

ELECTRIC POWER INDUSTRY OF SERBIA
ANNUAL REPORT

2010



CONTENTS

Mission and Vision	4
Company Data	8
Organization	9
EPS in Figures	10
EPS Installed Capacities	11
Major Events in 2010	13
Legal Affairs	17
Economic and Financial Operations	21
Power Plants	27
Open Cast Mines	31
Distribution Companies	35
Electricity Trade	39
Investments	43
Information Technologies	47
Telecommunications	51
Environmental Protection	55
Human Resources	61
Quality System	65
Public Relations	69

MISSION

Secure electricity supply to all customers, under the most favourable market conditions, with continuous upgrading of the services, improvement of environmental protection and welfare of the community.



VISION

Socially responsible, market-oriented and profitable company, competitive on the European market with a major impact in the region, recognized as a reliable partner among the local and international companies.





Dragomir Marković, General Manager

The activities such as tendering for selection of strategic partners for the construction of new thermal power plants, defining cooperation with Italian partners in the construction of new hydro capacities, improving energy efficiency by rehabilitation of thermal and hydro power plants, investing into the mining sector, improving and upgrading environmental protection, employing 157 young professionals and providing aid to Serbian regions hit by floods and earthquake, not only marked the year 2010 but clearly demonstrated that EPS is a socially responsible company that takes care of the society we live and work in.

The excellent long-term cooperation with European investment banks that find Electric Power Industry of Serbia a trustworthy and reliable partner, has continued on several projects. EPS priority is to improve distribution and increase efficiency of that part of EPS by improving metering and distribution network management and reducing distribution losses. The technical specifications of the equipment we are going to purchase were posted in May on the company website, so that the potential vendors of the metering equipment could prepare themselves for the forthcoming large tenders. We signed the Loan Agreement with the European Bank for Reconstruction and Development worth EUR 40 million for the supply and installation of electricity meters in September. An additional EUR 40 million shall be secured out of the EIB loan.

Serbia has a long tradition of generating clean electricity in hydro power plants. We have marked 110 years of operation of HPP "Pod gradom", on River Djetinja, near Užice. Only four years after the hydro power plants on Niagara Falls, where Tesla's principles of alternating current had been applied, the oldest Serbian hydro power plant started its operation. That is why EPS plans to rehabilitate and increase capacity of those old hydro power plants, out of which some have been operating for more than a century. More significant investments go into our largest hydro power plants. Rehabilitation of HPP Djerdap 1 and Bajina Bašta is ongoing. The

Loan Agreement worth EUR 70 million has been signed with the German Development Bank (KfW) for the rehabilitation of HPP Zvornik.

Our company takes over all the electricity generated in privately owned micro, mini and small hydro power plants. In order to make the connection of those power plants to the distribution network easier, as well as of other power plants that use renewable energy sources, we have posted on our website technical requirements that they should meet, as well as the necessary documentation that they require in order to sign contracts with us to sell "green" kilowatt-hours.

The ongoing investments into hydro power plants, as well forthcoming investments, clearly show determination of Electric Power Industry of Serbia to significantly increase generation of clean electricity and change its generation portfolio.

However, generation of electricity out of coal, being a dominant Serbian energy resource, remains EPS priority. In order to ensure supply of sufficient quantities of coal to existing and future thermal power plants, huge efforts and funds are being made to increase the generation in existing mines, where investments into procurement of new systems in "Kolubara" and "Kostolac" are ongoing. The studies relating to new mines that shall supply new power plants are being prepared at the same time. With the primary aim to maintain the existing level of electricity generation investments have been made and are being made into several large thermal units that shall have larger capacity and that shall increase the efficiency of power plants after rehabilitation and upgrading.

All those investments, into all sectors, make Electric Power Industry of Serbia the all-time largest investor in Serbia that directly employs dozens and indirectly hundreds of Serbian companies with thousands of workers.

