

Project Review

Nestlé Tutbury, U.K. - Project Dove

14 tph Bubbling Fluidized Bed (BFB) Boiler

Client: Nestlé
Location: Tutbury, United Kingdom

Background

Nestlé is a world leading food company with nearly 500 factories distributed in 86 countries and with over 283,000 employees worldwide.

Generating a significant by-product stream of spent coffee grounds, the Tutbury factory (in the county of Staffordshire, United Kingdom) required an environmentally efficient method of disposing of this material.

At the time of commissioning the boiler at Tutbury factory was the 5th boiler that RCR, now Windsor, has supplied to Nestlé.

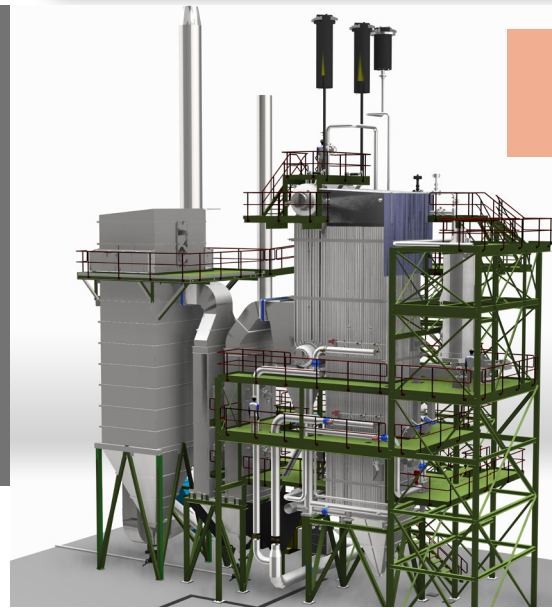
The Solution

The contract scope included design and supply of boiler plant components, supervision of erection, installation and commissioning on site.

To successfully incinerate the high moisture biomass fuels a bubbling fluidized bed (BFB) was proposed, designed by RCR Energy under license from The Babcock & Wilcox Company, USA.

- Open hopper bottom bubbling fluid bed (BFB) combustor
- Very high efficiency boiler with Economiser
- Pre-heated combustion air system
- Particulate emission control using a Baghouse
- Selective Non Catalytic Reduction (SNCR) systems for Nox reduction





Why Windsor Energy?

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

- The ability to work internationally and integrate smoothly with local project partners.
- Proven supplier record with Nestlé Group and other 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	Nestlé Tutbury, United Kingdom
Project Number	2345
Date Installed	2015
Boiler Type	B & W Towerpak® with BFB Boiler
Combustion System	Bubbling Fluidized Bed (BFB)
Thermal Capacity	9.22 MW
Fuel Source	Spent Coffee Grounds
Boiler Design Code	EN 12952-3 : 2011
Steam Output	14,000 kg/h
Steam Temperature	220°C (Saturated)
Design Pressure	2500 kPa
Operating Pressure	2200 kPa
Feedwater Temperature	103°C
Emissions Guarantee Particulates	< 25 mg/Nm ³ @ 11% O ₂
Turn Down	3:1

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Typical B&W Bubbling Fluidized Bed

