a separate registration from the Roundtable registration.)

The RPTA Roundtable room block is limited in size and will close September 7, 2021.

Atlanta is a large city, so Roundtable attendees have many other options for hotels. Nevertheless, RPTA recommends making your reservations as early as possible, because the first week of October appears to be the week that COVID-19 seminar and convention hesitation lifted.

The RPTA Operating Board selected the date and location for our 2021 Roundtable to facilitate our members also attending TAPPICon 2021, if they wish. (For information on TAPPICon click here)

<u>SEMINAR – AFTERNOON OF OCTOBER 6</u>

The Seminar will be held from 1:00 pm to 5:00 pm on October 6, 2021.

Understanding and Avoiding Corrosion Caused by Water Reduction and Reuse

- Sandy Sharp, Sharp Consultant
- Learn the impact of paper machine water reduction on the corrosion of process equipment and structural components, along with effective corrosion control approaches.
- Bio W.B.A. (Sandy) Sharp is an independent consultant specializing in corrosion and materials problems in pulp and paper mills. He has master's degrees in metallurgy and in corrosion from Cambridge and London Universities in the U.K., and a Ph.D. in Chemistry from the University of Ottawa. His 4 decades of materials engineering experience in the pulp and paper, utilities and chemicals industries includes 28 years leading corrosion control programs for Westvaco (now WestRock). Sandy has

² https://www.marriott.com/event-reservations/reservation-link.mi?id=1617293204331&key=GRP&app=resvlink

published 65 technical papers in refereed journals and has been teaching courses for TAPPI for more than 30 years. He developed TAPPI's short course on solving corrosion problems in pulp and paper mills and has won TAPPI's Joachim Leadership and Service Award and Engineering Division Technical Award. He was elected a TAPPI Fellow the first year he was eligible, became the first NACE (Corrosion Engineers' Association) Fellow from the pulp and paper industry and is also a Fellow of the Materials Technology Institute.

 <u>Abstract</u> - This presentation will review impacts of water reduction on corrosion of machine, stock prep and piping components and of painted steel machine structures and building structures. Effective corrosion control approaches will be summarized.

Water reuse in paper mills raises process temperatures and accumulates non-process elements in the whitewater system. Corrosion rates of machine, stock prep and piping components are increased by high chloride/sulfate ratios, by increasing thiosulfate concentrations, increasing temperatures and increasing conductivities. Because process efficiency limits chemical approaches to corrosion control, increased corrosion rates experienced in closed water systems may require the replacement of existing materials with upgraded materials.

The increased temperatures and corrosivity of fog condensates also challenge coating that are meant to protect machine structural steel and machine room building structure. Deterioration of paint coatings is accelerated by increasing temperatures and increased corrosivity of fog condensates. Although hastily applied coatings do not provide long-term protection, most mills are reluctant to provide the time required for proper surface preparation of corroded steel that had previously been painted, or to allow enough time for newly applied coatings to cure. Options for minimizing coating costs will be reviewed.

Consequences of Reduction in Recycled Paperboard Manufacturing and Recommended Treatment Approaches

- Davit Sharoyan, Solenis
- Hear how reduced freshwater usage increases impurities in recycled paper mills that interfere with the papermaking process and learn about several different treatment programs to overcome interferences.
- <u>Bio</u> Davit Sharoyan is a Principal Scientist at Solenis LLC. He works at the Solenis Research Center in Wilmington, Delaware. Davit's research has recently been focused on the development of new products for chemical efficiency increase in recycled and virgin fiber containerboard mills. He has also been involved in the development of release products through air drying fabric and Yankee roll as well as press rolls, starch preservation and remediation technology for paper recycling, oxidizing biocides and scale control inhibitors for water treatment. Prior to joining Solenis in 2003, he was a postdoctoral fellow at University of Chicago. He has been a TAPPI member since 2005. Davit holds an undergraduate degree in Chemistry from Yerevan State University in Armenia and a doctorate from University of Illinois at Chicago.
- Abstract Using less freshwater in the papermaking process is a worldwide trend. With a reduction in freshwater intake and an increase in the degree of water closure comes an exponential increase in the amounts of dissolved, colloidal and suspended impurities in the process water in recycled paper mills. Increased levels of these impurities cause many problems during paper production. Although no single solution exists for those problems, several different treatment programs could be implemented. One program applies specific polymers that are more efficient than others in highly closed process waters. Another program removes (by preservation and fixation) specific dissolved and colloidal species, such as degraded starch, to eliminate several issues in the papermaking process. Yet another program removes soluble lignin, also a troublesome component in process water, which boosts the efficiency of polymeric additives and improves paper machine runnability. We will discuss these treatment programs in more detail and provide recommendations for managing problems associated with water closure.

