Flue Gas Desulphurization Systems

Flexible Modular System for Retrofit
Removal Efficiency Increase
Reduction of Power Consumption

Application

**Power Plants and Industrial Boilers**
SO₂ reduction, extension of fuel range

**Benefits**
- Reduction of pollutant emissions (SO₂, SO₃, Dust)
- High availability
- Increase of operational flexibility
- Optimized consumption of limestone
- Optimized distribution of oxidation air
- Reduction of auxiliary energy consumption

Design

- Wet FGD (also with tray technology)
- Spray Dryer Absorption System (SDA)
- Circulating Fluidized Bed System (CFB-FGD)
- Duct Sorbent Injection (DSI)

Scope of Supply

**Retrofit, Revamping and New Build FGDs**
- Consultancy
- Process engineering
- CFD-simulations
- Engineering, supply and installation of components
  - Nozzle position
  - Tray layer retrofit
  - Oxidation air distribution
- Commissioning

**Technical Data**

- SO₂ < 200 mg/m³ (STP) corresponding to removal efficiencies > 98%
- Low pressure drop
# Reference List Excerpt

## FGD Systems

<table>
<thead>
<tr>
<th>Scope</th>
<th>Client</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retrofit of a tray for FGD scrubber upgrade, 2x110 MWel, Lignite, Novaky PS, Slovakia</td>
<td>Slovenské elektrárne, a. s., Bratislava, Slovakia</td>
</tr>
<tr>
<td>Retrofit of a tray for FGD scrubber upgrade, 86 MWel, Lignite, Deuben PS, Germany</td>
<td>Mitteldeutsche Braunkohlegesellschaft GmbH, Germany</td>
</tr>
<tr>
<td>Revamp and optimization of FGD, 660 MWel, Bituminous Coal, Hemweg PS 8, Netherlands</td>
<td>Nuon Power Generation BV, Utrecht, Netherlands</td>
</tr>
<tr>
<td>Engineering and component supply for a wet FGD, 150 MWel, Lignite, Paroseni PS, Romania</td>
<td>LAB GmbH Germany, for Electrocentrale Paroseni S.A., Paroseni, Romania</td>
</tr>
<tr>
<td>Retrofit of a tray for FGD scrubber upgrade, 600 t/h, Fenne PS, Bituminous Coal, Völklingen, Germany</td>
<td>STEAG AG, Saar-Völklingen, Germany</td>
</tr>
<tr>
<td>Detail engineering for efficiency increase of FGD scrubber, 2x227 MWel, Lignite, Maritsa East 3 PS, Bulgaria</td>
<td>ContourGlobal, Sofia, Bulgaria</td>
</tr>
<tr>
<td>Concept design study for SO\textsubscript{2} emissions reduction 200-730 MWel, Bituminous Coal, ESKOM’S fleet, South Africa</td>
<td>Eskom Enterprises, Johannesburg, South Africa</td>
</tr>
<tr>
<td>Technical specification for the FGDs, 6x800 MWel, Bituminous Coal, Medupi PS, South Africa</td>
<td>Eskom Enterprises, Johannesburg, South Africa</td>
</tr>
<tr>
<td>Study for efficiency improvement of FGD, 4x500 MWel, Bituminous Coal, Ratcliffe PS, Great Britain</td>
<td>E ON, Ratcliffe-on-Soar, Nottinghamshire, UK</td>
</tr>
<tr>
<td>FGD optimization study, 2x110 MWel, Lignite, Novaky PS, Slovakia</td>
<td>Slovenské elektrárne, a. s., Bratislava, Slovakia</td>
</tr>
<tr>
<td>License, know-how transfer and cooperation agreement for FGD plants</td>
<td>Guizhou XingYun Environment Protection Co., Ltd, Gyuang, China</td>
</tr>
<tr>
<td>FGD Tender evaluation, 6x800 MWel, Bituminous Coal, Kusile PS, South Africa</td>
<td>Eskom Enterprises, Johannesburg, South Africa</td>
</tr>
</tbody>
</table>

**Legend:**
- PS – Power Station
- PF – Pulverized Fuel
- CHP – Heat and power plant
- SCR – Selective Catalytic Reduction
- STP – Standard Temperature and Pressure
- HRSG – Heat Recovery Steam Generator
- FGD – Flue Gas Desulphurization
- CFB – Circulating Fluidized Bed
- ESP – Electrostatic Precipitator