SUMMARY Stage III

Phase III of the Novener project was dedicated to idividual solutions and project preparation. In the preamble the project contains general data and investment data recognition, data on location, size and legal status, and along the climatic conditions of the terrain

General description of the design works

There have been defined these components of slag recycling project:

- Installations takeover of slag from boilers C5 and C6 powered by coal;
- The installation of dosing on belts 7A and 7B.

The installation of dosing on belts 7A and 7B

The installation of dosing on belts 7A and 7B is powered by an alternative blend fuel by using the front loader.

The dosing installation is composed of:

- Loading bunker;
- Dosing feeder;
- Conveyor repartition;
- Funnel trouser;
- Weighing scales band for t determining he loading strips 7A and 7B

A general presentation of dosing installation is presented in the annex of the summary.

The conclusions of previous studies regarding the necessity of the proposed investment

CET Govora is in the process of retrofitting and structural modernization in adaptation to environmental legislation requirements in reeducing pollutant emissions in air, soil and water and for energy efficiency and economic growth.

To this purpose the beneficiary has carried out several studies and projects for defining the technological structure and capacities of energy production.

Conception and design installations of the sampling and dosing of slag were made in agreement with the later development of the plant, taking into account the following:

a. Urban cogeneration power plants on coal and natural gas composed of aggregates existing base, will be a source of heating for the city Rm. Valcea;

- b. The power plant of high efficiency cogeneration on biomass that will provide domestic hot water needs of urban consumers connected to the centralized heating system of the city Rm. Valcea. The plant will operate starting with 2016 and will consume annually 81000 t biomass:
- c. Industrial cogeneration power plants on coal and natural gas comprised of aggregate base, which will be retrofitted and will ensure 60% of the necessry thermal energy as industrial steam on South Industrial Platform Rm. Valcea;
- d. The industrial power plant of high-efficiency cogeneration on natural gas which will become operational from 2018 and will provide 40% of the industrial steam on South Industrial Platform Rm. Valcea.
- 2 Based on research conducted by CET Govora to define the beneficiary of these projects provided the following data and assumptions for the calculation of technological and economic analysis of the project of recycling slag:
- a. All three coal boilers will be retrofitting and ecologically rehabilitated in order that they remain operational for the next 20 years;
- b. The total amount of coal consumed by these boilers will decrease from 2018 with the entry into operation of new production capacities for 2.2 million tons / year, to approx. 1.8 million tons / year;
- c. The installation for discharging of hydraulic ash and slag from coal-fired boilers and sedimentation existing deposit will be closed by December 2012; CET Govora has installed an installation of dry ash collection and a production facility of dense slurry from fly ash and desulphurisation products and organic slurry pumping depot dens;
- d. Slag as a product of coal combustion thick grilles contains 30% afterburning chemical mechanical and unburned incomplete and represents on average 3% of the amount of coal consumed for boilers or a quantity of 50,000 tons / year. With a calorific value on average of 1,200 kcal/kg, slag recycling can lead to increasing the energy efficiency of coal-fired boilers at CET Govora by 2-3%;
- e. The slag can not be included as such in the sludge drying and grinding technology provides its classical to finesse that allows embedding without risk of erosion for the system pumping of dense slurry. At CET Govora evacuation was deemed appropriate to separate the fly ash slag front;
- f. CET Govora has a market research on the availability of woody biomass in the region (within a radius of 150km) and its estimated purchase price. It is to the consumer covering of 120,000 t / year estimated new biomass power plant and coal mixing with slag.
- 3 The value of the investments necessary for the project and rescheduling have been agreed with the beneficiary:

- a. The first stage of the project of slag recycling envisages the achieving of plant exhaust separate slag transport and equipment standards for bulk materials handling facilities and creating adequate mixing and dosing strip coal and biomass fuel mixture of slag;
- b. Given that there is no reference, the project will be realized in at premiere CET Govora. It envisages the simplification and a reduction of costs investment and operating of slag recycling facilities; during the development of operating improvements will be necessary..