Improving Strength by Proper Water Management

- Ignacio De San Pio, RISE Innventia AB
- Discover the importance of process water quality to strength improvement in a recycled papermill and the benefits and drawbacks of different treatment alternatives.
- Bio Ignacio De San Pio is currently Senior Research Associate, Paper Technology Group with the Research Institute of Sweden (RISE) Innventia AB. He has the specific mission to develop strategies to improve recycled paper strength. He brings 20 years process and project expertise which has been applied to optimize the production of a range of cellulose-based products including corrugated case materials, graphics and fiber-cement and fiber-based insulation. Over the past two years, Ignacio has led applied research at laboratory and pilot-scale which suggests that improvements in sheet strength together with energy reductions can be achieved in papermaking processes.
- Abstract Pulp and paper industry is one of the most water intensive industries, however the direct costs related to water (related to incoming water and effluent treatment) represent only a small portion of the total production costs. There is therefore a lack of an economic driver for water savings in the pulp and paper industry.

On the other side, there are many challenges happening in a pulp and paper mill that can be related to the process water quality; some of them are known, such as deposits, slime, corrosion, etc. while others can be more difficult to relate to the water management.

In this presentation, we illustrate the importance of the process water quality in relation to the performance of strength additives and the resulting impact on strength improvement in a recycled paperboard mill. We then evaluate the benefits and drawbacks of different treatment alternatives.

COVID-19

Contingency

We are all looking forward to the opportunity to get together again for networking and learning. However, we must be realistic and understand that the situation

may change, and live, in-person events may no longer be advisable for an October Roundtable.

Therefore, the RPTA Operating Board will assess the situation in late August to decide whether an in-person (live) Roundtable is ill-advised. The Board may decide to convert the Roundtable to a hybrid live/virtual event or convert fully to a virtual webinar. In any case, RPTA will communicate to registrants as soon as possible after the decision is made.

Precautions

We have booked a larger than normal meeting room at the Waverly for the Roundtable Seminar, so attendees can socially distance, yet still interact and network. RPTA will be sure that masks, hand sanitizer and tissues are available for attendees.

The Waverly has implemented an honor system: fully vaccinated guests/associates are no longer required to wear face coverings or social distance, while the unvaccinated are asked to wear coverings and distance.

The Waverly has implemented enhanced sleeping room and public space cleaning and disinfecting.

GROUP DINNER – EVENING

The evening of October 6, RPTA will host a group dinner for attendees, most likely within walking distance of the Waverly.

During the registration process, you will be asked whether you will join us for dinner, so we can select the restaurant and make reservations. We will also ask about any food allergies, so we can avoid foods that may cause a problem.

We will communicate all the details regarding our group dinner at the Roundtable seminar.

MILL TOUR - MORNING OF OCTOBER 7TH

We will be touring Greif's Sweetwater mill in Austell, Georgia.

RPTA will arrange bus/van transportation to and from the mill tour for those who will not have a car. During your registration process you will be asked to provide information on your ground transportation plans, so RPTA can make proper arrangements.

We will communicate all the details regarding the mill tour at the Roundtable seminar.

QUESTIONS OR COMMENTS

For any questions or comments, please contact:

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