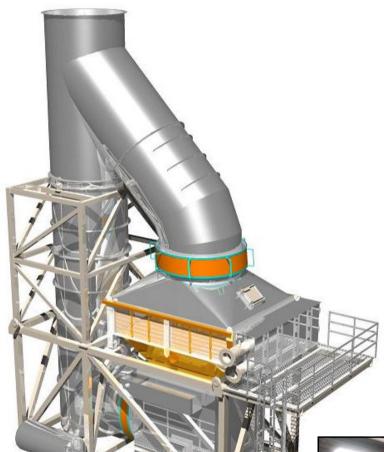


# **CASE HISTORY 37**

# 3 Diverters for the Russian off – shore plant PRIRATSLOMNOJE in the Barents sea.

Juni 2005

#### **RAUMAG - JANICH Systemtechnik GmbH**



RAUMAG – JANICH secured an order from KANFA – TEC for the design and supply of diverter dampers destined for the WHRU's of off – shore generator plants in the Barents sea.

They were made entirely of a heat resisting stainless steel as well as of a special design which RAUMAG – JANICH has developed for such cases .Apart from the high gas temperature, a min. temperature of – 46 degrees C. had to be taken into consideration.

The diverters will be fitted with external insulation (by others) which means that all internal parts shall be exposed to the gas turbines high waste gas temperature. The diverter blade will be of the patented, lattice structure reinforced blade design. The diverter is directly driven by means of a single shaft.

The patented NICROFLEX – HIPERFORM sealing system provides for a gas tight shut off in both end positions.

The illustration above depicts the complete WHRU with diverter.

The picture on the right shows the diverter damper made completely from a heat resisting stainless steel.

#### The patented, lattice structure reinforced damper blade design.

The lattice structure reinforced blade with cardanically attached free floating cover plates remains free of distortions when subjected to high and rapidly changing temperatures. High temperature gas flows continuously through the blade's latticed support structure, all parts of which heat up evenly.

The design of the lattice structure is based upon the "finite element " method. In this connection, please refer to our publication " TECHNOLOGY 6 "





The picture on the left, above shows one of the diverter blades complete with double seal and

The picture on the left, above shows one of the diverter blades complete with double seal and heat insulation.

## The patented, high resilience NICROFLEX – HIPERFORM seal.





The illustrations on the left depict the new **NICROFLEX – HIPERFORM** sealing system, in the open (uncompressed ) and in closed (compressed ) condition.

In uncompressed condition the vee – shaped internal stabilizer supports the tubular seal on the inside thereby providing the necessary rigidity against vibrations. Thus damage of the seal is avoided irrespective of the damper operating mode. The sealing system is notable for its high resilience by which it is able to compensate for misalignments or fabrication tolerances of even the largest dampers.

In this context please refer to our publication "TECHNOLOGY 4".

## RAUMAG-JANICH Systemtechnik GmbH

Im Grund 6 D-96258 Rauenstein

Ennigerloher Straße 16 **D-59269 Beckum** 

Telefon: 036766 / 881-0 Fax: 036766 / 81032

E-Mail: info @ raumag-janich. de

http://www. raumag-janich. de

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