



**Power Research and Testing Company  
ENERGOPOMIAR Ltd.**



# **ENERGOPOMIAR**

## **– 67 years on the market**

ENERGOPOMIAR was established in 1950 as a unit for power industry to perform measurements and operating tests, to start up power equipment and repair control & measuring apparatus in Polish public and industrial power plants.

67 years of experience is our precious capital. Since its establishment ENERGOPOMIAR has come a long way from a company performing simple measuring tasks to a company of a recognized position in the Polish power industry that now undertakes complex research work, engineering and consulting services.

# Mission of ENERGOPOMIAR

By improving energy and industrial processes  
we ensure safety, comfort  
and purity of the natural environment



# ENERGOPOMIAR today

- » about 300 employees
- » professional engineering staff
- » modern measuring & testing apparatus
- » accreditations and licenses to ensure top quality services
- » measurement, research and consulting services for professional / industrial power & heat engineering and the municipal sector



# ENERGOPOMIAR's activities in the Polish Committee for Standardization (PKN)

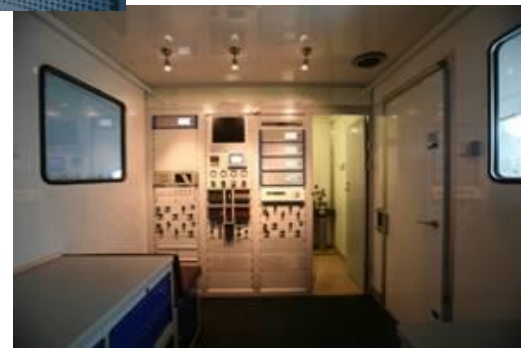
ENERGOPOMIAR's employees have been actively involved for many years in the tasks of the PKN Technical Committees.

ENERGOPOMIAR is a member of the following PKN Technical Committees (TCs):

- » TC 121: Water Quality – Chemical Testing – Non-Organic Substances
- » TC 137: Thermal and Mechanical Equipment in Power Industry
- » TC 47: Water Pumps and Turbines
- » TC 144: Coke and Processed Solid Fuels
- » TC 257: General Metrology



# Modern measuring equipment and research apparatus



## Quality Management System and Accreditations

## Certified Integrated Management System



- » Accreditation Certificate No. AB 550 granted by the Polish Centre for Accreditation (PCA) for: **chemical testing, chemical analytics, testing of physical properties, tests related to environmental engineering, radiochemistry and radiation tests, sampling**
- » Accreditation Certificate No. AP 131 granted by the Polish Centre for Accreditation (PCA) for: **calibration – pressure, resistance, voltage, current, electrical thermometry, frequency**



AB 550



AP 131

## Rewards



Energopomiar has been four times awarded with Business Gazelle – the title granted by the daily newspaper Puls Biznesu to the most dynamically developing firms. We received the title of Business Gazelle for dynamic development and sales increase in 2003, 2004, 2009, 2010, 2013 and 2016.



In 2009, Energopomiar won the third place in the category of 'Eco-Investment Funds' of Forbes magazine ranking: 'Consultants and EU Funds'.

In general ranking in the category of 'Consultants for Companies – All-Polish Programs' the company took the 18th place.



## Rewards



ENERGOPOMIAR is the laureate of the **Quality of the Year 2008** competition organized by the editorial team of the Business Report of Gazeta Prawna and the Polish Centre for Testing and Accreditation SA.

