



## Project Review

### Pan Pac Forest Products Project

#### 36MW<sub>th</sub> Bubbling Fluidized Bed (BFB) Boiler

Client: Pan Pac Forest Products

Location: Napier, Hawkes Bay, New Zealand

#### Background

In 2002, Pan Pac required an additional 36MW of steam to meet their new kiln requirements and projected growth. Pan Pac also needed to minimise their natural gas consumption and dispose of the continually growing mountain of woodwaste.

This residue is a mixed blend of bark, pulp mill sludge, sawdust, dry shavings and green wood chip with moisture contents up to 60%.

#### The Solution

RCR Energy Systems, now Windsor Energy, provided a Bubbling Fluidized Bed (BFB) combustion system to burn this variable biomass blend and Towerpak boiler to generate high pressure steam. The fuel required a fuel management system that could handle, store and deliver on a metered basis, a wide range of site-produced wood.

We proposed a B&W Towerpak® boiler (designed by RCR under license from Babcock & Wilcox Power Generation Group Inc, USA).

We designed, manufactured, commissioned and installed a new boiler and ancillaries including:

- Complete project management;
- Babcock & Wilcox Towerpak® boiler;

- Babcock & Wilcox BFB combustion system;
- Gas burner ignition and start-up system;
- Bag filter emission control;
- Automation and Software; and
- Electrical and Instrumentation.

Subsequently (in 2005), Pan Pac requested a Superheater to be retrofitted which provided 41.5MW steam capacity and an increase in operating temperature to 450°C (Superheated).





### Why Windsor Energy?

As a proven supplier of plant and services worldwide, Windsor Energy offered the following advantages:

- The ability to work locally and internationally and integrate smoothly with local project partners.
- Proven supplier record with large industrial clients.
- Innovative plant design for high efficiency and simple operation.
- Modular plant design optimised for safe and simple shipping and erection.
- Clean burning biomass combustion technology with very low emissions.

Project Name	Pan Pac Forest Products
Project Number	P02340
Date Installed	2002
Boiler Type	B & W Towerpak® with BFB Boiler
Combustion System	Bubbling Fluidized Bed (BFB)
Thermal Capacity	36 MW
Fuel Source	Biomass Wood Waste
Boiler Design Code	AS 1228
Steam Output	55.255 tph
Steam Temperature	283.3°C (Saturated)
Design Pressure	66.4 Bar G
Operating Pressure	58 ± 0.5 Bar G
Feedwater Temperature	105°C
Emissions Guarantee Particulates	20mg/Nm <sup>3</sup>
Turn Down	3:1

### Contact Us

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