



COMPANY PROFILE



Energo

Leading supplier of comprehensive services
in the area of command and control,
industrial information systems, electrical systems
and engineering activities
with a strong history in the nuclear power sector.

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Ladies and gentlemen,

The year 2020 was exceptional in many ways and really challenging due to the spread of the covid-19 infection. Every day in the life of our company, we simultaneously implement hundreds of individual orders in various locations, including abroad, and the number of our individual customers is well above a hundred every year. Currently, I&C Energo has more than 800 employees in various locations. It is obvious that the hitherto unknown risk of covid-19 infection has fundamentally complicated and continues to complicate the planning and coordination of our project teams as well as the entire operation of the company. The power plants and other industrial plants where we work cannot be switched off. Schedules of outages and investment projects are fixed and define our tasks in them. Combining the protection of employees' health in this state with the need to ensure the uninterrupted progress of activities places unprecedented demands on operational management, including the introduction of new internal measures. I must thank our employees for their personal responsibility and the dedication with which they handle this situation.

For I&C Energo, the production and distribution of electricity is the main segment of the market. The priority of the sole shareholder of I&C Energo is the long-term approach, continuity and further development of our company's

core business in all three basic products - service, investment, and engineering.

I&C Energo is one of the largest Czech suppliers of investment projects and services for various industrial applications in the field of technological process control systems and power supply systems. A significant part of our activities is also represented by machinery activities focusing on piping systems, steel structures and other technological machinery. Other standardly applied products of the company are supplies and service in the area of building technologies as it is called, including the equipment of technical protection of buildings systems or electronic fire protection systems. The company implements its supplies and engineering solutions from the position of a system integrator of major manufacturers and suppliers of control, management, information and safety technologies, components and systems.

One part of our activities includes the original concept of supplier maintenance for the Dukovany and Temelín nuclear power plants. Throughout the existence of I&C Energo, supplier maintenance has been a basic pillar of our deliveries, although the total share realized in the service has gradually fallen below a quarter of annual sales. However, this decrease in the share is the result of a significant increase in the share of our remaining products, especially the volume of investment deliveries with a significant scope of our own engineering. We offer investment supplies from the processing of studies and projects, software development, system integration and system support through deliveries, installation, commissioning to the provision of regular warranty and post-warranty service.

Another area of activity is the optimization of power production plants. These are engineering superstructures, where we are already looking for our own solutions for specific power plants. For example, how to improve combustion efficiency, how to monitor the system of power transformers, we develop information systems for the management and creation of operational and technical documentation, we have developed apparatus for measuring boron concentration, etc.

Throughout its existence, I&C Energo a.s. has been a profitable company with positive trends in basic economic performance indicators. I am glad that, despite the unexpected complications of the pandemic, 2020 was no exception and we did not have to reduce the company-wide plan or reduce the number of employees. The value of newly acquired orders even exceeded the business plan for 2020 and is an excellent contribution to the next period.

If I had to choose the biggest business success of last year, I would choose I&C Energo's victory in ČEZ's tenders for the maintenance of Dukovany and Temelín. Being able to succeed in these tenders was our clear goal. It resulted in the conclusion of Framework Agreements for the maintenance, repair and inspection of equipment of electrical and I&C systems logical units at the Dukovany and Temelín nuclear power plants for the period from 2021 to 2028.

Our maintenance activities at Dukovany and Temelín up to now are thus contractually secured for a smooth continuity for the next eight years. The new contracts bring opportunities for higher efficiency of maintenance activities, including the direct involvement of I&C Energo in the course and result of outages.

Success in these tenders also confirms the capabilities and expertise of I&C Energo and is the result of a continuous effort to build the position of a reliable and respected supplier for the nuclear power industry.

The possibilities of obtaining supplier maintenance for new customers are already considerably limited on the Czech market, and so logically the capabilities in the area of investment deliveries have become the main aspect in expanding the customer portfolio. The original focus of I&C Energo on the service of nuclear units in operation is purposefully expanded in the area of the company's engineering and supply application in investment projects.

Since the beginning of 2021, we have prepared a comprehensive organizational change that determines a completely new structure of I&C Energo. One of the important reasons for it is the long-term sustainability of our service activities at nuclear power plants in 2020. That is why we have set up a new organizational structure of our divisions in both Dukovany and Temelín, which, in our opinion, can best use the potential for our higher efficiency and effectiveness.

For the same reasons, we have approached the centralization of our engineering, where we can see space for further development of expertise and qualifications. The remaining part of the company is newly organized in such a way so that we can maximally support the fulfillment of our ambitions, which we have in the non-nuclear industry, abroad, as well as in relation to the new nuclear unit in Dukovany.

We believe that thanks to the new organizational structure, we are now better prepared to fulfill our intention to be a strong and respected supplier for our customers. The experience, references and expertise we have as a company are our competitive advantage in the search for successful business strategies in announced competitive tenderings.

The long-term and customer-reliable implementation of the service at the Dukovany and Temelín nuclear power plants represents unique know-how, which in combination with the deeply experienced nuclear culture as it is called forms the basis of our ambitions in the nuclear power industry. The basic premise of success is the ability to respond to changes that markets relevant to the Company are going through and to successfully identify new opportunities. We have many years of experience and existence in a competitive environment and a proven ability to succeed. Thanks to our performance and the strength of our ownership structure, we are able to secure operational financing. We can still win new orders and customers.

The company's management consists of a consistent team tried and tested by years of experience. Qualification, experience and project cooperation of the company's employees is then a key asset. That is why I believe that we have enough reasons to look into the next years with optimism.

Jiří Holinka, Chairman of the Board and CEO

ABOUT US

I&C Energo a.s. belongs among the largest Czech suppliers of capital projects and maintenance services for various industrial applications in the field of technological process control systems and LV, HV and EHV power supply systems. A significant part of our activities consists of so-called machine activities focused on piping systems, steel structures and other technological machinery. Other standard applied products of the company include supplies and services in the field of building technologies, including electronic security systems for buildings or electronic fire-protection systems.

The company carries out its supply and engineering solutions from the position of a system integrator of major manufacturers and suppliers of regulation, control, information and security technologies, components and systems.

It has been in the market since 1993 and its supplies and services are provided mainly in the power industry and large industrial plants, where the nuclear power industry is its principal sector.

For our Czech and foreign customers it represents a reliable partner, able to assume full responsibility from the projection stage through supply of material, realization and putting into commission as well as any subsequent service.

OUR STRATEGY

Vision

To be the most important and independent contractor and integrator of selected technological systems and industrial services for the construction, maintenance and optimisation of power plants and other industrial facilities operated in the Czech Republic and Slovakia.

Mission

I&C Energo offers professional services, effective and innovative solutions for optimizing technical and economic indicators in the course of the construction, upgrade and operation of new as well as current power plants, other equipment of the power system as well as other industrial facilities.



BASIC DATA

Sole stockholder (100 %):

PI 1 a.s.

Pařížská130/26, Josefov, 110 00 Praha 1, Czech Republic

Statutory bodies:

Jiří Holinka, Chairman of the Board of Directors

Štefan Okruhlica, Vice-Chairman of the Board of Directors

Jan Honek, Member of the Board of Directors

Year of inception:

1993

Legal form:

joint-stock company

Company identification:

Company Registration No.: 49433431, Tax Identification No.: CZ49433431

Trade Connections:

P +420 568 413 111, **F** +420 568 413 999

E obchod@ic-energo.eu, www.ic-energo.com

Seat of the company:

Pražská 684/49

674 01 Třebíč, Czech Republic

The company is incorporated in the Commercial Register held by the Regional Court in Brno, Section B, File No. 4153.

I&C Energo a.s.

Board of Directors

As the statutory body, the Board of Directors manages the company's operations and acts in its name. It decides in matters relating to the company's commercial management. In certain matters, it may only decide with the prior consent of the Supervisory Board. The powers and responsibilities of the Board of Directors are defined in the Articles of Association.



Jiří Holinka

Chief Executive Officer
Chairman of the Board of Directors



Štefan Okruhlica

Director of Capital Project Division
Vice Chairman of the Board of Directors



Jan Honek

Member of the Board of Directors

The background of the slide is a collage of industrial images. The top left shows a complex network of silver pipes and green structural beams in a factory. The top right shows yellow industrial machinery with green components. The bottom left shows orange cables bundled together with metal clamps. The bottom right shows more orange cables and industrial equipment.

ORGANIZATION CHART

GENERAL MEETING

SUPERVISORY BOARD

BOARD OF DIRECTORS

CHIEF EXECUTIVE OFFICER

HEADQUARTERS

SALES SECTION

FINANCE SECTION

EXECUTIVE DIRECTOR

ENGINEERING DIVISION

DUKOVANY DIVISION

TEMELÍN DIVISION

INDUSTRIAL SERVICE DIVISION

SUBSIDIARY

I&C Energo Magyarország Kft.

DIVISION

SLOVAKIA

DIVISION

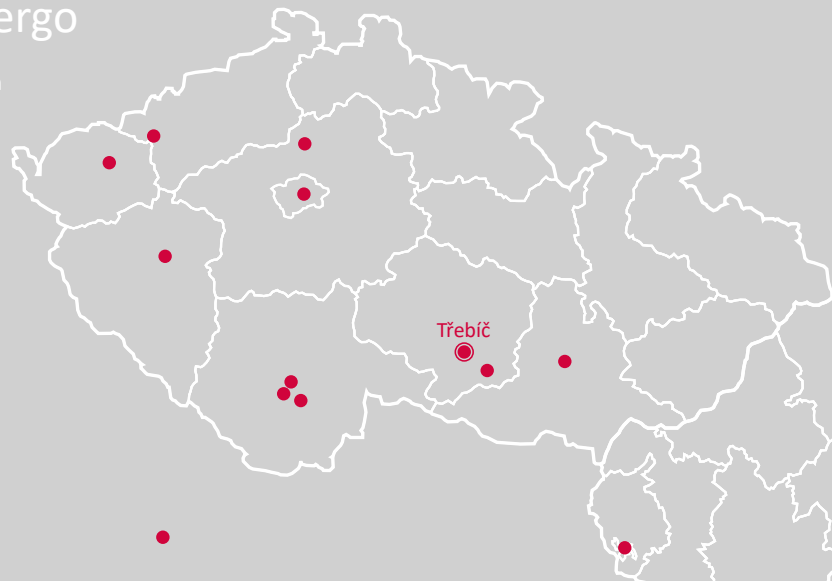
UKRAINE

LOCATIONS OF I&C Energo

I&C Energo a.s. is represented by branches in 11 locations in the Czech Republic, one organizational unit in Slovakia and the establishment in Finland.