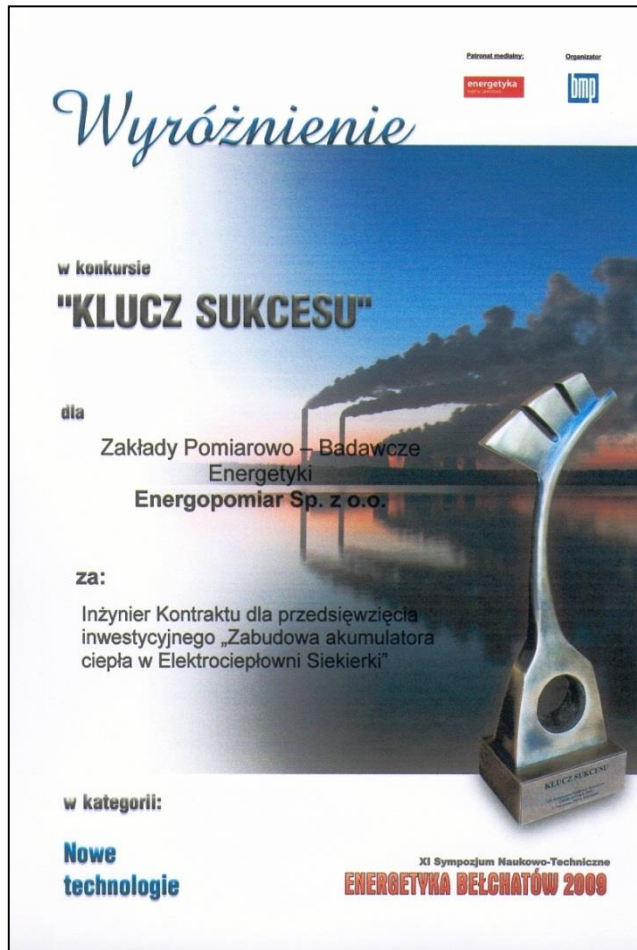
The title was awarded to ENERGOPOMIAR for measurement, research and consulting services.

## Rewards



**The technique of noiseless blowdown of boilers** developed by the Chemical Cleaning Section of ENERGOPOMIAR was granted a honorary award in the **Innovation of the Year 2008** competition realized under the patronage of the Ministry of Local Development, the FIRE Innovation Centre and the Information Processing Centre (OPI).

# Rewards



During XI Scientific-Technical Symposium: POWER ENGINEERING BEŁCHATÓW 2009, Energopomiar was awarded in **SUCCESS KEY** Contest for Contract Engineer Services during the investment process: 'Installation of the Heat Accumulator at Siekierki CHP Plant'.

## Rewards



In 2010, Energopomiar was awarded with the Key to Success statuette for providing **Owner's Engineer services during 'The construction of the 460 MW supercritical power unit at Łagisza Power Plant'** ordered by the Southern Poland Power Company Plc.

The prize was handed over during XII Scientific-Technical Symposium Power Engineering in Bełchatów in 2010.

# Offer of ENERGOPOMIAR

**Energopomiar offers measuring / research and consulting services in:**

- » **environmental protection**
- » **thermal and mechanical issues**
- » **power engineering chemistry**
- » **management of investment undertakings**

# Our customers include, among others:





# Division of Thermal Technique



**Energy Economy  
Analysis Section**

**Coordination &  
Development  
Section**

**Turbine  
Section**

**Boiler Section**

**Automation  
Section**

**Metrology  
Laboratory**

# Division of Thermal Technique

## Testing and thermal measurements of power units

- » performance tests
- » operating tests
- » diagnostic tests



## Turbine Section

- » Testing and thermal measurements of turbines, pumps, cooling towers and other turbine equipment
- » Development of characteristics of power units using the measurement results related to the boiler
- » Measurements of maximum power output and power of the unit auxiliaries
- » Performance and operating thermal and flow measurements of gas equipment (turbine sets and gas aggregates)
- » Modernization concepts of power plants

## Turbine Section

- » Testing and energy audits of heat networks at heat manufacturers' and consumers' (balance and regulation measurements)
- » Measurements and analysis of dynamic states of turbines, pumps, fans, etc.
- » Measurements of start-up losses and start-up time of power units
- » Analysis and expertise related to turbine sets and auxiliary equipment (pump or regeneration systems, etc.) to optimize their operation and indicate directions for solving specific operational problems as well as to determine guidelines for their planned modernization