We invest all our knowledge and energy into something that shall bring welfare to our company and Serbia as well. It is our pleasure to receive recognition from international professionals. We have received recognition from the American Association UTC for telecommunication network project that exceeded 5,000 km. During the visit of delegation from Directorate-General for Energy of the European Commission, as well as on the meeting with the EBRD delegation, it was assessed that EPS has been taking decisive steps on the road to fulfillment of the obligations set out by EU and followed by the Energy Community of South East Europe and Directorate-General for Energy of the European Commission.

Euro integrations that bring prosperity to the company, improve its performances that shall help it survive at the market, are permanent orientation of Electric Power Industry of Serbia. All these objectives that I have mentioned, and the projects that we are working on or that we shall initiate, shall not be attainable without the most significant resource of the company – knowledge, skills and competences of the employees. In creating the atmosphere that shall incentivise work, creativity, effort and than performance based rewards, a significant partner to the company management shall be, as it has always been, Trade Union of Workers of the Electric Power Industry of Serbia.

World economic crisis has had an influence on economic activities in Serbia as well. Having that fact in mind, someone might reach a conclusion that it led to a reduction of energy consumption, electricity in particular. Consumption of that precious but yet the cheapest energy is still growing, each year by 2-3 percent. That is why EPS, in order to provide a sufficient supply of electricity to meet all demand in Serbia, has had excellent generation output for years.

In 2010, power plants operated by EPS generated 35,855 GWh - that is one percent above the plan. However, on the territory supplied by EPS, record consumption level has been recorded – 34,073 GWh. That is 2.3 percent growth, when compared to 2009 although the economic activities were reduced. If we take a look at the consumption from 1990, in the same consumption area, it can be noticed that the consumption has increased by 11.8 percent or for 3,591 GWh! Generation, although no new power plant was put into operation, was higher by 19% i.e. by 5,743 GWh!

While regularly monitoring everything that has been happening in the system of Electric Power Industry of Serbia, as well as consumption trends data, the Management Board of EPS has clearly warned that this consumption trend is not only affected by climate changes and living standard improvement, but also by disparity in energy prices, primarily unrealistic price of kilowatt-hour.

The rehabilitation of hydro power plants Djerdap 1 and Bajina Bašta marked the year 2010. In both hydro power plants, one unit was not in operation, but thanks to the excellent operational readiness and unplanned hydrology, hydro sector of EPS achieved the record-breaking annual electricity generation – 12,471 GWh, which is 19.8 percent above the plan.

In thermal power plants, as well as in hydro power plants, almost every project of modernization and rehabilitation of a unit involves increasing the power of the generation unit. This was the case in 2010, with unit 6 in TPP Nikola Tesla A that was one of the biggest, if not the biggest investment in Serbia in which EPS invested about EUR 106 million. The miners of EPS, although confronted with problems in expropriation, achieved excellent result – they produced 37.2 million tons of coal.

In all these projects and jobs, EPS experts have had the major role. They once again proved to be the most important resource of the company.

In distribution sector, in difficult economic conditions, the collection was raised to 95.13% which is above the plan for 2010, again due to the great engagement of EPS employees. However, the Management Board of EPS and management of the company are still faced with a further increase in demand for delivered electricity.

Despite outstanding production results, expected financial results are missing. Therefore, in 2010, the management and the Management Board of EPS undertook everything within their competencies to present all the facts to the Ministry of Mining and Energy and the Government of Serbia, as well as to the Energy Agency of the Republic of Serbia, that would convince the owner – state to provide a more favourable economic status of EPS in 2011.

Improved economic status of EPS is needed not only for EPS but all companies that are in connection with EPS. The example of replacement of 100,000 concrete pillars on 4,000 kilometers of low voltage network, you can see what kind of incentive does EPS provide to Serbian economy.



Aca Marković D.Sc., Chairman of the Management Board

By employing 157 young highly educated experts, EPS has given a concrete example that it can employ people in Serbia. Rejuvenation of our company is not completed with this, because employment of 400 linemen and other young experts is expected. Electric Power Industry of Serbia needs them.