I&C Energo a.s. branches

Třebíč, Praha, České Budějovice, Brno, Klášterec nad Ohří, Plzeň, Karlovy Vary, Dukovany NPP, Temelín NPP, Mělník Power Station, Týn nad Vltavou, Bratislava.



COUNTRY LIST

Argentina
Bosnia and Herzegovina
Brazil
China
Egypt
Finland
Germany
Greece
Hungary
Iraq
Italy
Jordan
Lithuania
Macedonia
Netherlands

Poland
Qatar
Romania
Russia
Saudi Arabia
Slovakia
South Africa
Spain
Sweden
Switzerland
Turkey
Ukraine
United Arab Emirates
United Kingdom
USA

CAPITAL PROJECTS

I&C Energo a.s. supplies comprehensive instrumentation and control systems, industrial automation, and electrical systems – from drawing up studies and project documentation, software development, system integration and system support, through supplying, assembling, and commissioning, to regular warranty and post-warranty servicing.

Long term experience in the implementation of investment projects in the form of final supplies and the development of project management capabilities has enabled I&C Energo a.s. to position itself as a final supplier for investment units.

The company places great emphasis on familiarizing itself with the specific environment and needs of every client. This in turn allows us to take an individualized approach to determining optimum project technical modifications with a focus on minimizing both investment and operating costs.

In our efforts to satisfy our customers and build strong mutual partnerships, we also offer financing for capital investment projects undertaken by I&C Energo a.s., in line with the subject matter of the project, the customer's needs, and the agreed terms and conditions. The company's core market sector is that of electricity and heat generation and transmission.

With facilities at multiple sites in the Czech Republic, I&C Energo a.s. is able to efficiently manage the implementation of capital investment projects – installation & assembly teams operate through facilities in the service divisions while engineering teams provide specialized technical support. One of many examples of such project cooperation is the I&C System Refurbishment project at the Dukovany Nuclear Power Plant.

I&C Energo was significantly involved in the implementation of the so called “stress test” projects that aim to considerably increase the safety of both nuclear power plants operated in the Czech Republic.

In 2014, the division for capital investment projects successfully completed orders as part of the construction of the new unit of the Počerady Power Plant, participation in the refurbishment of the Prunéřov II Power Plant and construction of a new power generation facility in the Ledvice Power Plant operated by ČEZ a.s.

Our close cooperation with major suppliers of technologies has attracted international business to the company.

CAPITAL PROJECTS

Scope of capital investment projects

The range of the company's capital investment projects is very extensive. It encompasses complete engineering design, sourcing, management of construction and technology subcontractors, installation & assembly, commissioning, as well as regular warranty and post-warranty servicing for:

- industrial automation;
- field instrumentation;
- regulatory, control, security, and information systems;
- grid and generation control systems;
- electrical systems – high and low voltage equipment;
- linear power engineering structures;
- extra high-voltage (EHV) substations;
- high-voltage (HV) substations, transmission lines, and distribution systems;
- low-voltage (LV) substations, distributors, and distribution systems;
- EHV/HV/LV transformer stations;
- diesel generators, UPS, direct current power supply units and distribution systems;
- breakers, line isolators, protection, motor installations, servo motors, electrical appliances;
- outdoor and indoor lighting, lightning protection, grounding systems;
- cables (including optic fibres), fire barriers, grounding systems, lightning conductors.

I&C Energo a.s. also supplies building operation technologies and systems, such as:

- optical data transfer, structured cable systems;
- electronic fire alarms;
- closed circuit television;
- access control and time clock systems;
- audio systems, intercom systems, internal communication;
- telephony, radio, unified time systems.

The company completed the process of gradually expanding the services it provides in the field of machinery. At present, I&C Energo a.s. employs over 150 highly qualified persons capable of ensuring the following services in the field of machinery:

- design of pipework systems and parts thereof;
- calculations for pipework systems, pipe components, and steel structures;
- consulting services, technical support and advice in the field of pipework systems;
- supply of pipework systems, load-bearing structures;
- supplementation of I&C circuits with machine components;
- inspections and repairs of pipe components, accessories and fittings;
- reconstruction and repair of dedicated pressure and gas equipment;
- servicing and maintenance including the adjustment of accessories and the placement of pipework systems.

Machinery services, which was originally a supplementary activity, is rapidly developing into one of the key products of our company, particularly in the field of “turnkey” projects.

ENGINEERING

I&C Energo a.s. is a leading supplier of complex solutions for technological process control and optimization and for asset management – from analysis and design elaboration, through development, production, system integration, implementation or commissioning, to servicing, optimization, upgrading and modernization.

Our services and supplies therefore embrace the entire life cycle of software, equipment, or systems according to the characteristics of the quoted solution.

Our customers are mainly power plants (nuclear, coal-fired, combined cycle), heating plants and heat supply systems, renewable energy sources, and industry in general.

In technological process control we mainly focus on:

- process automation and optimization;
- mathematical and physical process analyses;
- performance monitoring and energy balances.

In asset management we focus on:

- equipment ageing management;
- diagnostics and reliability;
- document management.

Our services and supplies cover a wide range of activities, from engineering activities:

- process and technological analyses;
- advanced data processing;
- modelling and simulation of technological equipment and processes;

through partial supplies, integration and software/hardware consolidation to complex supplies:

- software solutions;
- data warehouses and SCADA systems;
- diagnostics and optimization systems;
- management information systems;
- process information systems;
- special instrumentation;
- control systems.

In our work we apply the knowledge of equipment, technological processes and business processes of our customers in combination with sophisticated analyses, advanced data processing, possible simulation model development, and software engineering.

In order to implement our services and supplies, we have developed a number of methods and tools and acquired advanced technologies and third party tools. Within the scope of our deliveries, we co-operate with leading Czech and foreign producers and suppliers of software, equipment or systems, suppliers of engineering services as well as technical universities and other research institutes. We deliver extensive and comprehensive solutions with a high engineering added value based on long-term and systematic technical development.

SERVICE

I&C Energo a.s. is one of the largest Czech suppliers of comprehensive services in the area of control systems and LV, HV and EHV electrical equipment for various industrial applications, including system integration and support. Our comprehensive services also include the servicing of protective systems in buildings, including electronic fire protection systems, as well as the servicing of equipment in non-industrial buildings.

To our customers, we are a reliable partner capable of taking full responsibility for the technical, organizational, and logistical aspects of outsourced maintenance and servicing, as well as for their economic effectiveness.

Outsourcing these activities allows customers to focus on making strategic decisions in their core business. I&C Energo is a long-term provider of outsourced maintenance for both of the ČEZ Group's nuclear power stations as well as for other customers.

Service includes:

- outsourced maintenance of regulation, control, measuring, security, information, and other systems in the power industry and other industries;
- comprehensive planned, random and predictive maintenance, routine repairs, overhauls, checks, inspections, rebuilds, and upgrades, including the supply of spare parts and technical support for I&C systems, industrial information systems, electronic systems for buildings and electric power systems;
- the creation of annual and mid-term plans for periodic maintenance;
- servicing of protective systems in buildings – including both routine and as-needed maintenance;
- measurement of emissions, other measurement services;
- implementation and synergy of selected diagnostic measuring on ASMTTP equipment and LV, HV and EHV electric equipment.

SPECIALIZED ACTIVITIES AND APPLICATIONS

I&C Energo a.s. provides other specialized activities and applications for the implementation of projects within its three main product areas.

OSIsoft PI System – It enables easy monitoring, control or management of production and operational technologies, storage of process data and their easy use for analysis and optimization of production, operation and maintenance at all levels of the company from dispatching to management.

LTO Suite – Comprehensive information system to support the management of ageing technological systems (Long Term Operation). LTO Suite provides tools for the storage, administration and in particular evaluation of operating and diagnostic data related to specific types of equipment. (Among other things the timely prediction of equipment failures and the identification of the causes.)

BORON METER – Equipment for measuring Boron concentrations – measuring system consisting of instruments and other components intended for boron isotope ^{10}B and boric acid H_3BO_3 concentration measurement in nuclear power plant technology.

CombustionOPTI – set of methods, instrumentation and software tools designed to optimize solid fuel combustion boilers (their economic and environmental parameters).

PowerOPTI – A set of interconnected methods, procedures and software tools for the monitoring, evaluation, control, diagnosis, and optimization of operations (thermal cycling) of power plants and heating plants.

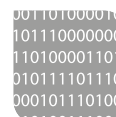
TRAMON – Power transformer monitoring system for transformer life-time management and for increasing transformer safety and reliability. System implementation reduces the risk of transformer failure and related direct and indirect damage.

ADICOS – A system of early warning against starting (smouldering) fire which minimizes damage in case of its occurrence. The system is very sensitive and can detect fire much earlier than conventional fire alarm systems (EPS). It is primarily designed for coal handling systems and fuel storage sites, but can also be deployed in other areas where flammable materials are transported or stored and the risk of fire exists.