## Turbine Section

- » Measurements and analysis of auxiliary systems of the turbine related to optimization of energy consumption by the unit auxiliaries and generation efficiency improvement
  - › tests of feed water / cooling water / main condensate systems (flow characteristics and parallel operation of the pumps)
  - › tests of the steam part of condensers as regards leak tightness of the system and purity of the heat-exchange surfaces of their water part
  - › determination of the optimum amount of cooling water and other issues concerning the regulation of its amount for the condensers
  - › tests of process water / compressed air systems and other auxiliary systems of the power unit

## Turbine Section

- » Leak location in vacuum systems of the turbine sets
- » Acceptance tests of power equipment
- » Thermal and flow measurements of the cooling tower related to the obtained cooling effect
- » Flow measurements by isotope method and periodic checks of calibration of operational flow meters
- » Calibration of elbow flow meters - highly reliable meters enabling continuous flow measurements in cooling water systems and other auxiliary systems of power units
- » Measurements of characteristic operating parameters of pumps and pump systems



## Boiler Section

- » Measurements and tests of boilers, rotary air heaters, mill systems and fans (performance / operating / diagnostic measurements)
- » Balance calculations for boilers according to the valid standards
- » Assessments and expertise related to boilers and auxiliaries
- » Acceptance tests of power equipment
- » Optimization of the combustion process in boilers in respect of efficiency and gas pollutant emissions (modernization of burners, implementation of NO<sub>x</sub> low emission reduction methods)
- » Modernization concepts of power plants

## Boiler Section

- » Consulting services in the scope of assessment of the technical state and remaining life of power units, boilers, turbines for the needs of their modernization
- » Inventory and measurements of the quantity of stored fuel – coal and biomass
- » Measurements during combustion and co-combustion of biomass and wastes
- » License applications, confirmation documents and opinions for the Energy Regulatory Office concerning the right way of renewable energy production
- » Concepts and assessments of combustion or co-combustion of biomass, alternative fuels and wastes

## Automation Section

- » Tests and measurements of automatic regulation systems of power units especially in respect of providing ancillary services
- » Acceptance tests (capability testing) of power units with power drop to the load of auxiliaries, the idle run of the turbine
- » Acceptance tests of start-up time of power units in different operational states
- » Tests of turbine governors and measurements of static and dynamic characteristics of control and by-pass valves

## Automation Section

- » Measurements of dynamic properties of equipment in power industry
- » Tests of the Kv factor and the pressure loss factor of control valves for DN250 at the hydraulic flow stand
- » Control measurement of the flow of water and other liquid media for the pipelines of DN25 ... DN2500 (temperature up to 130°C) by means of a non-invasive ultrasonic flow meter



## Automation Section

- » Check (audit) and calibration of the systems for measuring technological parameters at the customer's
- » Optimization of the setting parameters of automatic regulation systems
- » Technical consulting related to control & measuring apparatus and automatic equipment, technical concepts
- » Tests of automatic regulation systems to identify systems requiring optimization or changes

## Automation Section

- » Acceptance tests within the scope determined by the requirements of the PSE Operator (the Polish Power Grid Company) concerning the provision of ancillary services resulting from the Instruction of Transmission System Operation and Maintenance (IRiESP), including:
  - › measurements and acceptance tests of readiness of power units to protect and reconstruct the KSE power supply (the National Power System)
  - › acceptance tests of the Automatic Frequency and Power Control System
  - › acceptance tests of power drop of the power unit
  - › acceptance tests of minimum load of the power unit



## Automation Section

- » Control and acceptance tests of the Automatic Frequency and Power Control System at power plants
- » Acceptance tests of the automatic regulation system during operation of the power unit at minimum load
- » Acceptance tests of automatic regulation systems before and after modernization
- » Modernization of the existing regulation structures in power industry - regulation of the combustion process to improve the efficiency of power units and reduce  $\text{NO}_x$  and  $\text{CO}_2$  emissions

## Automation Section

- » Assessment of readiness of generating units to provide the regulation ancillary service to protect and reconstruct the KSE power supply (the National Power System)
- » Measurements and acceptance tests of readiness of power units to protect and reconstruct the KSE power supply, protection against blackout