Environmental protection is one of the priorities of EPS. Within the contract with Chinese company CMEC on rehabilitation of TPP Kostolac B, funds for desulfurization project on units 1 and 2 shall be approved as well. About USD 270 million shall be invested into that project.

As socially responsible company, EPS has granted, in line with its possibilities, significant financial support to the national sports associations, religious communities, health, cultural and research institutions this year as well.

The Management Board emphasizes very good cooperation of EPS Trade Union and management of the company and the Management Board of EPS, because such partnership is necessary for the stable and successful work of the company. Production results are the mirror of those relations.

The Management Board of PE Electric Power Industry of Serbia, that made constructive contributions to all strategic projects to be implemented with foreign companies, expects that with further implementation of EU Directives and regulations that bind members of the Energy Community of South East Europe and with the gradual opening of the markets, production results of the most important Serbian company shall be better valorized. This will mean more investment in EPS and therefore in the Serbian economy.

A handwritten signature in black ink, reading 'Aca Marković' in a cursive script.

COMPANY DATA

Title	Public Enterprise "Electric Power Industry of Serbia" (PE EPS)
Head Office	11000 Belgrade, 2 Carice Milice St.
Phone	+ 381 11 20 24 600
Fax	+ 381 11 26 27 160
E-mail	eps@eps.rs
Website	www.eps.rs
Registration	Decision BD 80380/2005 Serbian Business Registers Agency
Registration number	20053658
PIN	103920327

Public Enterprise "Electric Power Industry of Serbia" was established by the Government of Serbia on 1 July, 2005. Basic task of the company is meeting all the electric power requirements of the economy and inhabitants of the Republic of Serbia.

PE EPS is vertically integrated enterprise that founded 11 subsidiaries and 3 public enterprises at Kosovo and Metohija. As of June 1999, EPS does not operate its facilities on the territory of Kosovo and Metohija.

EPS activities are electric power generation, electric power distribution and distribution system management, electric power trade, coal production, processing and transport, steam and hot water production in combined heating processes, as well as water utilization. EPS operations are also research and development, design, construction and maintenance of energy and mining plants, design, construction and operation of telecommunication facilities and engineering.

According to ownership structure EPS is in 100% ownership of the Republic of Serbia.

Enterprise management consist of the Management Board, Supervisory Board, General Manager – all appointed by the Government of the Republic of Serbia. Besides General Manager and Chairman of Management Board, company management consists of deputies and Assistant General Manager for Technical System, EPS Common Function Managers and Executive Directors.

ORGANIZATION*

MANAGEMENT BOARD

GENERAL MANAGER

EXECUTIVE DIRECTORS

BUSINESS FUNCTIONS

Human Resources

Environmental Protection

Internal Audit and Control of the Business System

HEAD DEPARTMENTS

Energy Generation

Electricity Trade

Electricity Distribution

Strategy and Investments

Economic and Financial Affairs

Department for Legal and General Affairs

Electricity Generation, Transmission and Distribution and Coal Production on the Territory of Kosovo and Metohija

SECTOR

Public Relations

COAL AND POWER GENERATION SUBSIDIARIES

HPPs Djerdap Ltd. Kladovo

HPPs Drinsko Limske Ltd. Bajina Bašta

TPPs Nikola Tesla Ltd. Obrenovac

MB Kolubara Ltd. Lazarevac

TPPs-OCMs Kostolac Ltd. Kostolac

Panonske CHPs Ltd. Novi Sad

PE OCMs Kosovo, Obilić**

PE TPPs Kosovo, Obilić**

ELECTRICITY DISTRIBUTION SUBSIDIARIES

Elektrovojvodina Ltd. Novi Sad

Elektrodistribucija Beograd Ltd. Beograd

Elektrosrbija Ltd. Kraljevo

Jugoistok Ltd. Niš

Centar Ltd. Kragujevac

PE Elektrokosmet, Priština**

*Organizational structure effective as of July 2011

**As of June 1999, EPS does not operate its facilities on the territory of Kosovo and Metohija.

EPS IN FIGURES

GENERATION CAPACITIES

Net output capacity

Kosovo and Metohija not included	7,124	MW
Kosovo and Metohija included	8,359	MW*

ELECTRICITY GENERATION

Kosovo and Metohija not included	35,855	GWh
Kosovo and Metohija included	40,980	GWh