ENGINEERING SIMULATORS – Software tools and related services for the monitoring, evaluation and optimization of transient processes taking place in power plants in case of nominal and fault conditions or in changes of technology, controller and protection parameters. The tools are based on their own platform to simulate dynamic systems and create engineering simulators.

Granulometry – Powder mixture roughness sensor – information on particle size distribution (granulometry) and the amount of flowing particles in individual mill circuits of powder boilers, powder pipelines or pneumatic transport routes.

AVEVA Information Management – Systematic and up-to-date records of engineering data in the form of structured alphanumeric data, 2D and 3D drawings, diagrams, technical and other documents. It describes the state of the technological unit in the form of a digital model (BIM model). It is accessible to all employees and surrounding systems in AVEVA software.



SPECIALIZED ACTIVITIES AND APPLICATIONS

GOMS – Software solution for production units in the power industry for the purpose of effective planning and implementation of shutdown and non-shutdown maintenance works and other operational activities and their ensuring. It supports the process-oriented distribution of work among the individual working groups maintaining the technological unit.



PREV-DOK – A system to ensure a user-friendly and efficient environment for the implementation of a common agenda related to the creation, registration and administration of operational documents and other technological documentation. The system supports the process of creating, approving, commenting and, of course, searching and viewing documentation. It allows you to print out changed parts of revised documents only.



BIM – Building Information Modeling. Data model representing a physical and functional object (building) with its characteristics. The model serves as a database of information about the object for its design, construction and operation during its life cycle, i.e. from the initial concept to the removal of the building.



Project implementation – It covers the entire project life cycle from concept to warranty operation. Comprehensive system support for project management and implementation using the advanced SPP system, experienced and certified project managers with IPMA level B and C certification, highly qualified engineering capacities in the field of I&C, ELECTRICAL SYSTEM and MACHINERY, experienced construction managers and implementation staff, teams ensuring the testing and commissioning of the work



Inspections and tests of electrical equipment – Inspections and tests of electrical equipment. An activity during which the state of electrical equipment from the point of view of its safety is ascertained by inspection, measurement and testing.



Cabling status diagnostics – A comprehensive solution to diagnose the state of cabling. Diagnosing all common types of cables, large measuring range from 50V up to 5kV, measurement of all cable cross-section sizes, high accuracy due to repeated measurements, simple and clear evaluation, comprehensive solutions for small and large networks, cabling length up to 30 km



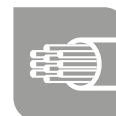
Solution for mass non-contact measurement of body temperature – Advantages: non-contact measurement with display of the current body temperature, wide range with multi-person measurement, immediate alarm notification of raised temperature, automatic early warning, retrospective evaluation of data, comprehensive solutions for factories, institutions, offices, hospitals and other companies with an increased frequency of people, measurement accuracy ± 0.3 °C, applicable to entrances and exits.



Monitoring and control of electricity consumption – Ensuring continuous monitoring of electricity consumption, with the possibility of controlling its consumption by regulating the quarter-hour maximum, including the possibility of monitoring other media such as water, heat, heating or technical gases and others. Reports for economic analyses, optimization, invoicing, service and maintenance.



CMS – Cable Management System. CMD is a specialized CAD / CAE system to support the design, implementation and operation of cable systems of large technological systems.



AVEVA Monitoring and Control – Production monitoring, control and optimization systems enable easy monitoring and control of production technologies, including analyses and subsequent optimization of production and maintenance. They make production information available at all levels of the company, from the control room to management.





AEO CERTIFICATE

The investment downturn on our primary market in the Czech Republic means that we have to develop our capabilities to work abroad. A good foundation for us is a list of thirty countries where we already have successful references.

Recently our company has taken several system steps to support our foreign operations. One of them, brought about by the requirements of our customers, was our decision to obtain the “Authorized Economic Operation” certificate (AEO) to support our export activities.

On 11 December 2015 the Customs Office for South Bohemia, based in České Budějovice, issued the “Decision to Issue the Authorized Economic Operator Certificate (AEOF)”, with effect from 29 December 2015.

AEOF – AUTHORIZED ECONOMIC OPERATOR – FULL

It is a combination of the Customs Simplifications and Security certificates. The certificate is valid in all EU Member States. The Simplifications section will be recognized by the respective Member State in which the economic operator submits the simplification request. The “Security” section is recognized by all Member States without any limitation.

INTEGRATED MANAGEMENT SYSTEM

The integrated management system of I&C Energo is created and constantly developed in accordance with the requirements of internationally accepted standards and the requirements of the relevant interested parties of the Company. The integrated management system of the company is monitored, assessed and improved internally on a continuous basis with a view to achieving the sustainable development of the company. It is also audited regularly by our important customers, in particular by: ČEZ, a.s., ŠKODA JS a.s., Slovenské elektrárne, a.s., Energoatom Ukraine and other independent certification organizations.

Current certificates and other additional information about the company's products are available at www.ic-energo.com.

Quality Management System and Process Control

I&C Energo a.s. holds ISO 9001:2016 certification in accordance with ČSN (Czech technical standard) EN. The last recertification audit was performed in January 2020 by BUREAU VERITAS CERTIFICATION CZ, s.r.o. The Quality Management System was certified in 1999. The system is based on legislative requirements and respects the needs of customers and all the relevant interested parties.

The quality of the applied integrated management system in I&C Energo a.s. is demonstrated to the customers via key processes of the company's management system which it provides to its product groups: Capital projects, Optimization of power plant operations and engineering, Services (nuclear, industrial).

Based on the company's strategic decisions, the system is built, maintained, and improved to keep pace with changes in the company's needs, objectives, products, process definitions, and organization structure. Design, production and delivery of equipment for boron concentration measurement and other special instrumentation are an integral part of the key processes.

Special processes, in particular welding, are under constant supervision within the framework of certification by the Czech Welding Institute and our customers are guaranteed compliance with the requirements of the European harmonized technical standard ČSN EN ISO 3834-2:2006 and also for the welding of class 2 thermoplastics.

A system for the management of structural steel parts, components, assemblies and structures up to class EXC4 pursuant to the European standard EN 1090+2+A1 is established and the system is regularly reviewed by the Technical and Test Institute for Construction Prague.

The requirements of the Atomic Act No. 263/2016 Coll. are implemented for the nuclear field in the Czech Republic.

Protection of the Environment – Environmental Management System

Protection of the environment is a necessity and a key I&C Energo priority. This is demonstrated by thorough compliance with the requirements of our Environmental Management System (EMS), which is certified by the certification authority BUREAU VERITAS CERTIFICATION CZ, s.r.o. to comply with ČSN EN ISO 14001:2016. In 2006, the EMS was integrated with the Quality Management System.

The environmental policy of I&C Energo a.s. is set forth in the Quality and Environmental Policy, which declares I&C Energo's fundamental pledges relating to the environment, including:

- Consideration for the environment. All Company activities are carried out with consideration for the environment and sustainable development and are continuously subjected to review to determine and minimize their environmental impacts.
- Compliance with all applicable environmental protection regulations, statutory and otherwise.
- Actively influencing employees and business partners.

The company encourages its employees to be more aware of their responsibility for the state of the environment and creates conditions that encourage environmentally friendly behaviour; it also mandates this approach from its suppliers.

Occupational Safety and Health (OSH) – OSH Management System

An integral part of the integrated management system is occupational safety and health management, which contributes to the fulfillment of legislative and other requirements, minimizes the risk of damage to employee health, and improves work conditions. In 2009, the OSH management system was successfully certified for compliance with the ČSN OHSAS 18001 standard by the certification authority BUREAU

INTEGRATED MANAGEMENT SYSTEM

VERITAS CZECH REPUBLIC, s.r.o. and became a part of the integrated management system. In January 2020, the safety and health management system was recertified in accordance with the requirements of the international standard ČSN ISO 45001.

The OSH Policy is linked with the other quality policies and declares the company's fundamental pledges in relation to occupational safety and health. These pledges are:

- To give safety and health equal priority with economic, operational, and other concerns.
- All company activities are carried out with regard to protecting human health (employees and the general public), as well as protecting the environment and property, and are subject to continual review to determine and minimize the impacts on employee and public health.
- To respect statutory and other applicable OSH regulations.
- To develop awareness on the part of employees and suppliers of the need to protect their own health and to cooperate with us in continually improving the level of OSH.

Information security management system

The Information Security Management System according to the requirements of ČSN EN ISO/IEC 27001: 2014 became an integral part of the integrated management system in 2016. The Information Security Policy is announced, the goals and principles of information security are set. The information security management system was implemented and certified for design and engineering activities, comprehensive implementation, maintenance and servicing of technical protection systems and electric fire alarm systems, including the databases modifications, by the certification authority BUREAU VERITAS CERTIFICATION CZ, s.r.o.

Compliance

The company is aware of its responsibility as important entity in the market and therefore it has decided to pay special attention to the field of compliance with the law and respect for good morals and public order.

The company is committed to implementing effective measures to increase the standard of compliance with the law and respect for good morals and public order, as well as to monitor continuously their functionality, and to lead its employees to their consistent application and enforcement.

The company has introduced the Compliance system and issued the Compliance Manual as the main measure to ensure compliance with the law and respect for good morals and public order in all activities.

The practical application of the processes and principles mentioned in the Manual will be regularly monitored, evaluated and enforced within the Company, and all the members of the Company's bodies will set up an example for their workmates..

GDPR (General Data Protection Regulation)

In 2017, the company began preparations for the introduction of new rules in accordance with the General Data Protection Regulation issued on 14 April 2016 (GDPR). This measure means specification and emergence of new obligations in connection with increasing the protection and rights of citizens.

An audit and independent verification of the current setting and functioning of processes and security measures in the Company with the requirements of GDPR were performed in the Company.

In January and February 2018, the Company focused on the implementation of rules and preparation of documents in order to have the technical and organizational security standards and other measures necessary to comply with relevant regulations and standards regulating the processing of personal data as of 25 May 2018.

