

«Novo-Ryazan heat-and-power station»
4 Universitetskaya, 420111 Kazan, Tatarstan Republic, Russia
Tel/fax: (8432) 38-61-11
Ryazan branch
23Uzhny industrial junction, 390011 Ryazan, Russia
Tel.: (0912) 24-13-61; Fax: (0912) 24-03-10
e-mail: asu@tec.ryazun.ru

Our ref: 2633-0105 dated December 29, 2007

«Northern Interindustry Company
«The Alternative» Ltd
For the attention of Chief Engineer
V.I. Manykovsky

In 2007, during major repair period of TFM-84 boiler No.9, at Novo-Ryazan CHP-plant CMKA[®] heat exchange elements produced by «Northern Interindustry Company «The Alternative» Ltd were installed in regenerative air heater PBII-54.

We forward you the table with technical and economic parameters of the boiler before and after repair.

According to the table technical and economic parameters were improved not only due to the carried out modernization but also due to the installation of CMKA[®] heat exchange elements produced by «Northern Interindustry Company «The Alternative» Ltd.

Boiler nominal load is 420 tons/hour.

For comparison in the table the maximum possible boiler load before repair is 390 tons/hour.

Enclosure: Table of the main technical and economic indices of TFM-84 boiler No.9 at Novo-Ryazan CHP-plant in 1sheet in 1 copy.

Chief Engineer

O.V.Persov

V.G.Buda
Production and Technical Department
007 (4912) 90-58-69

Table
The main technical and economic indices of TTM-84
boiler No.9 at Novo-Ryazan CHP-plant

No.	Parameter	Operation tests and measurement data		
		Before repair (outer air intake)	After repair	
			Outer air intake	Workshop air intake
1	2	3	4	5
1	Fuel, its characteristics	gas	19.12.07	19.12.07
2	Number of operating burners	4	4	4
3	Steam capacity reduced to the rated parameters, tons/hour	390	390	390
4	Excess air behind superheater	1.082	1.088	1.05
5	Pressure of superheated steam, kgf/cm ²	135	134	132
6	Temperature of superheated steam, °C	550	544	545
7	Feed water temperature before water economizer, °C	233	242	242
8	Air temperature before air heater, °C	-3	8	37
9	Air temperature behind air heater, °C	275	269	273
10	Air heater resistance by air, mm w.c.	105	100	93
11	RAH resistance by gas, mm w.c.	238	164	156
12	Gas path general resistance, mm w.c.	378	257	245
13	Air path general resistance, mm w.c.	340	315	296
14	Vacuum before smoke exhaust guide vanes, kg/m ²	378	257	245
15	Rate of opening of smoke exhaust guide vanes, %	88/80	50/50	50/50
16	Rate of opening of fan guide vanes, %	68/85	55/56	55/56
17	Temperature of flue gases, °C	143	118	132
18	Temperature of flue gases before RAH, °C	314	311	308
19	Heat loss with flue gases, %	9.66	6.028	5.278
20	Boiler gross efficiency, %	89.91	93.542	94.292
21	Power consumption for traction and blast, kWatt-hour/Gcal	6.12	4.84	4.67

Chief Engineer

O.V.Persov