

# “THEY MADE THINGS RIGHT”

As much as we want every installation to be a five-star success from start-up – not all of them are. ANDRITZ turned a bad situation around at Eldorado in Brazil. The mill is now achieving eye-popping production – with ANDRITZ as a partner.

“We are exceeding design and are on target to produce 1,620,000 tonnes this year.”

Fabio Nakano  
General Mill Manager  
Eldorado Celulose



The installation of two drying lines and four automated baling lines at the world's largest pulp mill – Eldorado Celulose in Três Lagoas – was destined to be another excellent reference. But, while the equipment is registering world-record performance today, there were some dark moments.

“Sometimes you learn more from adversity than you do from success,” says Karl Eickhoff philosophically. Eickhoff is Vice President of Pulp Drying for ANDRITZ. Even though he was not working in the Pulp Drying group when Eldorado was started up, he actively spearheaded the corrective actions to ensure problems were solved and will not come back “Our pulp drying plants are performing at world-class levels again,” Eickhoff says, “and we have our experience and the people at Eldorado to thank for that.”

“The issues were not design flaws, but mechanical problems and material selection in certain areas,” say Josué Fernandes and Ademilson Zeber, Production Coordinators in the drying plant. “But even in the worst of times, we made 85% of design production. Now, we are over 100%.”

“To be honest, I didn’t see how ANDRITZ was ever going to get us to world record production,” Fernandes, Coordinator for Packaging and Logistics, says. “But, they made things right.”

#### Improving each month

As Fabio Nakano, General Mill Manager, points out, the mill is exceeding design. “Our production last year was 1,568,000 bleached tonnes,” Nakano says. “Already in the first four months of this year, we have produced 512,000 tonnes, with time out for our annual shutdown. We are on target to produce 1,620,000 tonnes this year.”

March 2015 was a record month (146,964 t) and included a record day of 5,364 t. The drying plant is designed for 5,022 t/d. “We have the potential to do more,” Nakano asserts. “We have the best technologies and the best people here.”

#### Colliding forces

The “dark moments” were caused by a perfect storm of colliding issues: delays in civil construction which limited commissioning time, changes in the design of certain components, material selections that were not rugged enough, and just some bad luck.

It was during the Eldorado greenfield project that ANDRITZ launched a development program to take its drying technology to the next level. “We were having good success in the market,” says Thomas Kefer, Director of Pulp Drying Technology & Start-ups. “But, we were not satisfied to rest on our laurels.”

The development was aimed at achieving higher specific production and baling line speed, as well as reductions in energy and water consumption. “We also harmonized the designs of components we had acquired (sheet drying, cutter/layboy, baling line),” Kefer says.

It was decided to include some of these new design concepts in the Eldorado project, anticipating sufficient time for commissioning the new equipment. However, one of the civil contractors ANDRITZ hired went bankrupt, which had a “ripple effect” by delaying construction of the drying plant.

“The pressure to start up the mill according to the schedule promised to the owners exposed some mechanical failures in our lines,” explains Leonardo Figueiredo, ANDRITZ Brazil’s Sales Manager. “Clearly, Eldorado was not happy with unexpected downtime. Neither were we.”

#### Problems. Solved.

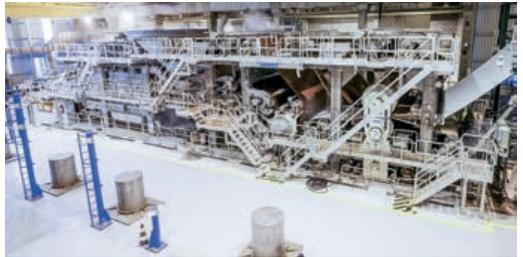
A task force of ANDRITZ experts set about evaluating, agreeing with Eldorado on priorities, and then correcting each problem. “ANDRITZ went down the machines, bolt by bolt, and changed out a weak link or re-designed a component,” Fernandes says. “After the changes were made, we could see big improvements.”

“The corrective actions were taken in an operating mill,” Figueiredo says. “We knew that the equipment could not be taken offline for extended periods, so our work had to be done during downtime or the annual shutdown.”



◀ Ademilson Zeber, Drying Coordinator, (left) with José Fernandes, Coordinator for Packaging and Logistics, at the press section of one of the two high-capacity dewatering machines.

Eldorado decided upon two drying lines and four automated baling lines to have more flexibility. One of the two 6.7 m wide dewatering machines is shown below. ▼



At the wet end, Eldorado was experiencing disturbances in formation and reliability issues in the press section. "Adding some blanks to the forming table eliminated bubbles," Zeber says. "With formation improved, we were immediately able to speed up the machine."

In the press section, there was a nagging problem with one bearing on the press roll. "It turned out to be the channels inside the bearing housing which did not allow the bearing to receive full lubrication," Kefer says. ANDRITZ re-designed the housing and bearing failure is no longer a concern, according to Zeber.

Changing a roll in the CombiPress from movable to stationary also solved certain issues. "After this," Fernandes recalls, "the wet end and dewatering machine were working fine."

At the outlet of the airborne dryer, there was a weak drive on the guide roll. This was replaced by a stronger one. At the cutter/layboy, ANDRITZ changed out the slitter knives and replaced the nip wheels with stronger ones. "We have not had a problem since," Fernandes says.

Along the wrapping and baling line, ANDRITZ reinforced some mechanical components. "We have now basically eliminated stoppages in this area," Fernandes says. "My baling line operators can almost sleep through their shift because the line runs beautifully at about 240 bales/h. The level of rejects from the cutter and baling line is practically zero. Just kidding about the sleeping, of course!"

Bottom line question, "Given the start-up problems and the early frustration here, would you ever choose to work with ANDRITZ on another project?"

"I would like to work with ANDRITZ again," Fernandes says. "Their design is good and now their performance is outstanding." Zeber agrees. "We run for about three months be-

tween sheet breaks on the first machine, and are fine-tuning the second machine to match this," he says. "I think this is pretty good, but we can always do better."

Nakano is also positive. "From my perspective, there is a great relationship between Eldorado and ANDRITZ," he says. "ANDRITZ was committed to isolating the problems and solving them. This is the mark of a good supplier-partner – a company that is around not only for the good times, but also when we experience problems."

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◀ One of the airborne sheet dryers, cutter/layboy, and two of the automated baling lines at Eldorado.