

“ YOU MIGHT SAY I HAVE BEEN IN MDF SINCE THE *BEGINNING* OF ITS DEVELOPMENT ”

He witnessed the invention of MDF and even commissioned the first MDF plant in the southern hemisphere in 1976. Murray Sturgeon, managing director of Nelson Pine Industries, looks back at 60 years of experience in panel manufacturing.

The story begins on September 15, 1984, the day Managing Director Murray Sturgeon was approached to helm Nelson Pine Industries Limited (NPIL).

The company was a joint venture founded on October 2, 1984, between two New Zealand partners and Sumitomo Forestry Limited, a Japanese firm (not to be mistaken with Sumitomo Corporation). Often called “New Zealand’s business miracle”, it is well-known around the world as a pioneer in panel manufacturing technology.

Its namesake comes from Nelson, a region north of the south island. Its location is strategically placed near the resources required for a successful wood-based panel business.

The factory depends on residual wood from the surrounding Radiata pine forest in the Nelson-Marlborough region. Within a 60km radius around the factory, about 170,000 hectares of Radiata pine—or 10 per cent of New Zealand’s total forestry resource—is available for use.

The company harvests 2.5 million cbm per year on a 25-year crop rotation basis. NPIL processes 40 per cent of that region’s resources into one million cbm of value-added products annually, or an average of 170 trucks per day.

It is also near the port of Nelson, a cost-per-board distance that comes up to roughly \$7/cbm.



“ The best sanding technology from Steinemann helped sand the panels at speeds of up to 200m/min, which is unbelievably quick. ”

Murray Sturgeon,
Managing Director of
Nelson Pine Industries

Over time, Sumitomo Forestry acquired 100 per cent of the company. Employing 230 people and hiring engineering, transport and other services from the local region, it the largest capital investment in the Nelson region. (Sumitomo Forestry Co Ltd recently acquired 30,000 hectares to secure a total of 35,000 hectares of wood supply for MDF and LVL processing.)

THE BEGINNING

In fact, Mr Sturgeon's leadership marked the start of what would later make Nelson Pine a global leader in panel manufacturing. Subsequent panel plants have since followed in its footsteps.

The 78-year-old comes from a wealth of knowledge in panel manufacturing, beginning in 1957 where he worked 16 years in Fletcher. He then moved to Columbia Engineering in Vancouver where he was part of the commissioning team for Plum Creek Lumber Company in Montana, USA. His time in North America bolstered his reputation for MDF manufacturing.

In 1975, he was employed by Canterbury Timber Products. The company's first MDF line was commissioned on March 13, 1976, using equipment that was onsite the Plum Creek facility. It was also the first MDF factory in the southern hemisphere and the 12th in the world.

In 1982, Canterbury had a joint venture with an Australian company, commissioning another plant in Wagga Wagga in New South Wales.

By the time he went to Nelson Pine, he was recognised worldwide as an "MDF veteran".

"You might say I have been in MDF from the beginning of its development," Mr Sturgeon says.

Today, Mr Sturgeon is still at the centre of Nelson Pine's key decisions. He is still alert, very involved and has the memory of an elephant.

He says, "In this position I have had to make investment decisions on behalf of Sumitomo Forestry. I have free license to expand and develop the processing facilities in Nelson. Taking the technology that is available and pioneering it for use is more fun in the business than following and being a 'me too'."

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PIONEERS IN THE FIELD

Nelson Pine's first board for Line 1 was born on May 11, 1986. The plant was built with equipment that suited the locality of Nelson. Dieffenbacher provided the pre-press; the Kusters continuous press, which could manufacture 2.5 – 32mm boards, was the ninth in the world.

In 1991 the second MDF plant was commissioned with a planned annual capacity of 100,000cbm. It features a Kusters continuous press, the 21st sold in the world. MDF Line 3 was subsequently commissioned in 1997, featuring Kusters again, the 50th press sold in the world.

The introduction of continuous pressing in MDF —instead of a multi-opening press—was pioneering. "No one had done that before," Mr Sturgeon recalls.

"This method reduces cost because you don't have the trim-wise of each individual panel. The sanding allowance is also reduced from 1.2mm to 2.2mm of sand-off."

The best sanding technology from Steinemann helped finish the panels at speeds of up to 200m/min. The shorter working hours meant that the factory could eliminate the night shift and weekend work, which was expensive.

Since 1986, eight of these machines have been purchased for all factories. (Before, Mr Sturgeon had also bought sanders from the Swiss experts when he working for Canterbury Timber Products.)

Furthermore, using energy systems to heat thermal oil for steam generation for the refiners and thermal oil for pressing, as well as using clean flu gas for the dryer media at that time was new.

"We have been using biomass for energy production since 1986. Today 75 per cent of total energy requirements are fulfilled from this resource," Mr Sturgeon says.

Nelson Pine also focused on thin panel production, a trend that is only beginning to pick up in Southeast Asia now.

In 2000, a Raute rotary peeling veneer factory was installed. The new Laminated Veneer Lumber line features a Grenzebach veneer dryer and 50m long Dieffenbacher LVL continuous press, the fifth press sold in the world.

In the aftermath of the 2011 and 2016 Christchurch earthquake, LVL has been making great strides in the multi-storey residential projects market. Engineered wood superstructures are quick to erect and seismic resistant. Around the world, builders are recognising the benefits of using wood in multi-storey construction.

One of Nelson Pine's latest orders is to supply 600m3 of LVL for Nelson's brand new airport. It is also supplying LVL for high-rise buildings in Japan, Australia and New Zealand.

There are no plans to venture into cross-laminated timber as yet.

CONTINUING A LEGACY

Nelson Pine's raw boards are sold to the domestic residential fit-out and furniture market, as well as shipped to Southeast Asia and North America. About half of the panels are exported to Japan, thanks to Sumitomo's reach in that market.

Today, Southeast Asia, especially Thailand and Vietnam, is coming up strongly as key contenders for supplying wood-based panels. The lines are state-of-the-art, run by professionals, boards are price-competitive and of quality.

On the question if this would affect the demand for Nelson Pine's MDF, Mr Sturgeon highlights the differences in products from both localities:

"Radiata pine MDF has a very clean surface. They are a light, honey colour, which enables the customer to laminate the surface with thin papers that do not affect the pattern's appearance. Southeast Asian lines on the other hand use mixed tropical hardwood species and rubber wood. Rubber wood produces latex, which can affect surface quality when laminating with thin veneer or paper."

Mr Sturgeon has no plans for retiring. He says, "While there is a very good structure working below me, I still see my role as someone that paints the cartoon and they colour in the shapes so the picture is complete."

But a succession plan is underway, and that should take Nelson Pine to greater heights. ☺

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