INSTITUTE OF POWER ENGINEERING
RESEARCH INSTITUTE
GDANSK DIVISION

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The Institute of Power Engineering is a state owned research Institute. Gdańsk Division of The Institute was established in 1954 and, from the very beginning has been closely connected with Electricity Supply Industry (ESI). Gdansk Division has implemented and maintains the Quality Management System, which fulfils the requirements of the standard ISO 9001:2009.

Gdańsk Division has 110 employees, 95 of whom have degrees, mostly in electrical and electronic engineering. Employment has an increasing trend.

Gdansk Division is application oriented with projects performed mainly in-house. However co-operation with industrial partners has been intensified during last years.

Gdansk Division is active both in research and technical services. Technical services are performed by the same staff providing R&D. It help us important feedback.
Generally we carry out the whole process from the study phase through development, design, manufacturing and installation supervision up to commissioning. This approach is applied to all our products and equipment provided.

Generation

Automation and Control

- Excitation systems and voltage regulators for small and large generators
- Power system stabilisers
- Drives for large power feeding water pumps
- Static starting-breaking systems for pumping-storage power plants
- Diesel power plants automation Electrohydraulic turbine governors for hydro units.
- AGC systems
- Hydraulic servomotors
- Electrostatic precipitators controllers
- Electrostatic precipitator master control and monitoring systems

Measurements

- Standstill synchronous generator data measuring, using frequency method
- Synchronous generator dynamic performance measurement
- Measurement of hydro turboset performance

Transmission

- Secondary voltage and reactive power control system for Polish Transmission System
- Co-ordinated control system (ULTC) for large power transformers in EHV and HV stations
- Power quality measurement and analysis

Distribution

- ULTC systems for MV network
- DSM (Load management)
- Power line communication systems
- Power quality measurement, analysis and methods of improvement
- Energy metering, accounting and ancillary services logging systems.
- Power and energy network recorders with embedded database and WWW servers Application of embedded servers in control units.

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Information Technology

- Development and installation of computer network solutions in Electricity Supply Industry
- Studies on application of communication solutions and standards in ESI
- Multi-purpose software development
- Telecommunication architecture
- Energy market software
- RS-232C/RS-485/RS-422A wire-wire, wire-fiber converters and multi-port

Mathematical and computer modelling

The following studies related to the Polish Power System or to the UCTE system as a whole have been carried out:

- Dynamic performance studies
- Power system stability evaluation and methods of stability improvement
- HVDC and FACTS models and their impact on power system performance
- PSS adjustment co-ordination
- Reliability assessment and analysis
- Dynamic database co-ordination
- Optimal power flow
- Models of renewable sources and their integration with power system
- Restoration of power system after major blackouts
- Impact of energy market on power system performance

Also - modelling of hydraulic and mechanical systems

Economical aspects

- Consulting services to local authorities concerned with energy usage (heat, electricity, gas, bio-fuels), particularly in municipal and rural areas
- Tariff studies for thermal, hydro and CHP plants
- Analysis of CHP plants and district heating systems including heat demand analysis and aspects of peak demand
- Analysis of DSM programs
- Costs estimates of transmission and distribution systems
- Analysis of energy market

Software Engineering

- Research, development, implementation and design work, particularly concerning the scope of:
  - consulting in the field of information technology systems
  - application of information and communication technologies
  - implementation of industrial standards in ICT systems

Customers

Our major customers are from Electricity Supply Industry in Poland. However our products and services have also been provided to industrial power plants. At international level our products and/or services have been provided to: USA, SPAIN, India, Pakistan, Turkey, Greece, Czech Republic, Slovak Republic, Former Soviet Union Countries.
We have been co-operating with : ABB, Alstom, Siemens to provide various products and services to both Polish and foreign customers.


POLSKIE CENTRUM BADAŃ I CERTYFIKACJI S.A.
02-699 Warszawa, ul. Kłobucka 23A

CERTIFICATE OF QUALITY MANAGEMENT SYSTEM
No. 368/6/2012

This is to certify that:
Instytut Energetyki Instytut Badawczy
Oddział Gdańsk
ul. Mikołaja Reja 27, 80-870 GDAŃSK

in the following scope of activities:
research and development, design and manufacture of automation systems and devices, data processing and transmission for power systems and industry applications

is in conformance with the standard
PN-EN ISO 9001:2009

You are welcome to the co-operation with us