## Energy Economy Analysis Section

- » Monitoring, archiving and verification of the size of CO<sub>2</sub> emissions
- » Data development for statistics related to energy and heat production from cogeneration
- » Benchmarking studies and technical/organizational consulting
- » Determination of fuel consumption and savings including error calculation
- » Determination of maximum and minimum thermal capacity of the CHP Plant on the basis of operational data

## Energy Economy Analysis Section

- » Red energy – consulting services in applying for certificates of origin concerning energy from cogeneration, audits of companies in the scope of high efficiency cogeneration
- » Tools to support the calculation of red energy production
- » Implementation, modernization, modification and extension of the systems for technical and economic control of operation (TKE Systems) of power plants, CHP Plants and heating plants using TKE balances and methodology
- » TKE balancing systems for CHP plants, including collector operation systems and steam-gas systems

## Energy Economy Analysis Section

- » TKE simulation and test modules, cost calculation with possible application during activities on energy markets
- » TKE modules for detailed analysis of operation of main equipment and control of the auxiliaries
- » Combined calculations of systems by TKE method and calculations based solely on equipment balances with possible use of compensation calculation
- » TKE environmental protection modules to control the fulfillment of the Polish and EU regulations, especially as regards emissions of CO<sub>2</sub>, SO<sub>2</sub>, NO<sub>x</sub>
- » TKE module for the control of start-ups (cost) and equipment lifetime

## Energy Economy Analysis Section

- » Analysis, expertise, technical and economic consulting (power economy, preparation for participation in energy markets)
- » Analysis of shaping the indicators of the consumption of chemical energy of fuel at power plants and professional CHP plants
- » Analysis of electric energy and heat production costs, ancillary services, power reserve, start-up losses at the conditions of energy market formation
- » Collective and individual analysis and expertise related to energy economy of power plants and CHP plants
- » Energy audits, determination and indication of possible improvement of operating indicators



# Metrology Laboratory

- » Apparatus calibration / checking, adjustment – systems and equipment for measuring temperature, pressure, electrical values
- » Assessment of the qualitative parameters of measuring apparatus as regards the requirements of the quality management systems
- » Consulting in the scope of metrological supervision during production and operation of measuring apparatus as regards the requirements of the quality management systems

# Division of Environmental Protection



**Section of Emission  
Measurements & Air  
Protection Equipment**

**Environmental  
Monitoring Section**

**Wastes  
Utilization Section**

## Division of Environmental Protection



AB 550

The Division of Environmental Protection has achieved accreditation granted by the Polish Centre for Accreditation in the field of 'General environment and radiation', which covers **emission and noise measurements** and **natural radioactivity testing**.

## Section of Emission Measurements & Air Protection Equipment

- » Performance and operating measurements and testing of air protection equipment including flue gas desulphurization and denitrification installations
- » Measurements of gas emissions ( $\text{SO}_2$ ,  $\text{NO}_x$ ,  $\text{NH}_3$ ,  $\text{N}_2\text{O}$ ,  $\text{HF}$ ,  $\text{HCl}$ ,  $\text{TOC}$ ,  $\text{CO}$ ,  $\text{CO}_2$ ,  $\text{O}_2$ ) and dust emissions
- » Performance and operating measurements of dust collectors
- » Measurements and tests of mercury concentrations and emissions; balances
- » Parallel measurements of emission monitoring systems

## Section of Emission Measurements & Air Protection Equipment

- » Calibration of measuring apparatus QAL-2 working in systems of continuous monitoring of pollutant emissions, according to PN-ISO 14181
- » Grid measurements of FGD absorbers
- » Measurement of the distribution of  $\text{SO}_2$  concentrations and flue gas flow rate in the absorber's cross-section – analysis and assessment of the measurement results, application of the measurement results to optimize the FGD Installation and determine the location of gas probes at large-size ducts
- » Measurements of  $\text{N}_2\text{O}$  concentrations in exhaust flue gas

