

## **Pro-innovation policy of the Łaziska Power Station**

The Łaziska Power Station is a conventional thermal power station and one of the oldest ones with its history going back to 1917. At the same time it is Poland's most modern power station. Intense development and modernisation works have been carried out throughout its 84 years of operation.

Today it has a generating capacity of 1155 MW and the following generating units:

- one 230 MW
- three 225 MW
- two 125 MW

Its installed thermal power is 196 MW<sub>t</sub>.

At present for a modern plant operating in the strong and competitive market and within the growing globalisation of economy it would be unattainable to suit the requirements of the market without implementing a broad and complex pro-innovation policy. Having said that, it means both the dissemination of innovative thinking as well as the attention to customers' requirements, effective company management and broadly understood economic activity.

The outcome of the long time pro-innovation policy run in the Łaziska Power Station has been its comprehensive restructuring processes and the achievement of the desired effects. We can see its strong position in Poland's power industry market to which contributed the creative engineering of the management personnel of the Station and the participation of outside experts.

Mention must also be made of a number of unusually bold, indeed risky decisions, for instance the removal of sulphur from exhaust fumes in 120 MW generating sets using the amazing NID system, implementing a system that is to transport ash from the electrofilters directly to a neighbouring exhaust mine of Bolesław Śmiały and the technology of nitrogen oxides reduction - the only such solution in the world.

The most important result of the proper pro-innovation policy is a comprehensive reengineering and reconstruction of the Łaziska Power Station, thereby extending the operating life of the oldest hard coal fuelled generating sets in Poland's power engineering industry, adapting the existing devices to current strict standards of environmental protection and increasing the Power Station's operating capacity by 115 MW.

Consequently, due to the modernisation, the Łaziska Power Station has become a modern, environment friendly thermal and electrical energy producer. As the only power station built before 1989 it has all the air protection systems on all generating units, i.e.:

- highly efficient electrofilters

- systems for reducing nitrogen oxides
- systems for removal of sulphur exhaust fumes

Also it effectively deals with waste disposal. Not a single ton of ash is sent to waste dump and gypsum is the material searched for. It has also found solutions to the problems of water and sewage disposal and noise.

Other effects include:

- 1) having been granted 60 patents in 8 countries
- 2) for 15 years 60 to 110 various ideas and concepts are presented in the Łaziska Power Station by employees each year, 70 – 90 % of which are given practical expression
- 3) concrete economic savings of 5 million zlotys annually as the result of many innovative solutions applied
- 4) much improved work safety
- 5) increase of the Station's positive impact on the natural environment
- 6) reduction of fuel consumption by 4.5%
- 7) reduction of mazout consumption by 50 thousand tons annually
- 8) improving the operation and efficiency of specific units and devices by 39,3%
- 9) reduced failure frequency
- 10) extending the operating life of specific units and devices
- 11) reduction of repair costs
- 12) reduction of work inconveniences
- 13) substantial reduction of accidents
- 14) creating new jobs

A number of innovations developed in the Łaziska Power Station are used in many other Polish power stations, as well as in stations in India, Ukraine, the Czech Republic and Slovakia. And the Station has presented its ideas at many specialist conferences, symposiums and competitions.