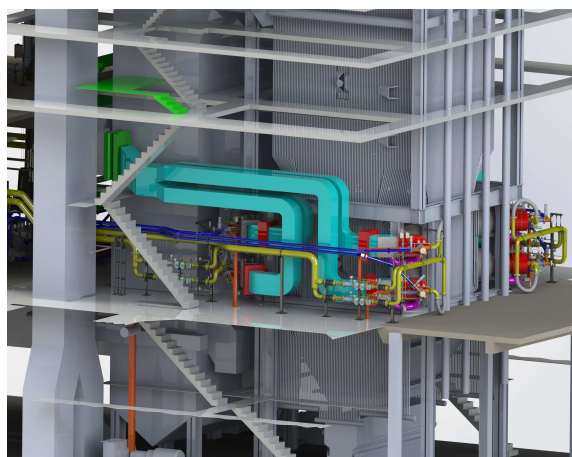


# Stalowa Wola S.A.

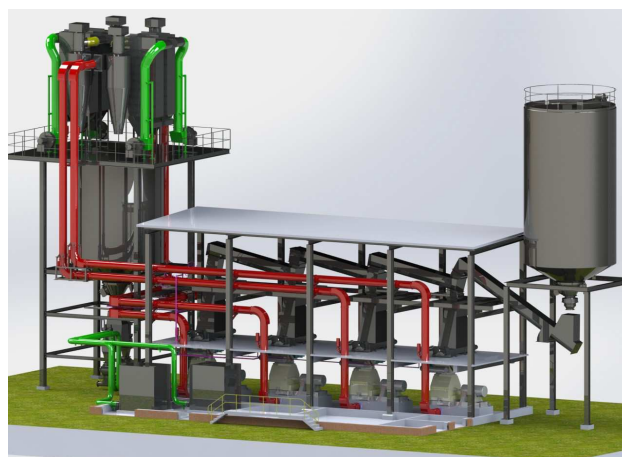
## Power Plant, Poland

**Biomass/natural gas fired boiler with firing power rate of 99 MW**

<b>Customer:</b>	Consortium Remak-Rozruch/WTS AB
<b>Main contractor:</b>	Rafako S.A.
<b>End user:</b>	Stalowa Wola S.A. Power Plant
<b>ICS contribution:</b>	Design of piping installations and delivery of natural gas reduction stations and natural gas trains
<b>ICS reference:</b>	ICS053
<b>Capacity:</b>	99 MW from biomass or natural gas
<b>Commissioning:</b>	April 2013



*Boiler with biomass, natural gas and combustion air line – 3D model*



*Installations in the milling house – 3D model*

### Description

Stalowa Wola S.A. Power Plant belongs to the Tauron Group which is a major player in the power sector and a key contributor to the energy security of Poland. The power plant is located in southern east part of Poland in Stalowa Wola. The project covered conversion of the boiler OP-120 with firing power rate of 99 MW from coal powder firing unit into dual fuel fired unit. One of the fuel is a biomass and the second, as a start-up fuel and in case of lack of biomass is a natural gas.

### Installation

The complete installation is composed of biomass storage where the raw agro biomass is delivered. The biomass is grinded by choppers and supplied to the drying unit. The material is then transported to the biomass silo and next to milling house where it is milled in order to obtain ultimate material size. Such milled biomass in a form of powder is separated from the air on cyclones and filters, stored in a powder silo from which it is transported pneumatically to the boiler house. Alternatively as a biomass also the pellets can be used which will be stored in additional biomass storage next to the milling house where pellets will be milled.

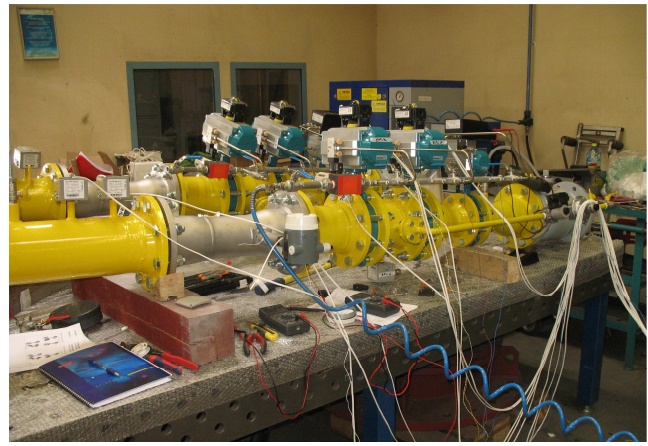
Delivered to the boiler house biomass powder is again separated from the air on filters and then from dosing units is supplied pneumatically to 8 dual fuel burners each with firing power rate of 16,5 MW. The installation consists also of natural gas installation which is used as a start-up fuel or in case of failure of the biomass delivery as support fuel (natural gas is an emergency fuel also).

## ICS scope of supply

- design of piping installations with support constructions in the milling house, from the milling house to the boiler house and installations located in the boiler house (workshop and erection documentation),
- delivery of the 4 natural gas reduction stations each supplying 3.508 Nm<sup>3</sup>/h of natural gas,
- delivery of 8 gas trains supplying 1.754 Nm<sup>3</sup>/h of natural gas equipped with automatic safety shut-off valves, flow meters, pressure switchers and other equipment,
- delivery of detailed documentation of delivered reduction stations and gas trains like: guidelines for control system description, technical description and other documentation,
- engineering support during erection and commissioning.



*Reduction station at production facility*



*Natural gas trains during the FAT performance*

## Advantages

- conversion of the boiler from firing by coal powder into unit fired by green energy fuels that is raw agro biomass and pellets without building the new boiler,
- upgrading of the combustion system to be the state of the art unit,
- upgrading of the combustion system in order to meet current norms, standards, and authorities requirements,
- low NO<sub>x</sub> emission,
- ecologically friendly system.

## Company close-up

ICS Industrial Combustion Systems mission is delivering proven, reliable, innovative combustion solutions to heavy industry Customers throughout the Europe.

ICS's offer includes combustion systems for:

- steel reheating and heat treatment systems,
- nonferrous metals reheating and heat treatment systems,
- waste gas incineration systems,
- petrochemical combustion systems,
- ceramic industry combustion systems.

## Contact

ICS Industrial Combustion Systems Sp. z o.o.



60-349 Poznań, Poland  
 ul. Jana Ostroroga 17/1  
 Tel: +48 618 641 216  
 Fax: +48 618 652 141  
 Email: office@icsco.eu