## Section of Emission Measurements & Air Protection Equipment

- » Checks for the indication correctness of analyzers of HF, HCl and TOC in flue gas
- » Tests and expertise for the European Pollutant Release and Transfer Register
- » Systems for continuous monitoring of pollutant emissions – tests and consulting
- » Opinions, consultations, technical and investment consulting related to air protection installations and equipment (dust removal, flue gas desulphurization, denitrification)
- » Technology selection and start-up of air protection equipment

## Section of Emission Measurements & Air Protection Equipment

- » Tightness testing and leakage determination of rotary and membrane flue gas heaters
- » Tests and checks compliant with PN-ISO 7935 and PN-ISO 10849. Determination of the mass concentration of  $\text{SO}_2$  ( $\text{NO}_x$ ). Performance characteristics of automated measuring systems
- » Tests and measurements of installations for combustion and co-combustion of municipal and dangerous wastes
- » Analysis of noise sources. Acoustic maps.
- » Acoustic measurements in rooms and external environment
- » Noise protection systems

## Section of Emission Measurements & Air Protection Equipment

- » Tests and measurements of dust removal systems
- » Tests of the influence of operation of the boiler and kind of the burned fuel on the efficiency of electrostatic precipitators
- » Optimization of dust handling systems
- » Measurement of cold-end temperature of air heaters
- » Measurement of flue gas dust resistivity
- » Measurement of acid dewpoint of flue gas near the ESP, flue gas ducts, stacks and after the flue gas desulphurization systems



## Section of Emission Measurements & Air Protection Equipment

- » Measurements of the ESP aerodynamics and flue gas flow at the ESP inlet and outlet
- » Measurements of thickness of the ESP box
- » Measurements of O<sub>2</sub> distribution from the boiler outlet to the stack
- » Measurement of temperature distribution of the ESP casing, flue gas ducts and stacks
- » Site inspections including evaluation of the technical state of dust removal systems and the ESP internal elements

## Environmental Monitoring Section

### **Environmental monitoring in the vicinity of industrial plants and waste landfills – tests of the condition and quality of the environment**

To fulfill the obligations resulting from the legal regulations and, among others, the Decree of the Minister of Environment of December 9, 2002, as regards the scope, time, way and conditions for monitoring waste landfills (Journal of Laws No. 200, item 1858) and the applicable administrative decisions, the Environmental Monitoring Section performs **complex monitoring of waste landfills in pre-operational, operational and post-operational phases.**

# Environmental Monitoring Section

## Monitoring of waste landfills comprises:

- » measurements of the underground water mirror
- » effluent volume measurements
- » measurements of surface water flow rates
- » tests of monitoring points, including technical condition assessment and pumping to clean up piezometers
- » analysis of indicative parameters of the samples of underground water, effluents and soils
- » tests of landfill gas composition and emissions



# Environmental Monitoring Section

## Monitoring of waste landfills comprises:

- » measurements of dust fall quantities
- » measurements of particulate matter (PM-10) concentrations
- » control of the structure and composition of waste mass
- » assessment of waste landfilling conditions
- » control of landfill surface subsidence and slope stability
- » interpretation of the test results basing on the detailed analysis of meteorological, geological or hydrogeological conditions and valid legal regulations



## Environmental Monitoring Section

- » Tests of the properties of wastes to be stored in landfills – waste stream monitoring based on primary characteristics and cyclic compliance tests
- » Consulting services related to the control of capacity and operation of waste landfills when selecting and refilling particular compartments
- » Tests of the properties of wastes stored in landfills as regards their environmental nuisance and possible economic utilization as well as the necessity to provide new waste disposal sites (with no need to construct new landfills – supervision and control during waste removal from landfills and refilling)

# Environmental Monitoring Section

- » Observations and measurements of the forest environment
- » Measurements of atmospheric air pollution related to dust and gas concentrations
- » Environmental impact reports
- » Integrated permits – preparation of applications and permit up-dating