Since 25 May 2018, the company has had generally recognized standards of technical and organizational security and other measures necessary to comply with relevant regulations and standards regulating the processing of personal data in accordance with the GDPR.

The company also requires its employees to follow these rules in their day-to-day work activities.



Structure of Education

University	185	23%
Secondary	419	53%
Secondary vocational	192	24%

Professional Categories

Technical	477	60%
Blue collar	213	27%
Ancillary	71	9%
Executive	35	4%

Age Structure

30 and under	128	16%
31 – 40	138	17%
41 – 50	223	28%
51 – 60	238	30%
Over 60	69	9%

I&C Energy a.s. clearly recognizes that human capital is one of the most important factors that influences the success of the entire company. Therefore, we strive to provide our employees with extra care, which corresponds to the current requirements for a safe working environment and trends in employee welfare. Labour relations and social policy are given significant attention, which is reinforced by our cooperation with the trade unions. The care for our employees is reflected in the definition of a comprehensive system of benefits, the optimization of which is part of our personnel policy.

Great emphasis is placed on staff training and development. In our company this is a well-controlled process comprising effective, targeted and planned development of human potential. It is based on a comprehensive and unified work methodology with appropriate tools and procedures, with space for further activities and creativity. The employee plays a key role in the entire process – acquiring and using new knowledge is an obligation for each of them. Each employee of the company shares its corporate values and, as part of the fulfilment of their obligations, reflects these values in the respective form in specific work activities and the outcomes of their work.

HUMAN RESOURCES

Employee policy

The company's employee policy provides and extends a stable foundation for highly qualified personnel, their professional growth and very good pay and social conditions, which are competitive on the labour market. It plays a role in the creation of professional employee attitudes towards customers, work activities, work discipline, morale, productivity, quality, and occupational safety.

I&C Energo a.s. has strong design, technical, implementation and maintenance capabilities across the whole range of activities, in particular in MV and LV wiring, I&C, low voltage distribution systems and building technology. Recently, I&C Energo a.s. started building a design section for engineering.

This portfolio of own resources makes it possible to handle the preparation, management, implementation and commissioning of projects, including large ones, in particular the construction and refurbishment of power generating units from the point of view of final I&C and electrical supplier, including guaranteeing their follow-up operation and maintenance.

The fulfilment of demanding requirements during outages and investment projects points to the abilities of our maintenance workers to use their knowledge, systematically acquired over the long term, and their willingness to learn how to work on new equipment very quickly. The servicing of equipment requires high-quality organizational arrangements, an active and operational approach, and knowledge that often goes beyond ordinary expertise for the maintenance of equipment or cooperation between multiple professions or specialists. The ambition of Maintenance is to carry out the scope of work with the highest level of effectivity whilst upholding safety and the quality of the work.

Our large team of highly qualified employees consists of designers and technicians with many years of experience in the nuclear industry, who carry out refurbishment projects not only in Czech nuclear power plants, but in many other countries worldwide (e.g. Slovakia, China, Sweden, Finland, Spain, etc.).

Today, with many years of experience in both conventional and nuclear power, the company employs many workers with highly specialized knowledge of the equipment of a reactor's safety and limitation systems, information and control systems for nuclear and conventional technologies, as well as in the area of reactor measurements and neutron flux measurements, radiation monitoring, emissions measurement, special measurements, turbine control systems, substation management and many other specialized fields.

Based on this knowledge, the company develops and uses many proprietary products and specialized SW e.g. for cable management, power equipment optimization and other advanced tools for the design, development, management and administration of processes.

Work on these and future projects poses major challenges for the company's employees and puts great demands on the employees' lifelong learning in technical fields as well as in design management and language skills. In these projects, teams and individuals are provided with opportunities to creatively search for new solutions and procedures, with room to use the acquired knowledge in combination with the exploitation of the latest technologies.

Work force

On 1 January 2022, I&C Energo a.s. had a total of 796 full time employees. In terms of education and professions, 76% of I&C Energo a.s. employees have a university or high school education. The average employee age is 45 years.

BUSINESS ACTIVITY

I&C Energo a.s. represents an engineering and supply organization that successfully operates on the industrial market in the Czech Republic and abroad, especially in the electrical and power segment. The scope of orders is primarily implemented in the areas of supplies, reconstructions, modernizations and maintenance for technological systems and equipment, electrical systems, control systems, security and information systems, including the provision of system integration, engineering and project support.

With its number of almost 900 employees at workplaces and projects in the Czech Republic, and permanently also in Slovakia, I&C Energo a.s. belongs among the largest Czech companies in its field. It implements its orders in three main products – Service, Investment Supplies and Engineering.

The comprehensive needs of customers are ensured by a suitable combination of the Company's main products. The integrating element of turnkey deliveries, comprehensive services and solutions is a systemic approach, a combination of knowledge from various technical and scientific disciplines, a team approach and the application of modern methods of planning and management. The Company finds extensive application of this approach mainly among operators of large and complex technological units, such as nuclear and conventional power plants, heating plants and other companies, especially in the paper and chemical industries.

The Company's areas of activity are open, highly competitive and liberalized markets, in which potential investors approach their projects with maximum emphasis on cost savings, including consideration of the possibilities of postponing planned investments to a later period. Extensive modernization programmes in the power industry are being re-evaluated and often delayed, either in connection with RES (renewable energy source) or the construction of the fifth unit at the Dukovany NPP. The company's growth is focused on developing the ability to manage comprehensive deliveries and provide its customers with integrated solutions focused on their specific needs. A sufficient number of designers, technicians and experienced workers enables the implementation of supplies and engineering solutions from the position of system integrator of major manufacturers and suppliers of control, management, information and safety technologies, components and electrical systems.

Success in tenders was a basic prerequisite for meeting the business plan in 2020. The power generation and distribution segment remains the dominant market. The identified opportunities for the Company are not only limited to the Czech Republic.

It is very gratifying that the volume of orders won and contracted in 2020 was at a level exceeding 1.3 billion Czech crowns. This fact is the result of an ongoing targeted effort to acquire new customers and diversify the Company's customer portfolio. We penetrate new areas, new customers, new foreign destinations. To confirm this approach, it is possible to cite newly acquired contracts in Slovakia, Poland, Sweden, Finland or Bulgaria. Gradually, the share of orders is growing within the group to which we belong.

The long-ago completion of projects for the renewal and construction of new conventional sources in the north of Bohemia means that there is currently no energy project of a similar scale in the Czech Republic, which would follow in terms of volume and importance. Unfortunately, the greening of existing operations will not replace them either. However, new challenges in the power sector seem to generate the need for gas and steam power plants or, alternatively, the construction of municipal waste incinerators. The question is whether any of the mentioned projects will be launched in 2021.

The upcoming „new” tender for the construction of nuclear units in the Czech Republic, profaned politically and in the media, does not change this fact, as the actual start of construction will not occur until 5-10 years from now. Moving the tender from 2020 to 2021 only underlines this fact. For these reasons, our efforts to diversify our customer portfolio in 2020 will resonate even more in 2021, so that we can continue to manage comprehensive deliveries and a system approach and maintain know-how in the range of our products and services and gradually prepare for new challenges in the power industry, including the construction of the fifth unit in Dukovany.

COMPANY HISTORY

1993

- Establishment of I & C Energo s.r.o. with its seat in Třebíč – owners: ČEZ, a. s. (34%), Westinghouse Electric (33%), CME Třebíč (33%);
- First major contract: overhaul of I&C system of Unit 1 of Dukovany Nuclear Power Plant.

1998

- Establishment of Central Bohemia Division, Capital Projects Division and Temelín Nuclear Power Plant Division;
- Testing of Westinghouse control system at Temelín Nuclear Power Plant begins.

1999

- Share capital increased to CZK 45 million;
- Ownership change: ČEZ, a. s. (100%);
- QMS certified for compliance with ISO 9001;
- Work begins on retrofitting Unit 6 at Elektrenai Power Plant in Lithuania.

2000

- Contract signed with Škoda JS a.s. for the implementation of a I&C system overhaul project at Dukovany Nuclear Power Plant.

2002

- Delivery of first supplies for nuclear power plants in Ukraine.

2004

- I & C Energo becomes a part of CEZ Group;
- Share capital increased to CZK 150 million;
- Company changes its legal form from limited-liability company (s.r.o.) to joint-stock company (a.s.).

2005

- Westinghouse and Energoatom carry out a customer audit of the Quality Management System;
- Completion of planned work on the I&C system overhaul project on Unit 3 of Dukovany NPP and handover of renewed equipment for trial operation;
- Contract signed to retrofit Units 5, 7, 8 at the Elektrenai Power Plant (Lithuania);
- Completion of development on the “Cabling Management System” software tool.

2006

- ISO 14001 certification obtained for the EMS.

2007

- Electrical part of the Tušimice II Power Plant’s comprehensive retrofit project becomes operational;
- Completion of Phase 2 of the Dukovany Nuclear Power Plant I&C System Renewal project – Unit 1.

2008

- Contract signed with ŠKODA JS a.s. defining mutual cooperation on renewing Modules M3, M4 and M5 at Dukovany NPP;
- Organizational unit opened in Bratislava, Slovak Republic;
- Ownership change: as of July 2008, the new 100% owner of I & C Energo is the Hungarian based MOL Plc.;
- Roll-out of new company logo.

2009

- Contracts and subcontracts signed for the implementation of the project “New 660 MWe Generating Facility at Ledvice Power Plant”;
- Modules M1, M2 of Dukovany Nuclear Power Plant I&C System Renewal project completed;
- Company successfully passes OHSAS 18001 certification audit.

2010

- Contract signed with ČEZ, a. s. for the project “B118 Replacement of protections of 6 kV switching station and 0.4 kV sectional switching station in the 1st main technological building and auxiliary service building for primary systems at the Temelín NPP”;
- Success in tenders OB09.1, OB09 and OB10 – new 880 MWe steam gas generating facility at the Počeradý Power Plant;
- Successful contract completion – Spent Nuclear Fuel Storage Building at the Temelín NPP.

