

## **DESOX BOCAMINA 1**

### **TECHNICAL REPORT**

#### **ALTERNATIVES TO DECREASE THE SO<sub>2</sub> EMISSIONS DURING BOILER START-UP**

##### **ALTERNATIVE N°2 – USE ONLY FO<sub>2</sub> DURING THE BOILER START-UP**

This alternative considers use only light fuel oil (FO<sub>2</sub> or Diesel) during the boiler start-up, in order to increase the rate of metal temperature rise (30°C/hr → 50°C/hr), decreasing the start-up time and SO<sub>2</sub> emissions due to lower operation time during the start-up and the lower sulfur content of FO<sub>2</sub>.

To do this, is necessary to replace the nozzles of the FO<sub>5</sub> burners by FO<sub>2</sub> nozzles, which are located in the second floor of the Boiler. The first floor of burners will remain operating only with FO<sub>2</sub>.

The schematic diagram of this alternative is illustrated in the following figure N°1. The idea is to use the existing bypass in order to feed the FO<sub>5</sub> pumps from the Diesel tank. The temperature permissive will be disable in order to permit that the FO<sub>2</sub> flows to second floor burners.

Commissioning Team will perform test in order to determinate it is possible to re-use the existing facilities of the FO<sub>5</sub> system, in order to operate only with FO<sub>2</sub>.

In terms of adverse effects to implement this alternative is possible to obtain major NO<sub>x</sub> emissions, which is necessary to verify during the test and consult to INERCO what is their contractual and technical opinion about this issue.

In terms of investments, at least should be considered the following:

- i. Four (4) FO<sub>2</sub> Nozzles. For the test will be used the spare parts nozzles provided by DeNO<sub>x</sub> contract.
- ii. FO<sub>5</sub> tank and piping system cleaning, in order to use FO<sub>2</sub>
- iii. New FO<sub>2</sub> feeding pumps (to be confirmed once performed the test)
- iv. Control system modification