## Wastes Utilization Section

- » Expertise and consulting services related to possible utilization of combustion by-products and other wastes
- » Development of the technology of recovery and neutralization of power plant wastes and others
- » Integrated permits – preparation of applications and permit up-dating
- » Environmental impact reports
- » Environmental protection programs and waste management plans for companies, districts and communes
- » Preparation of applications to obtain permissions for generation, collection, transport, recovery, neutralization of dangerous wastes and other non-dangerous wastes

## Wastes Utilization Section

- » Assessment of physical and chemical properties (natural radioactivity, chemical composition, elution) of materials and wastes
- » Tests of the concentration of naturally radioactive elements, i.e.: K-40, Ra-226, Th-228, in dust, building materials and others to assess their suitability for the production of residential building materials, road building, mining industry
- » Tests of geotechnical properties of soils and combustion by-products (dust) to be used as substitution materials for engineering works as well as designing and construction of landfills and embankments
- » Tests of building materials – tests of proper features of building materials or products
- » Pelletized aggregates and their application in road making



## Division of Environmental Protection – interdisciplinary services

- » Concept projects of the construction of FGD Installations
- » Ecological and economic analysis of the construction and modernization of existing FGD Installations
- » Concept projects of SNCR and SCR DeNO<sub>x</sub> Installations
- » Flue gas flow modelling in desulphurization reactors



## **Division of Environmental Protection – interdisciplinary services**

### **Consulting on the acquisition of subsidies from the EU structural funds**

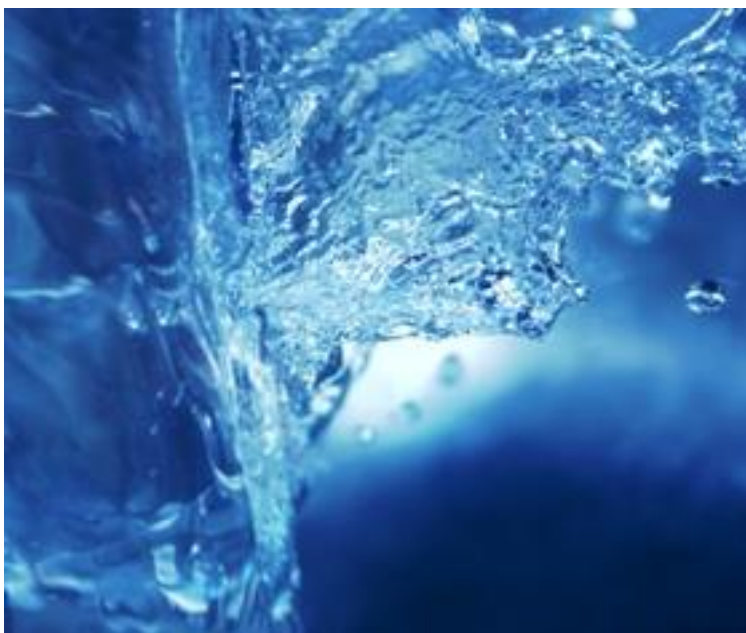
- » Applications for co-financing investment projects within the EU funds
- » Feasibility study
- » Consulting on the determination and confirmation of the ecological effect
- » Formal and legal monitoring of investment projects co-financed by the EU funds
- » Development of environmental impact reports and participation in environmental impact assessment
- » Project concept development

## Experience of ENERGOPOMIAR

Total amount of co-financing obtained by ENERGOPOMIAR for the Customers in the years 2005 ÷ 2006 within the Sectoral Operational Programme: Improvement of the competitiveness of enterprises, Measure 2.4 'Support for investments adapting enterprises to environmental protection standards' was nearly

**PLN 190 million**

# Division of Chemistry and Diagnostics



**Metal Science &  
Corrosion Section**

**Chemical Cleaning  
Section**

**Water & Wastewater  
Technology Section**

**Section of Physical  
& Chemical  
Measurements**

## Metal Science & Corrosion Section

- » Assessment of the technical state of pressure elements of pipelines, turbines and boilers
- » Metal science tests and measurements – determination of the remaining lifetime
- » Assessment of structure degradation of materials
- » Non-destructive testing: ultrasonic/magnetic-powder/penetration methods
- » Welding expertise
- » Non-destructive testing of the tubes of capacitors and heat exchangers using eddy current method