COMPANY HISTORY

2011

- Memorandum of Understanding signed with Westinghouse Electric Company declaring their readiness to cooperate on the tender for the construction of Units 3 and 4 at the Temelín Nuclear Power Plant;
- Consolidated turnover broke through the EUR 100 million barrier thereby making the company one of the largest in Europe;
- I&C Renewal Project for the Dukovany NPP. Successful completion of extensive work during the temporary shutdown of Unit 1, resulting in an increase in output to 500 MW.

2012

- Revenues from external customers other than from the ČEZ Group hit an historical high;
- Accomplishment of the highest volume of contracts in the newly developed area of building technology;
- Contract won to supply outdoor transformer stations for the New CCGT Source in Počerady – first deployment of our own monitoring system for power transformers (TRAMON) on a new non-nuclear unit;
- Execution of supply contracts with over a hundred individual customers;
- Contract won to supply an engineering simulator for the New CCGT Source in Počerady – first application of this engineering tool by I & C Energo a.s. outside nuclear power plants;
- Change of ownership: I & C Energo a.s. came under new ownership as of 8th November 2012. The new owner became Yellowraazd BV.

2013

- Establishment of a joint venture (as of 1st March 2013) between I & C Energo a.s. and VF, a.s. in the area of Radiation Monitoring Systems (I & C Energo a.s. sold its 49% share in its subsidiary AFRAS Energo s.r.o. to VF, a.s.);
- Participation in negotiations in Saudi Arabia in conjunction with Westinghouse in respect of the location, construction and operation of the first nuclear power plants in the country;
- Extension of cooperation with the AREVA company on the development of safety systems by providing technical and analytical support, including software applications development and testing in the field of nuclear power plants in the Czech Republic and abroad;
- Merger of the I & C Energo a.s. subsidiaries ENPROSPOL, s.r.o. and ENPRO Energo, s.r.o. (as of 1st January 2014) – the legal successor is ENPRO Energo s.r.o.

2014

- Change of business name and logo with effect from 23rd April 2014 – new name: OT Energy Services a.s.;
- Contract signed with ŠKODA JS a. s. for the supervision of installation works, testing and commissioning of I&C systems, electrical systems and machinery works as part of the construction of Units 3 and 4 of the Mochovce NPP;
- Preparation of an offer for Emerson Process Management, our long-term partner in the field of I&C systems and field instrumentation, for a new coal fired power plant (1 × 910 MWe) in Jaworzno, Poland;
- Successful completion of the work in the Temelín NPP entitled “Substitution of the DMS 7000 Superstructure System and MS9 Series in BS 490/01,02 and BS 500/01,02”;
- Preparation of an offer for the French syndicate of NOVARKA (Vinci Construction Grands Projets and Bouygues Travaux Publics) as part of the final resolution of the Chernobyl issue within the framework of EFA (Electronic Fire Alarms) and SEE (Stationary Extinguishing Equipment).

2015

- Contract signed with the Finnish company Lahti Precision Oy for the installation of their technology in the industrial zone in Klášterec nad Ohří;
- Contract won for the gradual replacement of pipes for essential service water in the primary circuit of the Temelín NPP;
- Successful tender for the replacement of ten special boric acid analysers (boron meters) on units 1 and 2 of the Mochovce Nuclear Power Plant (EMO), Slovakia;
- Contract won for the “Upgrade of the 6kV substation 01BBB” in the Tisová Heating Plant, Březová u Sokolova;
- Agreement with Rolls-Royce on long-term cooperation on the project “Upgrade and restoration of the existing instrumentation and control

COMPANY HISTORY

- system in the Loviisa Nuclear Power Plant” in Finland;
- Contract signed for the supply of a physical protection system, internal communication equipment (Intercom) and a unified time system for the Angra 3 Nuclear Power Plant in Brazil, for AREVA;
- Long-term contract signed with ČEZ a.s. for the reconstruction of sectional DC switchboards in the Dukovany NPP;
- Successful tender for the “Replacement of the instrumentation & control system, in-house consumption system and power output from the Diesel Generator Station (DGS) and shared back-up DGS” at the Temelín NPP;
- Sale of a 51% share in the subsidiary AFRAS Energo s.r.o.;
- A contract for the replacement of direct current distribution boards for nine nuclear units in Ukraine received;
- AEO certification obtained – authorized economic operator.

2016

- A permanent office in Finland established;
- The owner of OT Energy Services changed on 3 June 2016. PI 1 a.s. is its new 100% owner;
- A contract entered into with ČEZ a.s. for the project “F051 – Addition of valves to open the Pressurizer Main Check Valve (HPV KO) from the main or emergency control room of the Temelín Nuclear Power Plant”;
- With legal effect from 1 August 2016, the name was changed to I&C Energo a.s. The change is associated with a new visual presentation and the use of a new corporate logo.

2017

- victory in the tender for the event “Reconstruction of heating, ventilation and air conditioning in the radioactive waste treatment facility” at the Dukovany NPP. For ČEZ, a.s.
- victory in a competitive tendering as a subcontractor of EGEM s.r.o. and PROFÍ EMG s.r.o. companies for an order issued by ČEPS a.s. for the implementation of parts of the work of the new Vernéřov substation to secure a new node of the Czech Republic transmission system
- contract with Spolana, a. s., for implementation of the work „Elevation of a part of the 110 kV substation r00” on the premises of Spolana Neratovice a.s.
- contract with Mondi Štětí, a. s., for implementation of the work „Replacement of HV switchgear of the C311 compressor station” on the premises of the company
- success in the competitive tendering for optimization of the Temelín NPP heating system and the prevention of overheating and insufficient heating of buildings
- victory in the competitive tendering issued by ČEZ, a. s. for a supplier to the project called „ETU-K0369-System of optimization and validation of data” at the Tušimice power plant
- delivery and implementation of the SPP (Project Management and Implementation System) system at I&C Energo
- contract for work for ČEZ ICT Services, a.s. and ČEZ, a.s. for “Provision of servicing in the years 2017-2019”
- contract for work for ČEZ, a.s. for “Making the data routes of the Dukovany NPP Information system (NLAN) to Technical Support Centre more resilient”
- contract for work for ČEZ ENERGOSERVIS, spol. s r.o., for electrical and I&C sections of the project „Installation of the 3rd cooling pump of the spent fuel pool” at the Dukovany NPP
- contract with ČEZ ENERGOSERVIS, spol. s r.o. for „Reconstruction of the pipeline of the super emergency feed water pump at units 3 and 4 – electrical and I&C sections”
- completion of the replacement of the main safety valves of the pressurizer at the main production unit 2 at the Temelín NPP
- successful implementation of the contract for the German company LEAG (Lausitz Energie Bergbau AG), which runs the brown coal mines and power plants on the border between Saxony and Brandenburg
- contract for the delivery of twelve 0.4kV AC distribution boards for unit 2 of the South-Ukraine nuclear power plant

2018

COMPANY HISTORY

- public contract for the project „Replacement of NESW (non-essential service water) Cooling Pipes in Containment” at the Temelín NPP
- contract with AC Sparta Praha fotbal, a.s. for „Reconstruction of subsidiary LV distribution boards R1, R3, R4, R5” on the premises of the AC Sparta Prague Stadium
- I&C Energo a.s. is a member of the Třebíč Region Energy Association, association of municipalities and legal entities interested in maintaining the energy of the region
- delivery of six ICE220 and six ICE85 blower aggregates for units 5 and 6 of the Kozloduy NPP in Bulgaria
- victory in a competitive tendering announced by Slovenské elektrárne a.s. for the completion of the works within the secondary circuit – the unit 4 conventional island. It is the project of completion of Mochovce power plant 3,4
- contract with Rolls-Royce on continuing the cooperation within the Elsa project, which is “Modernization and renewal of the field instrumentation and control systems of the Loviisa Nuclear Power Plant” in Finland
- success in an international tender for the delivery of LV AC distribution boards (including transformers) for own consumption substations for units 3, 4 and 5 of the Zaporozhye Power Plant
- contract with ČEZ, a.s. for the project „Movement of the controls of ESW (essential service water) discharge valves from the central pumping station to the control room” at the Dukovany NPP
- contract for the replacement of 9 outgoing DN1200 single gland expansion joints in the points of stationing 1014, 1019, 1021, 1030 and 1034 of the hot water pipeline manifold at Mělník power plant – Třeborátice heating plant near Měšice and Hovorčovice
- With the effect from 31 July 2018 the members of the Board of Directors I&C Energo were changed. Mgr. Ing. Jiří Nováček was elected the Chairman of the Supervisory board, and Ing. Radim Kotlár and Ing. Jan Honek members of the Board of Directors.
- contract for work on a tender for the replacement of selected pipeline routes and components of the ESW (essential service water) system at the Temelín NPP
- contract for a tender „Improvement of the 1HP08 and 2HP08 gas panels at the Temelín NPP”
- contract for the implementation of the project “Upgrading protective equipment” at the Temelín NPP
- success in a competitive tendering for the project called „Reconstruction of the ESW pipeline, replacement of valves and hoses for the primary circuit air-conditioning units” at the Temelín NPP.

