

NEW COMBINED HEAT & POWER PLANT

ENERGA Invest SA is an entity of ENERGA Group which carries out projects aimed at the construction of new power generation sources. Following the strategy applied by the group, Energa Invest is responsible for construction, by the end of 2015, new power generation sources, with a total capacity at least 600 MWe.

Grupa LOTOS S.A. is a petroleum concern which deals in oil exploitation, processing as well as wholesale and retail trade of high quality petroleum products. Grupa LOTOS is a joint-stock company listed on the Warsaw Stock Exchange since June 2005 - (LTS:PW).

We are pleased to inform you that ENERGA Invest SA and Grupa LOTOS S.A. jointly decided to begin preparations for the CHP (Combined Heat & Power) plant project. The investment is to be located inside Grupa LOTOS S.A. refinery in Gdańsk/Poland. It is intended that CHP plant will be fed by pitch coming as residue from a ROSE unit constructed as a part of the 10+ Programme.

General Assumptions

ROSE unit as a part of the 10+ Expansion Programme separates deasfalted oil (DAO) from heaviest parts of crude oil (VR & slope fraction). Pitch, second product in this process is considered as a fuel for electricity and steam production in CHP plant.

Considered operation modes

Industrial CHP plant, which will produce energy from pitch, should operate in a base load producing steam and electricity in the most efficient way. Pick load boilers will control and balance refinery steam demand. Cooperation of both sources (base-load and pick-load) should assure:

- efficient operation and full utilization of output capacities of the new plant,
- reliable supply of steam to refinery.

In case of any changes of power demand (national power grid or refinery) flexibility of the plant will allow for electricity production by variations in usage of condensing section of turbines.

Environmental impact

CHP plant will comply EU regulations which are expected, such as:

- NO_x emission will not exceed 100 mg/Nm³,
- SO₂ emission will not exceed 150 mg/Nm³,
- Ash emission will not exceed 20 mg/Nm³.

Schedule

The preliminary tentative schedule of implementation of CHP plant is as follows:

- Awarding BEP contract - 1st quarter of 2011
- Start-up - 2nd quarter of 2015

Additional information

If you are interested in the project, please reply to below items:

1. What is your area of expertise – licensor, BEP, EPC contractor.
2. List your references in power plants using similar type of fuel with indication of places, size and possibility of reference visit.
3. Indicate proprietary technology and present schematic block diagram of applied solution.
4. Simplified schedule of projects already implemented.
5. Approximate area required for CHP.

Answers shall be sent by e-mail or letter to Ms Beata Sys before 15th Sept. 2010 (e-mail address: beata.sys@grupalotos.pl).

*Ms Beata Sys
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More detailed description of CHP project will be provided, after signing the Confidentiality Agreement.