## Metal Science & Corrosion Section

- » Diagnostics and regulation of the suspension system of steam pipelines
- » Qualitative and quantitative tests of operational deposits on heated surfaces of power equipment
- » Maintenance of the external surfaces of boilers, steam generators and electrostatic precipitators, hydramine application
- » Corrosion rate testing and anti-corrosion protection
- » Performance supervision of anti-corrosion testing and protection; development of performance and assembly technologies

## Metal Science & Corrosion Section

- » Implementation of new correction agents in water and steam cycles
- » Material selection consulting
- » Anti-corrosion consulting
- » Problem determination during the implementation and operation of new construction materials in equipment

## Chemical Cleaning Section

- » Chemical cleaning and blowdown of new and repaired boilers comprising the development of auxiliary installation design, auxiliary installation assembly, technology development and acceptance, chemical cleaning including delivery of chemicals, supervision of boiler blowdown and chemical regime during its start-up
- » Chemical cleaning of boilers using autocirculation technique or open circuit (OC) technique
- » Chemical cleaning of boilers using the boiler circulating pump



## Chemical Cleaning Section

- » Chemical cleaning of boilers, exchangers and condensers by means of the mobile stand without the use of auxiliary installations or storage tanks including delivery of necessary equipment and chemicals
- » Chemical cleaning and steam blowdown of power equipment including the construction design of auxiliary installations
- » Boiler decopperizing
- » Boiler blowdown without the need to use the advanced auxiliary installation
- » Noiseless blowdown of boilers

# Chemical Cleaning Section

- » Measurements and tests of steam purity and water and steam cycles of power units
- » Tests of the separation efficiency of boiler drums
- » Chemical control of water and steam cycles; control of technical parameters of the cycle agent
- » Technical consulting related to chemical control during the start-up of power units
- » Design of installations for sampling, boiler maintenance and correction of water and steam cycles

## Water & Wastewater Technology Section

- » Pre-design technological testing of water and wastewater
- » Assessment of the quality and suitability of water sources for various applications
- » Evaluation of the efficiency of pilot installations
- » Supervision during the construction and start-up of water and wastewater management equipment
- » Supervision of trial run and performance measurements of equipment and technologies
- » Technical consulting, concept projects and technology designing related to water and wastewater management

## Water & Wastewater Technology Section

- » Investment and design supervision in water and wastewater management
- » Updating of operation procedures and control algorithms
- » Diagnostics and optimization of operation of water treatment plants and wastewater treatment plants
- » Analytics of water and wastewater technology
- » Control of specific pollutants in water and wastewater (microsuspension, biological pollutants, organic substances including TOC) for water and wastewater treatment plants

## Water & Wastewater Technology Section

- » Diagnostic tests of ion-exchangers and determination of the present operating state
- » Determination of the elution curves of pollutants in new and operated ion-exchangers
- » Investigation of the reasons for damage to MF, UF, NF and RO membranes; purposefulness and method of their cleaning
- » Application of biopreparations in biodegradation of substances contaminating water, wastewater, soils, including the process control

## Section of Physical & Chemical Measurements

### Physico-chemical measurement systems:

- » Inspections and condition assessments, technical consulting, post-assembly acceptance and project opinioning
- » Designing, delivery completion, assembly, supervision, start-up and maintenance of physico-chemical measurement systems including closed cycles of sample cooling



