

## No corrosion in the turbines

# Oxymax COS22D trace sensor in a combined heat and power plant

EC Lublin Wrotków is the largest heat and power plant in southeast Poland. It belongs to the Polish Energy Group (PGE) which runs 16 plants and covers about 30% of the Polish energy market.

EC Lublin Wrotków uses charcoal and gas for heat and power generation and is the largest plant of its kind in Poland. It generates 600 MW of heat energy and 235 MW electricity.



### Customer Challenge

EC Lublin Wrotków runs his turbines with steam, as usual. Dissolved oxygen in the steam can be dangerous though, because it reacts with the metal in the turbines, causing corrosion. On the long run, a breakdown would be inevitable and the turbine would have to be replaced. In order to detect possible leaks early, the boiler feed water needs to be watched for its residual oxygen content. Measurements in the laboratory are not only complicated but in this case hardly representative because oxygen diffuses into a probe very fast. EC Lublin Wrotków needed an easy and still highly sensitive online measurement of the feed water's oxygen content.

### Our Solution

Right behind the boiler feed water degasification, the oxygen sensor Oxymax COS22D was placed. It monitors the limit value of 20 ppb O<sub>2</sub>. As a trace sensor, COS22D detects even the slightest amounts of dissolved oxygen. Oxymax COS22D does not only convince by performance but also by its handling: it can be calibrated in air. Even in this demanding application, Oxymax needs maintenance with membrane exchange and zero point calibration just every 4 to 5 months. This is supported by the Endress+Hauser Service.



Oxygen sensor Oymax COS22D is brought into the process with the Cleanfit CPA450 assembly.



Thermal degasification at EC Lublin Wrotkow.



Controller Liquiline CM44 and oxygen sensor Oymax COS22D

#### Customer benefits

- Avoiding plant breakdowns caused by corrosion
- Accurate, reliable online measurement
- Very low maintenance work

#### Components

- Digital oxygen sensor Oymax COS22D
- Retractable assembly Cleanfit CPA450
- Transmitter Liquiline CM44

#### ✓ Even more maintenance-friendly?

The application can also be realized with a SWAS panel. Maintenance is made even easier by carrying it out in the bypass and the maintenance intensity is reduced because the load on the sensor is lower.

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