COAL PRODUCTION

Kosovo and Metohija not included	37,195,145	t
----------------------------------	-------------------	---

OVERBURDEN PRODUCTION

Kosovo and Metohija not included	95,781,419	bcm
----------------------------------	-------------------	-----

EPS GROSS CONSUMPTION

Kosovo and Metohija not included	34,073	GWh
Kosovo and Metohija included	39,819	GWh

FINAL ELECTRICITY CONSUMPTION

Kosovo and Metohija not included	28,051	GWh
----------------------------------	---------------	-----

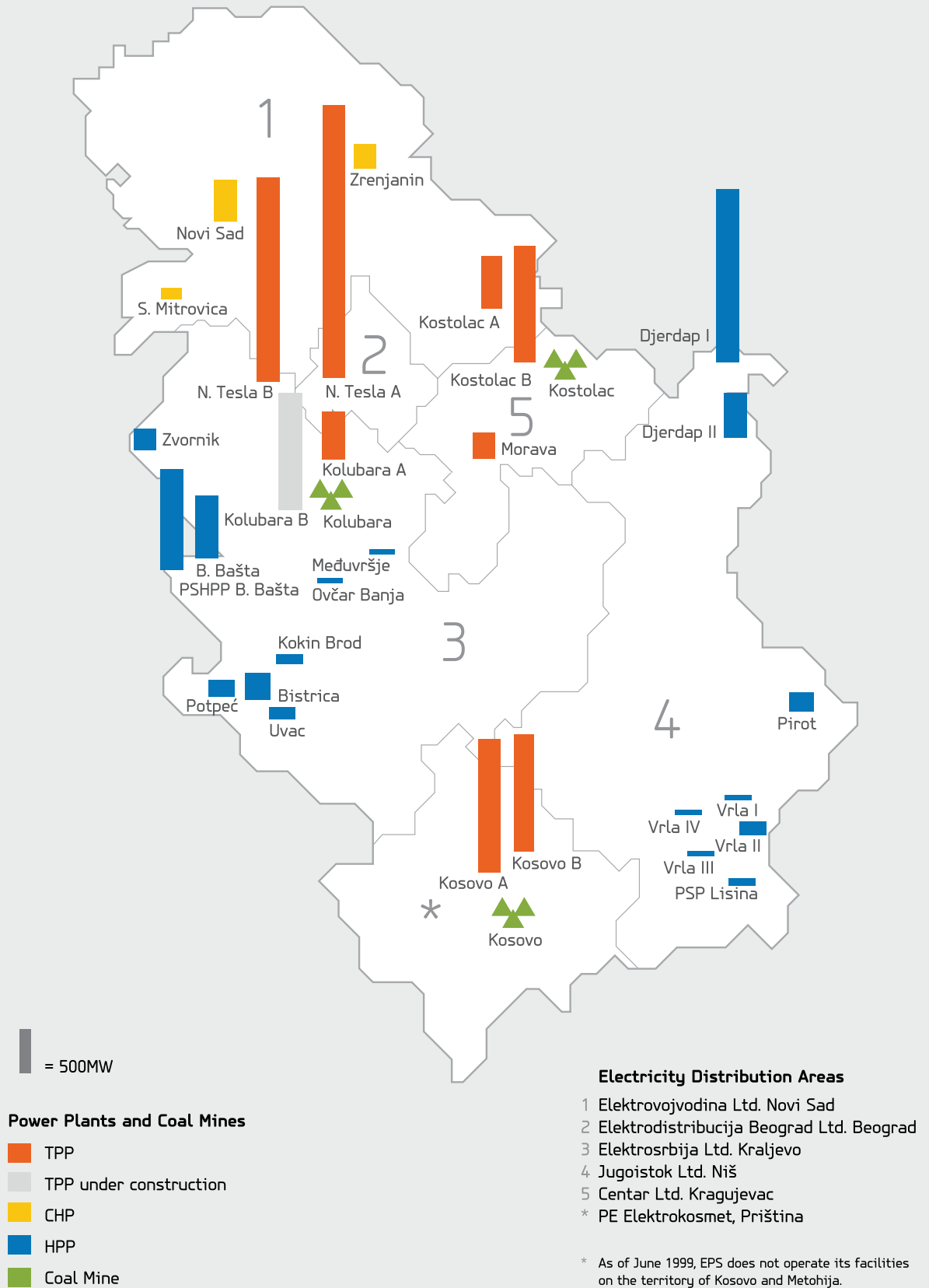
NUMBER OF CUSTOMERS

Kosovo and Metohija not included

Total	3,499,358
At high and medium voltage	4,033
At low voltage	3,495,325

* As of June 1999, EPS does not operate its facilities on the territory of Kosovo and Metohija.

EPS INSTALLED CAPACITIES





70



JANUARY

- ▶ Freezing days and disparity in prices of energy resources led to the record daily consumption of 156.28 million kilowatt-hours recorded on 26 January. All capacities of Electric Power Industry of Serbia operated at full capacities and, regardless of the fact that power plants are several decades old, all production goals were met.
- ▶ After strike announcement, EPS Trade Union reached an agreement with the management of EPS and the Ministry of Energy and Mining, and the trade union demands were assessed as justified.
- ▶ PE EPS and consortium of insurance companies Dunav Osiguranje and DDOR Novi Sad signed a contract of property and employee insurance, from 1 January, 2010 to 31 December, 2013.
- ▶ EPS signed a contract with the consortium, consisting of Clyde Bergeman with sub-contractors Goša Montaža and Goša FOM, worth EUR 17.85 million for the replacement of the existing system for the transport of ash and slag in TPPs-OCMs Kostolac.