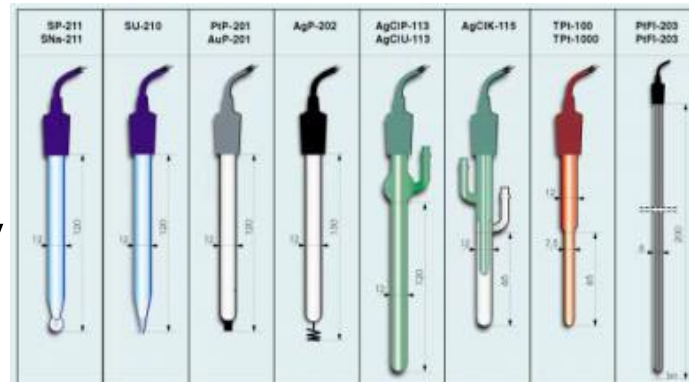
before modernization



after modernization

## Section of Physical & Chemical Measurements

- » Production of measurement system elements: pH / Redox / ionoselective electrodes, sensors of temperature and electrolytic conductivity of pH buffer solutions, thermal fuse links, ion-exchange columns, regeneration stations of ion-exchange compounds under laboratory conditions
- » Consulting and delivery of devices for continuous measurements and laboratory tests including operating materials



## Section of Physical & Chemical Measurements

- » Complete systems for preparing water and vapor samples from power equipment for physico-chemical measurements adjusted to the requirements of the valid standards and the customer's needs
- » Production and delivery of the elements of sample preparation systems





## Section of Physical & Chemical Measurements

- » New generation coolers for cooling down samples of the water-steam cycle agent



## Section of Physical & Chemical Measurements



Example of the complex installation for physico-chemical measurements

# Central Laboratory

**The implemented and certified management system according to the requirements of PN-EN ISO 9001, PN-N-18001 and PN-EN ISO 14001 and the accreditation compliant with PN-EN ISO/IEC 17025 provide high credibility and reliability of the performed analysis.**



AB 550

- » Chemical and physico-chemical analysis of fuel, biofuel, dust, water, wastewater, deposits of various origin, deposits on the pipe surfaces
- » Analysis of wastes and biomass
- » Determination of oxidation and CO<sub>2</sub> emission indices
- » Testing for the content of mercury in fuel, water and solids
- » Analysis of turbine, hydraulic and gear oils

# Central Laboratory

**The accreditation comprises the following activity areas:**

- » Water and wastewater, water extract
- » Biomass
- » Solid fuel
- » Solid combustion by-products
- » Deposits
- » Wastes
- » Sludge
- » Cement, fly ash for concrete
- » Deposits and wastes for secondary fuel production
- » Petroleum products
- » Absorption solutions



AB 550

# Consulting and Investor Supervision Office

- » Technical, formal and legal consulting at the Contractor selection stage; tender organization
- » Owner's Engineer during the construction (including investor supervision)
- » Technical Consultant (Lender's Engineer) for banks - monitoring of the investment as regards financial aspects
- » Risk management and assessments





# Consulting and Investor Supervision Office

- » Investment settlement and division of the investment outlays according to the Classification of Fixed Assets
- » Calculation of the fixed assets of power industry companies (fair value evaluation for ownership restructuring or necessary transfer to the IAS system)



## Contractor selection procedure

- » preparation of the complete Specification of Essential Terms of the Contract:
  - › supplier selection procedure
  - › formal and legal part including requirements
  - › technical part including requirements concerning essential provisions of the future contract which will be the attachment to the tender documentation
- » complex services for the Tender Commission
- » completion of input and output data, technical parameters and trade and financial assumptions
- » organization of tender conferences and site inspection of the construction site
- » participation in tender evaluation and contractor selection
- » development of the final report concerning tender proceedings

## **Owner's Engineer's activities**

- » development and settlement of the Contract supervision procedures with the Investor
- » survey and analysis of design documentation
- » supervision of the task progress and its compliance with the time schedule
- » construction and assembly supervision
- » supervision during start-up and functional tests
- » trial run supervision
- » supervision during commissioning and personnel training
- » legal and financial monitoring
- » evaluation of project's progress (based on earned value method or others)





## **Zakłady Pomiarowo – Badawcze Energetyki „ENERGOPOMIAR” Sp. z o.o.**

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