2019

- victory in a competitive tendering for the contract “Replacement of the actuators of direct current drives of the run-down oil pump and the emergency shaft seal pumps” at the Dukovany NPP
- contract with ČEZ, a.s. for “Extension of the operational camera system” at the Dukovany NPP
- contract for „Implementation of new technical requirements of the new Atomic Act into the system of physical protection at the Dukovany NPP”
- victory in the competitive tendering for “Measuring electricity production and own consumption at the Dukovany NPP”
- contract with Mondi Štětí a.s. to implement the project „Reconstruction of distribution boards in C202 KAMYR HV substation”
- contract with the Nuclear Physics Institute (NPI) Řež, a.s. for the implementation of the project „Modification of LDS Ts 423 – New source for the NPI structure 231” on the premises of the Research Institute of the NPI Řež a.s.
- contract with NPI Řež, a.s. for the implementation of the project „Repair of cable routes”
- contract with ČEZ, a.s. for the project “The use of the cooling surface area of the tower designed for the ESW to cool the CCW”
- contract with Mondi Štětí, a.s. for the project „Renovation of LV distribution boards of chemical water treatment” in the premises of Mondi Štětí a.s.
- contract with ČEZ Teplárenská, a.s. for the replacement of five outgoing DN1200 double-sided gland expansion joints on the hot water pipeline manifold, near the municipalities of Chlumín – Obříství and Kojetice
- complete upgrade of a hydrogen unit panel within the project “Improvement of 1(2)HP08 gas panel” in the Temelín NPP
- delivery of equipment for the service load distribution boards in the South Ukraine Nuclear Power Plant
- a contract with Sev.en Engineering s.r.o. for technical assistance within the project “Optimization of combustion of boilers at units B3 and B4” in the Chvaletice Power Plant
- signing a memorandum of understanding and cooperation in the nuclear field with the China Nuclear Power Engineering Company (CNPEC)

COMPANY HISTORY

- victory in a competitive tender for the implementation of the project “Reserve air-conditioning units for cooling substations in the 1-4A23 extension” at the Dukovany NPP
- successful FAT tests (Factory Acceptance Tests) of BorAn PN160 flow boron meters manufactured by I&C Energo for units 3 and 4 of the Ringhals Nuclear Power Plant

2020

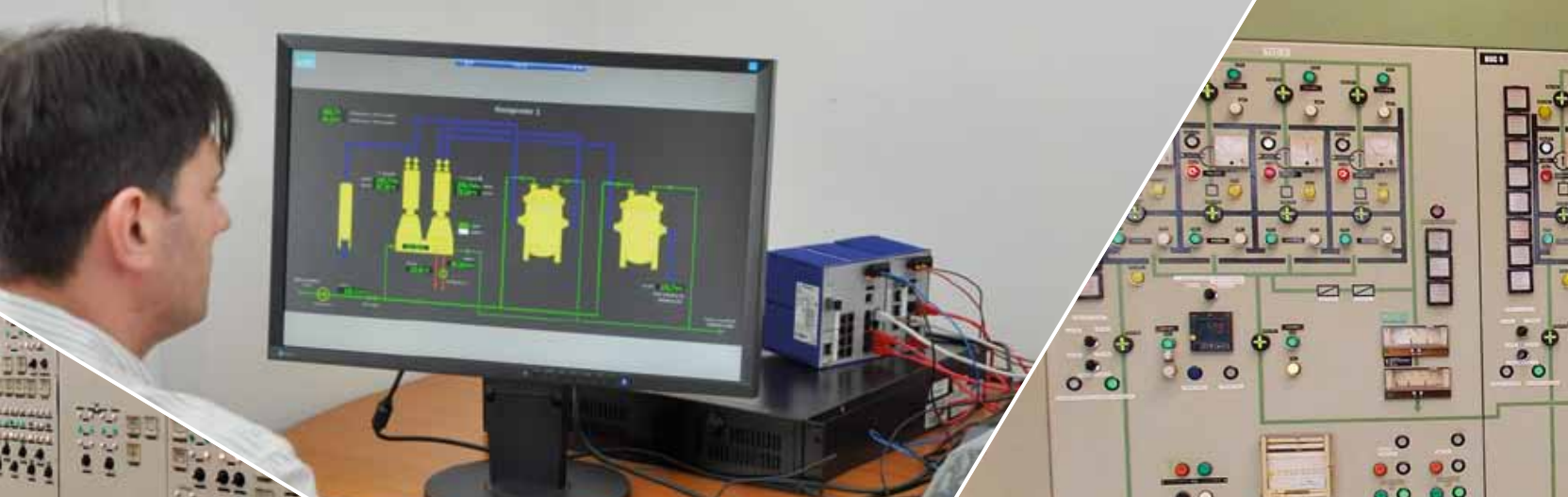
- victory in the public tender for “Replacement of Graviner Mark V oil mist detector” (measurement of oil vapour concentration on DG) at the Dukovany NPP
- a contract with L D M, spol. s r. o. for sub-delivery within the project „ Replacement of steam generator safety valves with optimized flow space shape” at the Dukovany NPP
- success in the competitive tendering for Reconstruction of the 400kV substation in the Dukovany Nuclear Power Plant in a consortium of the companies I&C Energo a.s., EGEM s.r.o. and Union Grid s.r.o.
- visit of representatives of KHNP (the Korean Hydro & Nuclear Power) and discussion about the possibilities of cooperation and potential areas of integration of I&C Energo a.s. into the KHNP supply model for the construction of a new nuclear unit in the Czech Republic
- victory in a competitive tendering for the implementation of the project Replacement of 1-4RY11-16S02 electric drives at the Dukovany NPP
- success in competitive tendering for the conclusion of Framework Agreements for the maintenance, repair and inspection of equipment of Electrical and I&C systems logical units at the Dukovany and Temelín nuclear power plants for the period from 2021 to 2028
- meeting the conditions of the qualification procedure for the Planned Replacements of Electricity Meters for verification in the areas of Brno, Prostějov, Jihlava, Znojmo and Tábor for E.ON Distribuce, a.s.
- I&C Energo is ready for the implementation of electrical and I&C projects and selected technologies in BIM (Building Information Modeling)
- joining the Lasu project as part of the modernization and renewal of the existing field instrumentation and control systems of the Loviisa nuclear power plant in Finland
- completion of the installation and commissioning of BorAn PN160 flow boron meters at units 3 and 4 of the Ringhals nuclear power plant, Sweden
- signing of a memorandum with Korea Hydro & Nuclear Power (KHNP) to establish partnerships in the areas of research and development and operation and maintenance of power plants
- contract for the production of a special tubular heat exchanger for the end customer, U. S. Steel Košice (Slovakia)
- completion of the implementation of projects „Reconstruction of PS1 lighting” and „Replacement of PS1 light distributor” for Mondi Štětí a.s.
- signature of the contract with Doosan Škoda Power s.r.o. for the Modernization of turbogenerators (TG) at reactor unit 1 at the Mochovce NPP

2021

- I&C Energo a.s. became a member of CZECH POWER INDUSTRY ALLIANCE z.s. (CPIA)
- contract with KRÁLOVOPOLSKÁ SAG s.r.o. for the implementation of the work Modernization of the chlorine leakage liquidation system in the premises of the state enterprise DIAMO s.p. in Stráž pod Ralskem
- contract for the implementation of the Conventional Power Plant Operating System
- implementation of modifications of the ventilation routes of the space under the heads of the steam generator secondary collectors at the Temelín NPP
- contract for servicing and repairs of boric acid analyzers and oil mist detector at the Bohunice NPP
- conclusion of implementation contract for maintenance, repairs and inspections of electrical (LC CE) and control system (LC CM) logic units at the Dukovany and Temelín nuclear power plants for 2021
- contract with Metrostav a.s. for the implementation of part of the electrical and I&C project the subject of which is the replacement of particulate filters for the four units at the Tušimice power plant
- victory in a competitive tendering for the project „Possibility of reducing the pressure in gas tanks at the Dukovany NPP”
- sale of the 100% stake in ENPRO Energo s.r.o. to ED Holding a.s.

- I&C Energo became the main partner and participant in the Nuclear Encounter 2021 international conference
- a contract for the security of important rooms outside the guarded area of the Dukovany NPP
- contract for Reconstruction of isolation valve panels on cryogenic vessels for storage of technical liquid gases at the Dukovany NPP
- implementation of a significant part of the contract for Replacement of SZN1 (2,3,5) rectifiers and inverters at the Dukovany NPP
- successful installation of equipment for the substation, which provides power to the technology of additional cooling of ESW at the South-Ukrainian NPP
- signing a Memorandum of Understanding with KEPCO E&C
- implementation of a new camera system at the SK Dynamo České Budějovice football stadium
- contract for the replacement of essential service water (ESW) pipelines for cooling air-conditioning units and other appliances at the main production unit at the Temelín NPP
- I&C Energo was a partner of the conference NUCLEUS – New Nuclear Resources held on 23 September 2021
- I&C Energo participates significantly in the replacement of particulate filters for the four units of the Tušimice power plant
- signing of a contract with Westinghouse for the modernization of instrumentation & control systems at the Temelín NPP
- contract for the implementation of active water disposal systems in the secondary side of the steam generator at the Temelín NPP
- signing of a memorandum of cooperation for Unit 5 of Dukovany NPP between EDF and I&C Energo a.s.
- I&C Energo established its subsidiary in Hungary in December 2021

2022



Dukovany Nuclear Power Plant – Renewal of I&C for non-unit equipment

The contract with ČEZ, which is in the form of a turnkey project, will be implemented in 2015–2018. The subject of the contract is to ensure the long-term operability of the I&C equipment for selected non-unit facilities in the Dukovany NPP, the establishment of an industrial communication network connecting individual operating assemblies, and the creation of a central control room for non-unit facilities. I&C equipment of non-unit facilities will be replaced with technology with a guaranteed sufficient lifetime and supply of spare parts so that the equipment can be operated for at least fifteen years.

