



DAGAVO
Schkopau Power Plant Unit A and B
(Ni-Base material)

Subject:

KW Schkopau, East Germany,
 lignite fired power plant, 900 MW
 2 Flue gas lines each unit

Special feature:

Largest DAGAVO-module ever built
 (cross section 8.0 x 8.5 m)
 Replacement of plastic coated tubes
 (in Unit B)

Objective:

Reheating of clean gas downstream
 of wet scrubber in order to protect
 ductwork and stack against corrosion
 and to meet min.stack outlet temp.
 as required by law

Commissioning **Unit A 1997**
 Unit B 2001

Design Data:

Flue gas volume flow	4 x 1.050.000	Nm ³ /h wet
Temperature in/out	65 / 78	°C
Steam parameter		
Operating Pressure	4.7	bar
Temperature in / out	200 / 149	°C
Pollutants in flue gas		
H ₂ O	26	Vol. %
SO ₂	400	mg/Nm ³
HF	20	mg/Nm ³
HCl	10	mg/Nm ³
HF	5	mg/Nm ³
Dust	40	mg/Nm ³
Heat Duty	6.125	KW

Tube plate



Solution and implementation

Due to the extreme corrosion attacks heat exchanger parts, such as tubes, tube plate and bundle frame in contact with the clean gas are fabricated in nickel base material alloy 59, the most suitable material for such operations. This material has also been used for the scrubber inlet, dampers, sprayer levels, oxidation air lances and limestone injectors etc.

Other manufacturing precautions were tube to tube sheet connections with fully automatic welding methods and additional expansion of the tubes in order to eliminate the gaps between tube and tubesheet. This is important to avoid crevice corrosion.

To keep the heat transfer surface clean a special water spray system is integrated into the casing of the DAGAVO. The cleaning intervals are determined by operational experience and allow continuous operation throughout the year.

In order to avoid noise problems caused by resonance between gas column frequency and natural frequency of the tubes, special noise damping plates are installed as well

Advantages:

- customized concept planning due to close adaptation to the operating conditions
- long lifetime due to corrosion-resistant design
- high operating reliability and therefore high availability
- simple cleaning procedure
- acoustic tuning

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