

SUMMARY

Stage IV

Results obtained at the project completion

The innovative character of the project is found in two components of the project:

- Execution of unique parts type based on the theme of design and specifications (the document is the result of research activity from the earliest stages of the project);
- Defining alternative fuel and the dosing recipe built based nomograms

Results obtained at the project completion are the following:

- A. Prototype equipment for the extraction of slag and alternative fuel dosage compatible with existing mechanical installations, automated and controlled locally or from the control room without the need of additional jobs.

The installation of the fuel metering is placed at an angle of 10 °, perpendicular to the path towards the two bands 7A and 7B, an inclination that allows the operation, maintenance and does not damage existing installations, with convenient access to the area, of motor vehicles and other means of raising for interventions exploitation.

The fuel dispenser is composed of addition funnel, extractor with screw conveyors and conveyor belt. The conveyor belt has the following characteristics:

- The length of the conveyor belt: 18500 mm;
- The size of the stretch race: + 500 mm/ -500 mm – in total 1000 mm;
- The difference in level from axes of the drums:6000 mm;
- The level difference, on the stretch +100 mm/- 100 mm- in total 200 mm

Slag recovery facilities from boilers C5 and C6 ensure its takeover and loading of slag in afferent temporal storage bunkers. Storage bunkers are provided with level measures to prevent accidental spilling and indicating availability of slag stored in each bunker. Emptying the storage bunkers is achieved by means of two sybarite pneumatically operated with the electric drive, in auto means of transportation carrying Slag at the slag dump on the site located nearby the landfill solid fuel (lignite). In this area the slag is mixed with biomass. This is the additional fuel with extraction role of existing carbon reservoir in slag collected and maintaining combustion due to high calorific value of biomass.

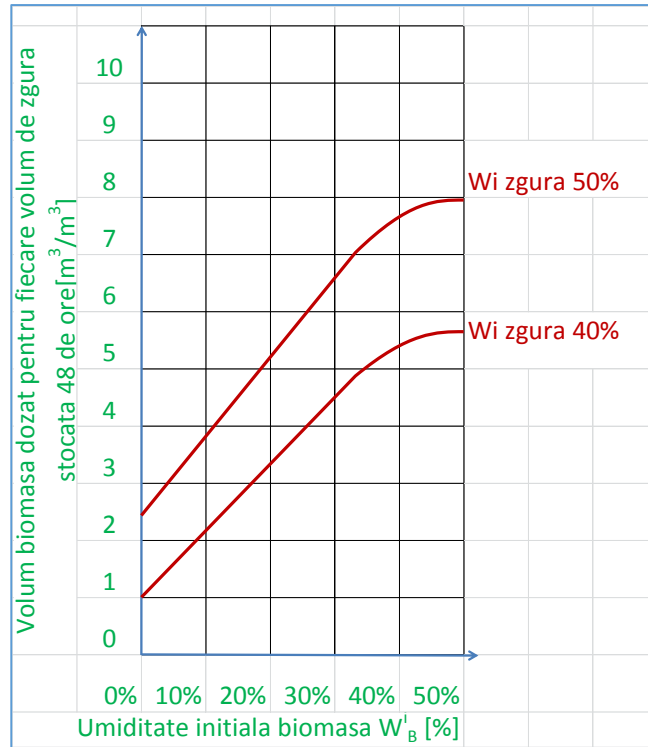
B. Defining and achieving an alternative fuel based on slag.

Combustion processes are assimilated to the best available techniques under certain conditions. In our case the burned amount should not exceed a percentage of 10% of the main fuel. It is also necessary that the proposed new alternative fuel to be developed under the project to have

similar properties. Since dosing is made volumetric, in the following is represented the dosage curves slag / biomass on three scenarios : Interval 0-24 h; Interval 24- 48 h; Interval >48 h

Were presented dosing graphs with the values of slag/biomass in fuel addition, depending on the time of leakage of the slag, thus reducing the humidity of imbibatie from 60% to 30% in the range 0 - 48+ hours, both sequentially,as well as general.

The chart below shows the optimal solution, that corresponding to the drying interval of the slag 24-48 hours:



As results from the description, the dosage systems and alternative fuel extraction of slag ensures functioning of the project's idea as it was defined.

The final conclusion is that the project objectives have been achieved.