

October 2009  
Vol. 9, Issue 2

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### Our President's Point of View:

In spite of the significant slowdown in the industries we serve, ADCL is weathering the storm admirably, and our active prospects list has doubled in the last month. This is a positive sign that the worst may be over.

Now, more than ever, we have to consider ways to accomplish our goals using fewer resources with a greater return on investment. Advanced Dynamics remains a strong source for all your engineering and material handling needs. We continue to find solutions which modernize existing equipment, streamline operations and increase your profit margins.

Our team has the experience to evaluate your present operations, audit the efficiency and suggest improvements. We are well placed to translate these suggestions into a better designed system and our manufacturing team continues to turn out, high quality, durable systems which can range from simple upgrades to full-fledged automated systems.

In this issue, we are highlighting systems from our paper and aluminum product lines. The handling and dewatering of wet lap pulp has always been a challenge due to the integrity of non-dried bales. We have mastered this with our recent installation in Australia. On the metals side we have manufactured four carbon anode cleaners in the last nine months, and our middle eastern clients have approved them in shop trials. They are now headed east for installation and start up.

As normal business returns, our Company's capacity and capability remains unchanged, dedicated to you, our valued clients.

#### ADCL Metals

Photo at right illustrates our most recent, state-of-the-art stub hole cleaning machine which we have built as part of an anode handling and cleaning system for a greenfield aluminum smelter in the middle east.

We designed, built, programmed and debugged this equipment, and are at the moment overseeing its commissioning. Our related article is on page 3.



#### ADCL Paper

ADCL has supplied a number of pulper feed systems which handled wet lap bales.

These larger bales typically pose problems not associated with dried pulp bales, however, ADCL has designed very efficient systems which cater to this product including the system shown which was delivered to one of our Australian clients. Please read more on our article on page 2.

### Wet Lap Bale Handling Systems:

Many years ago, the North American paper industry standardized on the approximate size of a dried pulp bale. While the number of wires has always been a variable, most kraft bales from pulp cutters generally are 32" wide by 32" long (plus or minus 3" either way), and 16" high. It was intended to be approximately 500 lbs. of pulp.

Wet lap pulp (generally 50% moisture) has not enjoyed the same standards for bale size as dried pulp until recently.

There is a new generation of wet lap pulp bales manufactured in Europe and, more recently, in North America. These larger wet lap bales allow mills to handle up to 1,500 pounds of pulp (3,000 pound total bale weight including moisture) in a single unit, and typically measure 40" x 40" x 72" high).

Each bale is pressed and stacked two high before passing through an extended arch wire tying machine, which applies three parallel wires. This "double high" bale is then tipped onto its front side to ensure no wires are trapped under any pulp.

Three of these bales are then handled together by extended paddle clamp trucks to load rail cars or to store them in the warehouse.

For this type of bale, ADCL provided a system to Kimberly, Wisconsin paper mill, and it was successfully started in 2004. (See pictures one and two.)

Now things have reversed themselves, and the more common wet lap bale is a 1 m x 1 m x 1 m size, with three wires running vertically.

In a recent ADCL installation in Australia, the mill carried these wet lap bales two high from a shipping container to a new generation dewiring line.

The bales were destacked, sent to a new dewiring machine which removed the three vertical wires one at a time and coiled them. These tightly wound wire coils were ejected to a chute and eventually down to a wire bin. An optional wire baller, which will wind the mini coils into 300 # wire balls is under consideration. The bale then passed through a metal detector to a shuttling reject conveyor.

Bales with missed wires are shuttled out of line for manual removal while good bales continue on. Bales were then continuously charged into a pulper via an incline belt conveyor.

This client enjoys the most reliable wet lap system in the industry, and is considering a retrofit of the same dewirer into it's sister mill. Let us know how we can help in your mill.



Kimberly Wet Lap



Kimberly Wet Lap



Australian Wet Lap



Australian Wet Lap

## Anode Cleaning Systems:

ADCL designs and builds anode cleaning systems which feature:

- Extra heavy duty construction
- Industry proven design throughout using the most recent anode cleaning technology
- No “dummy anodes” required for machine clean-out
- Active scraper blades which work over a 50 mm height, width and length tolerance.
- Hole cleaning which not only removes packing coke but cuts the bottom of the holes flat.
- Long scraper blade and hole cleaning tool life. Life of scraper blades estimated at 200,000 anodes and life of stub hole cleaner tools estimated at 100,000 anodes.
- Industrially proven, simple, efficient and easily maintained anode cleaning stations. Designed specifically for the demanding cycling, temperatures and ultra heavy material handling requirements.

In addition to the advantages inherent in our design we also take pride in these facts.

- We are ISO 9001:2000 certified
- All design - mechanical, hydraulic, pneumatic, electric and instrumentation is done in house which assures seamless integration. The control system designers will also be the commissioning supervisors.
- Our experienced project team has expertise in system upgrades and the associated requirements for minimum downtime during the installation and commissioning.
- Thorough shop testing built into the project schedule minimizes installation, start-up and fine tuning time.



Anode narrow surface scraping



Anode long surface scraping



Anode stub hole cleaning

## What's New at Advanced Dynamics

We are very pleased to announce that Nelson Nicolau has joined Advanced Dynamics' sales team in the capacity of Sales Manager – South America. Nelson has many years of experience in the pulp and paper industry and will be happy to assist you with any of your projects.

### *Our Expertise*

Advanced Dynamics has provided all of the following systems and equipment. We can evaluate your existing systems and suggest upgrades or can provide a totally new system for any area in your facility.

In the pulp and paper industry we engineer and build:

- Bale handling systems for Kraft, Wetlap and Recycled Bales
- Stock preparation systems including broke
- Automatic bale dewiring systems for Kraft, Wetlap, and Unitized Kraft Bales, including wire compacting
- Roll handling systems and finishing systems for all grades of paper and including automatic head delivery and labeling as well as robotic automation
- Core handling systems
- Pallet systems
- Guillotine systems, transfer carts
- All controls including PLC/DCS, hydraulics, pneumatics with appropriate programming.

In the primary metals industry we engineer and build:

- Ingot handling systems
- Billet sawing systems
- Anode handling systems
- Rod and tube processing systems
- Furnace and casting systems
- Coil handling systems
- Stud handling systems
- Industrial control systems including HMI and SCADA, tracking and vision inspection
- Copper stripping systems

We design and build custom systems for specific requirements such as:

- Carbon anode handling systems
- Lead strip winders
- Fiber glass insulation packaging and handling systems

**Our sales staff** will be pleased to respond to any questions you have and can be reached at:

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