

Riga Power Station

Air Preheater Rehabilitation



Riga Power Station No. 2 (RTEC-2) is the main supplier of power and district heat to Riga, the capital of Latvia. The plant is owned by Latvenergo and consists of four units each of 200 MWe and with natural gas and heavy fuel as main fuel. The units are 20 years old and the main equipment are presently undergoing rehabilitation works. The existing air heaters of Russian design have very high leakage of air to the flue gas and hence limiting the production capacity of the plant. Some air heaters have operated with more than 50 percent leakage.

In 1997 BWSC (then:BWE) was awarded contract for the rehabilitation of the first two air heaters for unit No. 3. In 1998 a contract followed for unit No. 2, and in 1999 for unit No. 1.

The air heaters are getting complete new sealing systems consisting of:

- New radial sealing system with sliding shoe system
- New circumferential seals
- New axial seals
- New shaft seals

The upper and lower radial sealing plates are divided into three sections. A center section at the shaft and two outer sections. The upper center section is connected with the rotor shaft so that it always follows the axial movements of the shaft during operation. The outer sections follows the movement of the rotor flanges by means of sliding shoes. On each outer radial seal plates two sliding shoes are mounted that rest directly on the flanges. The sliding shoes are made of

a special carbon material with low friction and high wear resistance.

The radial seal plates are balanced by means of counter weights, so that the pressure on the sliding shoes are controlled. The suspension system has the effect that the distance between the seal plates and the rotor is constant, irrespective of the rotor deformation.

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