The entire work consists of 31 separate sub-units. The most important sub-units are the creation of a new central control room for non-unit facilities (CVNZ), including a technology network for non-unit facilities, modifications to shared control room SDB1,2, surveillance of nuclear auxiliaries buildings DBAPP1,2, a control system for HVAC equipment ŘSVTZ1,2,3,4, a control system for high-pressure and low-pressure compressor stations ŘSVTKS1,2 ŘSNTKS, a control system for nitrogen unit ŘSN2, a control system for central pumping stations ŘSCČS1,2, a control system for chemical water treatment plant ŘSCHÚV and a control system for unit condensate treatment plant ŘSBÚK1,2,3,4. Approximately 300 I&C cabinets and about 2,000 measuring circuits will be replaced during the work. An internal testing site will be set up to ensure tests of the control systems. Employees with long-term experience of contracts for I&C Renewal in EDU are an invaluable asset for this contract.

SELECTED CONTRACTS





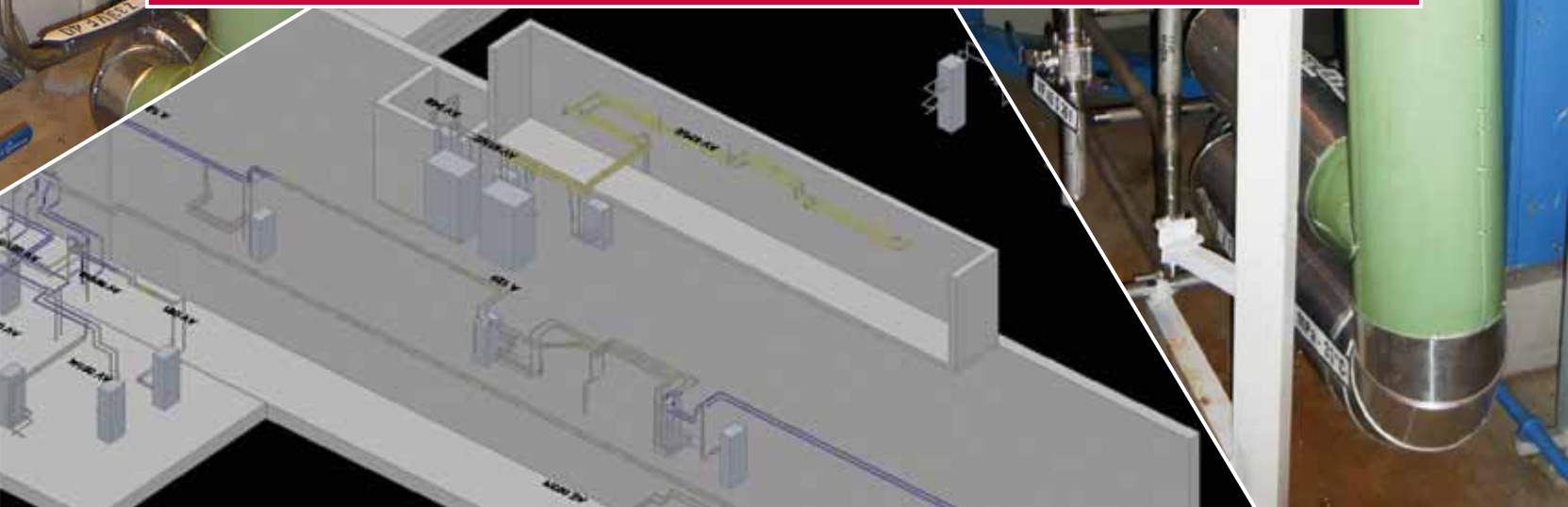
Temelín Nuclear Power Plant B850-1 (2) VF-Gradual replacement of pipes for essential service water in the primary circuit

The project is divided into seven sub-units, inclusive of pre-assembly work, and will be carried out between 2015 to 2018. This involves the replacement of supply, discharge, drainage and venting pipes, including piping components – fixtures on the essential service water (TVD) system from carbon design to stainless steel design, type 17 348.

There was an outage of 1GOR15 at JETE between 11th July and 26th August 2015, during which time this investment was implemented. The investment was fully in line with the implementation design. Our company provided ČEZ, a.s. with design and implementation impacts for machine parts. Design preparations commenced at the beginning of 2015. This included creating a new layout so that difficult to reach places became more accessible therefore making it possible to replace the original metal pipes with new stainless steel pipes.

The implementation of DČ2 was divided into two separate stages. The first preparatory stage took place in 2015, prior to the outage. This included all the necessary pre-assembly activities. These activities accounted for 80% of the overall scope of the work for the given system. The second stage involved the dismantling of the original equipment and the installation of new pipe components during the planned outage of the TVD system during GO1 in 2015. Implementation of DČ2 in HVB1 was successfully completed within the specified term. This was in part due to the top-quality pre-assembly, but mainly due to the commitment and quality of all our staff who participated in its implementation.

SELECTED CONTRACTS





SELECTED CONTRACTS

Dukovany Nuclear Power Plant – Reconstruction of sectional DC switchboards

In June, as the winner of a public tender, our company entered into a contract with ČEZ for the complex replacement of sectional DC switchboards in the Dukovany Nuclear Power Plant. These switchboards distribute electricity between the rectifier, the battery and DC consumers, protects outlets against overload, cycling and capacity testing of the battery. The aim is to comprehensively replace them with new switchboards over the coming four years.

The scope of the work includes the upgrade of the equipment, improvements in its reliability and safety and the reduction of the operating costs of maintenance. At the same time it is necessary to ensure compliance with the requirements of currently valid standards and regulations. Within the framework of our work we use our internal know-how as much as possible and provide our customers with fully prepared designs and documentation. At the same time, the production of the switchboards is commissioned and subsequently checked by Elektro Kroměříž. This is followed by the dismantling of the existing switchboards and the installation, inspection and testing of the new switchboards during outages of the individual power plant units. At the end of the process, as-is documentation is prepared, along with accompanying technical documentation. As part of this investment, 342 arrays will be replaced in 24 switchboards (for information – the average weight of one switchboard array is about 300 kg).

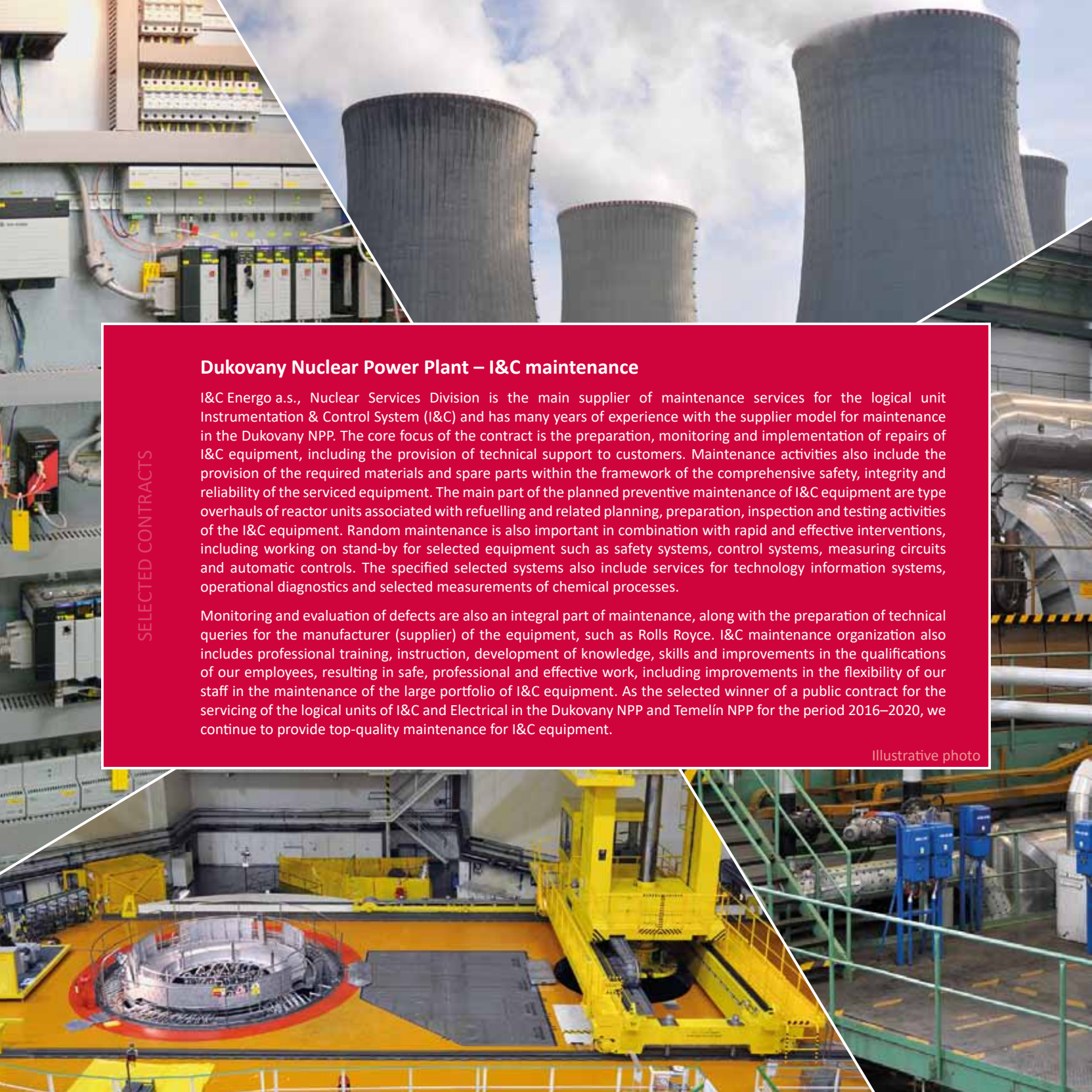


Dukovany Nuclear Power Plant – I&C maintenance

I&C Energo a.s., Nuclear Services Division is the main supplier of maintenance services for the logical unit Instrumentation & Control System (I&C) and has many years of experience with the supplier model for maintenance in the Dukovany NPP. The core focus of the contract is the preparation, monitoring and implementation of repairs of I&C equipment, including the provision of technical support to customers. Maintenance activities also include the provision of the required materials and spare parts within the framework of the comprehensive safety, integrity and reliability of the serviced equipment. The main part of the planned preventive maintenance of I&C equipment are type overhauls of reactor units associated with refuelling and related planning, preparation, inspection and testing activities of the I&C equipment. Random maintenance is also important in combination with rapid and effective interventions, including working on stand-by for selected equipment such as safety systems, control systems, measuring circuits and automatic controls. The specified selected systems also include services for technology information systems, operational diagnostics and selected measurements of chemical processes.

