



Project Review

Matura Valley Milk, Boiler 1 - Gore, New Zealand

20.4MW_{th} Lignite Fired Boiler

Client: Matura Valley Milk
 Location: Gore, South Island of New Zealand
 Duration: 16 months Design and Build

Background

Matura Valley Milk is the vision of local Southland dairy farmers and shareholders who saw the opportunity to add more value to their product than the traditional New Zealand dairy farming/processing model. This shared goal has resulted in a joint venture between New Zealand and overseas investment partners, with the resulting company producing exceptional nutrition products for a growing world.

Southland has a climate that is temperate near the coast, tending toward continental in the interior. With fertile plains and reliable rainfall, the district is ideal as a premium dairy farming region.

Construction of a state-of-the-art nutrition plant at McNab, near Gore, was commenced in 2016 as part of a \$240 million investment to manufacture and produce nutritional powders and creams for high-end markets.

The Solution

After evaluation of the plant's energy requirements and the available technologies and sources, Matura Valley Milk awarded the contract for a 31t/hr (20.4MW) saturated steam boiler in November 2016.

The contract scope consisted of the design and build of the complete boiler plant on this "green field" site:

- Boiler house and MCC/control room buildings
- Steam boiler plant including integral ancillaries
- Feedwater, deaerator and pumping system
- Steam, water and condensate piping systems

- Coal reception and holding facilities including elevating and conveying equipment
- Pulse-jet bag filter particulate emission control system
- Ash handling system including dense phase pneumatic conveying, ash silo and ash conditioning system
- Electrical instrumentation and control (EI&C) systems.

Processing of milk and production of nutritional products commenced in August 2018.





Why Windsor Energy?

As a trusted provider of plant and services in New Zealand and Australia, Windsor Energy offered the following advantages:

- Proven track record with multiple completed plants in the dairy industry and for other large industrial clients.
- Established network of local and international partnerships, and a demonstrated history of delivering safe and reliable boiler plant on time.
- Modular plant design optimised for long-distance transport of components, and efficient, safe assembly at destination.
- Innovative plant design for high efficiency, simple operation and low overall cost of ownership.
- Design and personnel experienced in the specific challenges of burning Southland lignite as the nominated fuel.
- Clean burning combustion technology and state-of-the-art flue gas filtration, with a history of achieving particulate emission levels significantly lower than the design requirement.

Contact Us

Level 2
6 Albion Street, Napier 4110
PO Box 1045, Napier 4140
New Zealand
P +64 6 899 5050
E energy@windsor.co.nz
www.windsorenergy.co.nz

Project Name	Maitava Valley Milk Boiler 1
Project Number	3093
Date Installed	2018
Boiler Type	B&W Towerpak® Boiler
Combustion System	Spreader firing onto travelling grate (Detroit)
Thermal Capacity	20.4 MW
Fuel Source	Lignite
Boiler Design Code	AS 1228
Steam Output	31,000 kg/h
Steam Temperature	250°C (saturated)
Design Pressure	4,150 kPa
Operating Pressure	3,850 kPa
Feedwater Temperature	105°C
Emissions Guarantee Particulates	< 40 mg/Nm ³ (< 10 mg/Nm ³ achieved)
Turn Down	4:1

