

Solutions for an Odorless Pulp Mill

ODOCON





Examples of ODOCON deliveries

UPM-Kymmene Oyj, Kymi, Kuusankoski, Finland

- CNCG incineration simultaneously in recovery boiler and in separate NCG incinerator
- CNCG flow: 850 m³/h
- DNCG incineration in recovery boiler and in NCG incinerator
- DNCG flow: 54 000 m³/h
- Dissolving tank vent gas handling
- Methanol flow: 1375 kg/h

Suzano Papel e Celulose S.A, Maranhão, Brazil

- Mill wide NCG engineering
- CNCG incineration in recovery boiler, back-up system power boiler
- CNCG flow: 1900 m³/h
- DNCG incineration in recovery boiler, back-up system power boiler
- DNCG flow: 64 800 m³/h
- Dissolving tank vent gas handling 25 MW
- Methanol flow: 3060 kg/h



Valmet is a front-runner in providing combustion technology for sustainable energy generation and recovery solutions for power generation and pulp and paper customers. Our sustainable offering includes multi-fuel boiler plants, complete modular power plants, recovery boilers and evaporators, environmental protection systems and lifecycle services.



Mill-wide solutions for effective odor control

State-of-the-art technology is vital in order to meet the strict environmental regulations in place today and for the future. ODOCON solutions for non-condensable gas (NCG) collection, and primary and back-up incineration of gases, ensure efficient control of odors within pulp mills.

Efficient technology

Superior system availability and extremely high oxidation rate enable our customers to realize an environmentally friendly, odorless pulp mill. NCG can be effectively destroyed through thermal oxidation. Efficient combustion and gas cleaning technologies minimize TRS, SOX and NOX emissions. Multiple back-up systems ensure the elimination of odors and clean the air in the mill environment even in upset situations.

Combustion in a recovery boiler is the most common and economical way to oxidize NCG in pulp mills. CNCG (Concentrated Non-Condensable Gases) are destroyed in a custom-designed incinerator inserted into the recovery boiler. This ensures high efficiency and availability and low emissions. Power boilers and torches are reliable and cost-effective applications to be used

as back-up burning systems. Valmet's burner systems have the capability to burn multiple substances such as gas, oil and methanol.

DNCG (Dilute Non-Condensable Gases) are first condensed and then reheated before they are fed into the recovery boiler combustion air system. There is no increase in emissions during DNCG combustion. A power boiler is an excellent back-up location for DNCG combustion. During shutdown periods, DNCG can be fed into the NCG incinerator or back-up burners.

Savings through chemical balance control

Chemical balance control brings important savings to pulp mills. Sulfur formed in the NCG burning process can be recovered back to the pulp mill's chemical cycle in a recovery boiler or from the flue gases as sodi-

um bisulfite or SO₂ water. In addition, if required, lime scrubbing can be used to completely remove excess sulfur from the chemical balance. Sulfur recovery from the incinerator's flue gases enables chemical balance control, which is an economical advantage in today's pulp mills.

Separate processes for increased safety

Odorous non-condensable gases from a pulp mill can be divided into two categories: concentrated (CNCG) and diluted (DNCG). CNCG are typically released from pressurized processes, such as cooking and evaporation. DNCG are emitted from open tanks and equipment. For safety reasons, CNCG and DNCG are always handled in separate collection systems using different technical design approaches.

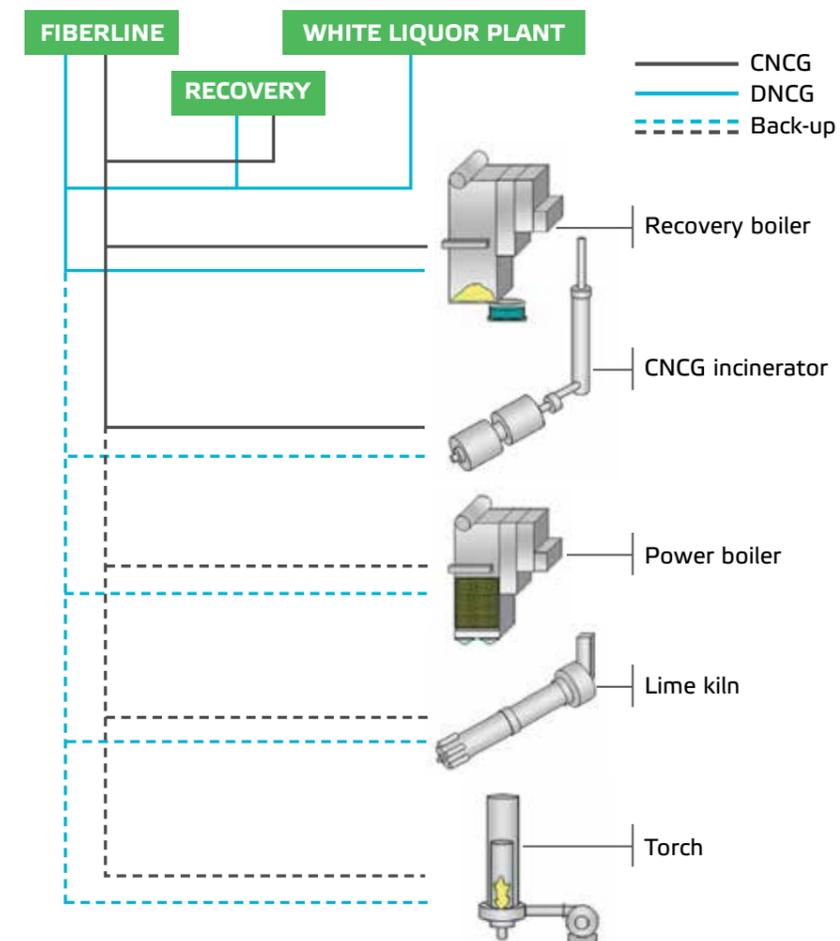
Safe environment for employees and surrounding communities

Safety and reliability in NCG treatment must not be compromised due to the toxicity and high explosion risk of the gases. Special attention is paid to health, safety and environmental issues in the design of NCG collection and destruction systems. Mill-wide automation and interlocking ensures secure operation; while customer participation in hazard and operability studies provides safe working conditions for employees and a healthy environment for surrounding communities.

Industry experience, process knowhow

With close to 40 years' experience with recovery and power boiler technology, Valmet has delivered emissions control solutions to several hundreds of pulp mills in more than 30 countries.

Our know-how and proven technologies cover NCG collection and destruction for the entire pulping and chemical recovery process. Our solutions are customized according to each customer's requirements, and operation conditions ensure high efficiency and safety.





Our 11,000 professionals around the world work close to our customers and are committed to moving our customers' performance forward – every day.



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