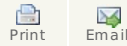


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Oji Paper's giant investment in China - full report



By Annie Zhu, Associate Editor, Pulp & Paper International magazine

BRUSSELS, Sept. 27, 2010 (RISI) - Earlier this year Oji Paper started up its brand new machine housed in a purpose built Greenfield mill near the city of Nantong, next to the Yangste River in China. *Annie Zhu*, Associate Editor, *PPI*, visited the site, and gives a full mill report on what is Oji Paper's largest ever investment.

"The location near the Yangtze river makes it easy for the mill to get water. In addition, we can take advantage of the waste water pipeline built by the local government from Nantong to the Yellow Sea within Qi Dong area, which is good from an environmental point of view," says Hiroyasu Hayano, director/deputy general manager, commander of Jiangsu Oji Paper.

In addition, being in the middle of the east coast of China, with high consumption potential, is also ideal for the mill to sell its products.

Jiangsu Oji Paper has 2 million m² of land, and PM 1 occupies 96,000 m² including all the facilities, for example colour kitchen areas



PLP scope

Jiangsu Oji Paper produced its first paper earlier this year on a new coated woodfree (CWF) machine, PM 1, which was supplied by Germany's Voith Paper. It has a wire width of 8.2 m, trim width of 7.5 m, and a design speed of 1,600 m/min.

Jiangsu Oji Paper started mechanical tests on the machine in early May. It was running at 1,100 m/min to 1,200 m/min in early July. "The machine is running very well," says Muraji Nishi, general manager of Jiangsu Oji Paper.

The entire production line, including stock preparation and the approach flow system, was designed according to Voith's One Platform Concept and has been optimized for minimum energy and fresh water consumption.

This order encompassed a complete production line with accessories, which Voith calls a PLP (Process Line Package). Voith is not only the supplier of technical equipment, but of the complete process.

For a Japanese customer, a PLP scope is not the conventional way to purchase, because Japanese customers normally combine equipment from various suppliers.

"The advantage for our customers purchasing a Process Line Package is that there are fewer intersections. Voith takes the complete responsibility, if there is any problem within their scope," says Andreas Koehler, project manager, Voith Paper.

"It is good to use one supplier, as everything is on one platform, and it is really rare in Oji's normal practices," says Hayano.

Jiangsu Oji Paper has produced its first paper on the new coated woodfree PM 1



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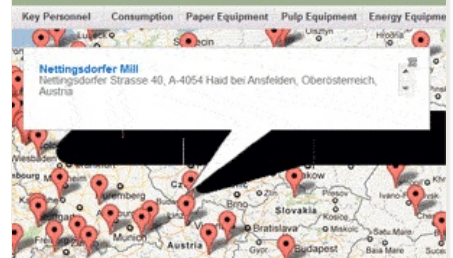
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Pleased with formation

PM 1 starts off with Voith's dilution control ModuleJet headbox. The DuoFormer TQv, has loadable blades and forming roll. "We are really pleased about the formation and the quality is very high," says Nishi.

The press section has a tandem-style press to ensure smoothness. The nip pressure is designed for 900 kN/m each and the goal is to reach 1,000 kN/m.

The dryness after press is designed to be 50%. "Currently, the dryness is 47%," says Nishi. The company is still testing fabrics felts from different suppliers to see which product is most suitable for the unit.

There are 11 groups in the dryer section, including eight groups in the pre-dryer section, and three in the after dryer section. The dryer section has high vacuum release boxes. The machine has a speed sizer with air turn and hot air dryer. Before the Sirius reel, there is a hard nip calender.

"The calender is very important to make the paper flat in an economic way," says Nishi.

In addition to the paper machine, Voith supplied an off-machine coater with four blade coaters with CD coat weight control.

Two Janus offline hard calenders with Nipcorrect caliper control follow the off-machine coater. Each calender has 10 rolls for multi- and single-nip operation with flying splice. Two VariPlus winders with butt splice are also in the package.

An automation package and electrification, erection supervision, commissioning and training also formed part of the scope of supply. The automation package includes machine control system (MCS), distributed control system (DCS) and quality control system (QCS), web break analysis system, monitoring system, and field instruments.

The electrical equipment and drive systems came from Siemens. Other automation suppliers for the unit include ABB and Fujitsu.

PM 1 will be capable of making coated and uncoated fine paper in the 40-140 g/m² range. The current weight of uncoated paper that PM 1 is producing is 73 g/m², and the coated weight is 113 g/m².

Jiangsu Oji Paper is using several Chinese companies to supply the chemicals for the unit.