Monitoring and evaluation of defects are also an integral part of maintenance, along with the preparation of technical queries for the manufacturer (supplier) of the equipment, such as Rolls Royce. I&C maintenance organization also includes professional training, instruction, development of knowledge, skills and improvements in the qualifications of our employees, resulting in safe, professional and effective work, including improvements in the flexibility of our staff in the maintenance of the large portfolio of I&C equipment. As the selected winner of a public contract for the servicing of the logical units of I&C and Electrical in the Dukovany NPP and Temelin NPP for the period 2016–2020, we continue to provide top-quality maintenance for I&C equipment.

Illustrative photo



Use of SSK in I&C Energo projects

The Cabling Management System (Systém správy kabeláže – SSK) is a specialized software tool to support the design, implementation and operation of cabling systems for large technological systems, developed and used by our Company for over 10 years.

Since 2007 the SSK system has been deployed in the Dukovany Nuclear Power Plant to provide complex management of its cabling system, including operations from the design of modifications and upgrades to change management, controlled documentation management and to the performance of various analyses and evaluations. Deployment in the Dukovany Nuclear Power Plant is currently the greatest application of SSK. The system presently manages over 250,000 cables with a total length of over 17,000 km, or 16,000 cable routes with a length exceeding 180 km.

Based on its successful deployment in the Dukovany Nuclear Power Plant, the SSK system has been also used for the complex management of the cabling system in the Temelín Nuclear Power Plant since 2012, with a similar scope of operations and services provided.

Aside from applications in nuclear power plants, the SSK system was also used in the past to support the design and implementation of cabling systems in conventional energy sources, specifically in complex renewal projects in the Tušimice II Power Plant (2008–2013) and for the construction of new units of the Ledvice Power Plant (2009–2016) and the Počerady Power Plant (2011–2014).

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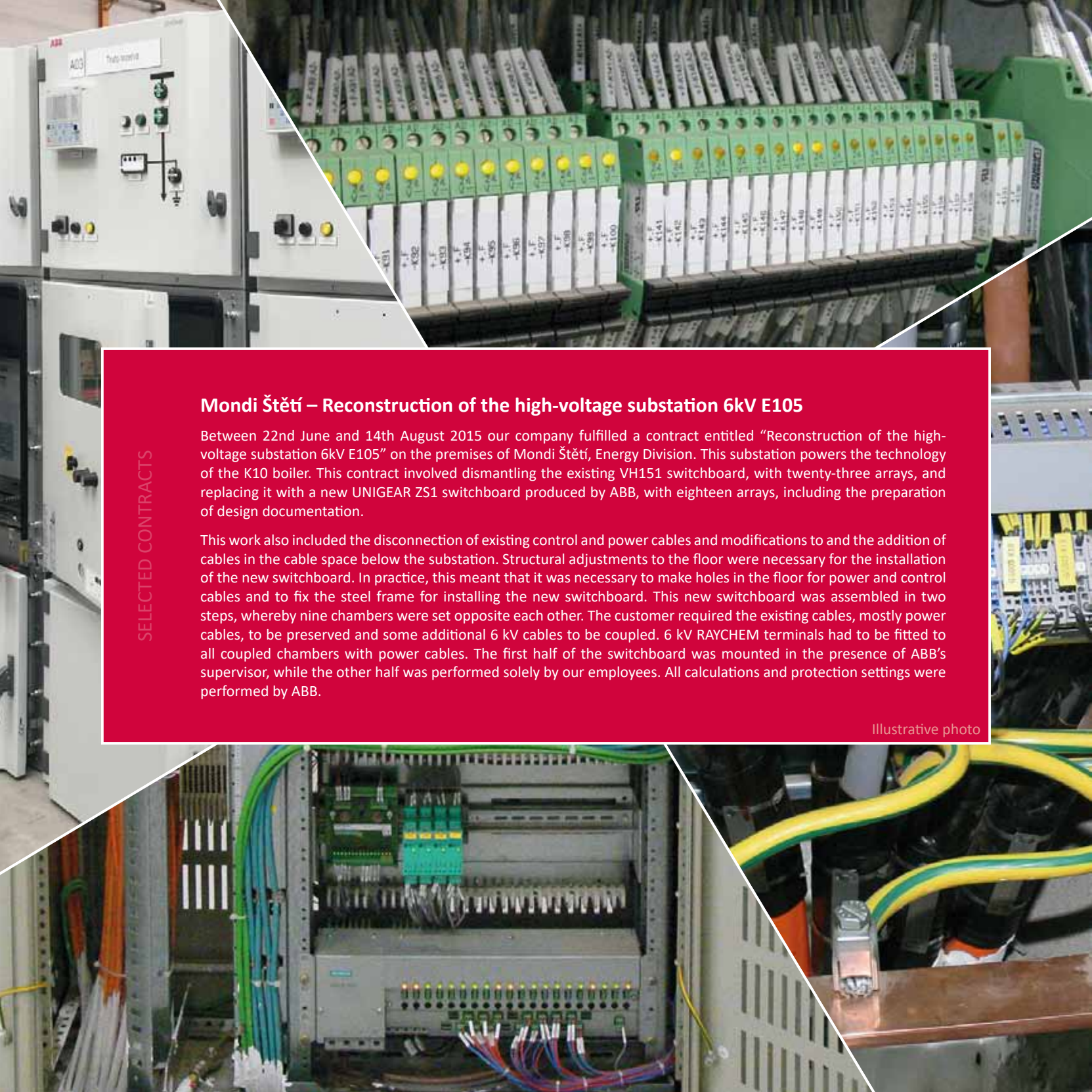
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Mondi Štětí – Reconstruction of the high-voltage substation 6kV E105

Between 22nd June and 14th August 2015 our company fulfilled a contract entitled “Reconstruction of the high-voltage substation 6kV E105” on the premises of Mondi Štětí, Energy Division. This substation powers the technology of the K10 boiler. This contract involved dismantling the existing VH151 switchboard, with twenty-three arrays, and replacing it with a new UNIGEAR ZS1 switchboard produced by ABB, with eighteen arrays, including the preparation of design documentation.

This work also included the disconnection of existing control and power cables and modifications to and the addition of cables in the cable space below the substation. Structural adjustments to the floor were necessary for the installation of the new switchboard. In practice, this meant that it was necessary to make holes in the floor for power and control cables and to fix the steel frame for installing the new switchboard. This new switchboard was assembled in two steps, whereby nine chambers were set opposite each other. The customer required the existing cables, mostly power cables, to be preserved and some additional 6 kV cables to be coupled. 6 kV RAYCHEM terminals had to be fitted to all coupled chambers with power cables. The first half of the switchboard was mounted in the presence of ABB's supervisor, while the other half was performed solely by our employees. All calculations and protection settings were performed by ABB.

Illustrative photo



Kláštorec nad Ohří – Completion of the electrification of technology for the production of foam glass insulation

The scope of the work for the "Completion of the electrification of technology for the production of foam glass insulation" for LAHTI PRECISION OY (Finland) included the supply, delivery, transport, complete installation and testing of electrical equipment, cable lines and cables, including all structures, materials, equipment, components and services required for implementing the work. The project was undertaken in Kláštorec nad Ohří (Verne Industrial Zone – in the production hall of Pittsburg Corning CR, s.r.o.) Difficult weather conditions from January to April hampered the progress of the project. The installation sites were open metal structures, several floors high, reaching 45 m above ground. As a result, project work was brought to a halt several times due to dangerous weather conditions.

Scope of the work: installation of approximately 600 m of cable support systems; installation of approximately 9,500 m of cables, installation of approximately 300 connection points. Work was completed with a final inspection of the electrical equipment and respective individual tests. The project was supervised directly by the customer's employees and was performed in line with the time schedule. During construction, no safety regulations were breached and no emergency occurred. Construction was completed without defects and backlogs and to the customer's full satisfaction.

Slovak Republic – Reconstruction of 110kV substation – ENO 2nd stage

The 110kV ENO B substation was commissioned in 1964. This is an external substation with four arrays, used for power discharges from generator units 1, 2 ENO B to the ESS – D substation at Bystričany by means of overhead lines. The in-house consumption of ENO B is provided by overhead lines for supplying the TR10 back-up transformer from the 110kV ENO A substation. The scope of this work included the design and implementation of an optimum technical and economic solution for the complete coverage of in-house consumption of electricity in the power plant from the R01 ENO A substation, using the capacity of units 1, 2 of ENO B. It is for this reason that it was necessary to provide a TR10 back-up transformer in ENO B and additional in-house consumption transformers in ENO A from different sources of electricity at the voltage level of 110kV. To accomplish this goal, it was necessary to align the general connection configuration with 110kV, just like the functionalities of protective and control systems using innovative solutions and components.

We implemented the work in full, from the preparation of the design documentation to the delivery of the construction work (including the construction of the concrete footings under VHV components by drilling in the concrete for piles). Other activities included the supply and installation of VHV components, electrical protection systems, cable connections, extension of the control system, and the preparation and implementation of primary testing programmes, PKV, KV, and operating guidelines. After the work was completed and put into operation, and after the reconstruction of the boilers and generators in the ENO B power plant, the 110kV distribution system was phased in. The reconstruction of the 110kV ENO A substation is scheduled to take place in three stages between 2016 and 2017. This includes the complete replacement of and additions to RIS, and electrical protection systems for substations with 6kV, 22kV, 110kV voltage levels.

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