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«Northern Interindustry Company
«The Alternative» Ltd
For the attention of Chief Engineer
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21 Karl Marx street
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Reference
on the efficiency of RAH heat exchange elements produced by «Northern Interindustry Company «The Alternative» Ltd, Severodvinsk city

In autumn 2006, replacement of work-out heat exchange elements of cold and hot ends of two regenerative air heaters PБИ-54 was made during major repair period of TГM-84A boiler unit No.5. The branch specialists chose the improved type of the CMKA® heat exchange elements produced by «Northern Interindustry Company «The Alternative» Ltd, Severodvinsk city.

Double-sided heat exchange elements surface (per one RAH) is equal to: cold part – 3142m², hot part – 7917m². The heat exchange elements sheets thickness is: cold part – 1.2mm, hot part – 0.7mm. Total heat exchange elements height is: cold part – 600mm, hot part – 1200mm.

For more precise efficiency control, 52 sampling points have been cut into gas-air ducts of boiler unit station No.5, in addition to the regular ones.

In Saratov region adjustment service specialists of «Volzhskaya TGC» OJSC had the number of experiments on defining the heat exchange elements efficiency when using it with gas fuel under various loads.

According to the experiments results, released gas temperature doesn't exceed 87°C under the whole range of loads, what is 13°C lower in regard to the standard heat exchange elements type of Taganrog boiler factory project ($t_{\text{released gas}}=100^{\circ}\text{C}$). The boiler gross efficiency modified to $t_{\text{cold air}} = 30^{\circ}\text{C}$ and $t_{\text{superheated air}} = 230^{\circ}\text{C}$ came up to 95.08%, that is 2.42% greater than the norm.

The application of heat exchange elements baskets produced by «Northern Interindustry Company «The Alternative» Ltd has allowed to decrease the released gas temperature by 63°C in regard to the boiler condition prior to repair when using gas fuel.

A year of the boiler unit service has proved high efficiency of the used heat exchange elements.

There is no data on the heat exchange elements reliability and efficiency when using mazut as the boiler unit is run only when burning gas fuel without preliminary air heating.

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