PM 1 was supplied by Germany's Voith Paper and has a wire width of 8.2 m, trim width of 7.5 m, and a design speed of 1,600 m/min



Service package included

Oji Paper not only chose Voith Paper to supply the complete production line equipment, but the piping, tanks, pumps and instruments as well. "With Voith Paper's PLP, Oji Paper has been able to streamline the engineering, erection, startup and training process," says Kehler

The service package from Voith Paper includes:

- Basic and Detail Engineering

timber, tissue and nonwovens.

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There is 800 staff working in the mill right now including subcontractors. About 30% of the staff have university degrees having majored in mechanical engineering, economics or paper production, and the rest of the staff have a high school education.

"Language is the biggest challenge for us," says Hayano. "However, we have been sending some staff with university degrees to study in Japan for one year, to improve their language skills. Now we have 6% of people who are bilingual."

"Compared to the staff in Japan, the staff in China are young, only around 22-23 years old. While in Japan, staff in paper mills averages 30-35 years old. Young people here are learning very quickly," says Nishi.

PPI's Associate Editor Annie Zhu, interviewed the managers of the Jiangsu Oji Paper mill, Hiroyasu Hayano, director/deputy general manager (center) and Muraji Nishi, General Manager (right)



Utilities and environmental issues

The plant currently has two boilers fed with coal. The boilers generate 200 tonnes/hr of steam with the pressure at 12 MPa and the temperature at 540°C. The two steam turbines each generate 40 MWh of electricity. "We are also buying some electricity from the national grid as supplement," says Nishi.

"Oji is close to big cities and regulations are hard. We have met all the environmental standards required by the Chinese government," says Nishi.

Currently, the mill uses 15 tonnes of water from the nearby Yangtze River to produce one tonne of paper. Wastewater COD is kept under the required standard at 80 mg/L.

"Standards are getting stricter in China these days, and they are almost the same as in Japan," says Nishi.

As for effluent, the mill removes chemicals from the water, and also has a biological treatment stage. Finally, the sludge is burnt to generate steam.

Expansion on the way

This is the mill's first paper machine but Oji Paper has big plans. It will be followed by a 700,000-tonne/yr bleached hardwood kraft (BHK) pulp line in 2013.

Until the BHK line comes on stream, PM 1 will be fed with market pulp. PM 1 uses 260,000 tonnes/yr of pulp approximately.

"PM 1 mainly uses short fiber from Brazil - Cenibra - a subsidiary company of Oji Group. In addition, it is using some long fiber imported from North America," says Nishi.

The company started to develop plantations in Guangxi and Huizhou in China in 2001 and 2005 respectively. "Guangxi has 6,400 ha of plantations and Huizhou has 23,400 ha right now. We mainly plant eucalyptus and poplar trees in these two areas. Oji Paper has more than 200,000 ha of plantations in the world," says Nishi. Currently, Oji Paper has plantations in Australia, New Zealand and China to feed its paper mills.

In addition, further expansion of the mill is in the pipeline. "We are also planning for PM 2 in 2014/2015 with a capacity of 400,000 tonnes/yr. PM 3 is also in the pipeline depending on market conditions. PM 3 may produce low basis weight fine paper," adds Nishi.

PM 1 is expected to go commercial by the end of 2010, after trial runs are completed. In the current plans, production will be targeted for the domestic market.

Jiangsu Oji Paper sits on 2 million m² of land, and PM 1 only occupies 96,000 m², including all the facilities, for example the color kitchen. "Only 5% of the land has been occupied, so it

leaves plenty of room for further expansion," says Nishi. About 20% of the total land will be designated a green area, according to local regulations.

Oji originally announced back in 2003 that it would build a 1.2-million tonne/yr fine paper mill in Nantong housing two machines, each with a capacity of 600,000 tonnes/yr. The following year it modified the plans to encompass three machines with individual capacities of 400,000 tonnes/yr, to make up the targeted 1.2 million tonnes.

High CWF growth worries some

In addition to Jiangsu Oji Paper, other companies are expanding into the CWF grade. APP China has kicked off the startup on the world's largest coated fine paper machine at its mill in Hainan. Other big players such as Shandong Chenming and Shandong Huatai are also expanding in the grade in the coming two years. These four PMs will have a combined capacity of 2.7 million tonnes/yr, according to PPI.

Despite the local market's fast growth, there are oversupply concerns. Chinese papermakers are worried about the impact from the two PMs on the domestic paper market.

However, big companies equipped with modern, sophisticated technology should be able to benefit from China's stringent regulations on environmental emissions that aim to shut down outdated and high polluting mills.

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