- ▶ Hydro Power Plant Bistrica marked half a century anniversary of the operation the Unit A. It was then, when the first 220kV facility was energised in Serbia, the one in Bajina Bašta, by overhead line No 203 and the one in Belgrade by overhead line No 204.

FEBRUARY

- ▶ In the mine Tamnava - West Field, the installation of bucket wheel excavator SCHrs 1600 was completed and the installation of the new Second ECS overburden system, which capacity is projected at 12 million cubic meters of overburden per year.
- ▶ A preliminary agreement, between PE EPS and TPPs-OCMs Kostolac and China National Corporation, was signed for the import and export of electromechanical equipment for the modernization of TPPs-OCMs Kostolac units, desulphurization projects, expansion of the mine and construction of a new unit.
- ▶ PE EPS and its subsidiaries published vacancy announcement for the admission of 157 interns, under the title "You are the one we need".
- ▶ In the tender procedure for modernisation of CHP Novi Sad, nine companies met the conditions requested by Electric Power Industry of Serbia, and it qualified them for further tender procedure.

MARCH

- ▶ PE EPS Management Board made a decision on humanitarian aid of RSD 20.5 million for the flooded areas in the municipalities of Zaječar, Aleksinac, Požeга, Knjaževac, Negotin, Svrlijig, Boljevac, Merošina, Doljevac, Kocejjeva, Ub, Lajkovac, Ljig, Vladimirci, Žitoradja, Priboj, Soko Banja i Prijepolje.
- ▶ The Government of the Republic of Serbia brought a decision to increase the price of kilowatt-hour at an average for 11 percent.
- ▶ Thermal Power Plants Nikola Tesla in Obrenovac celebrated 40 years of its operation.

APRIL

- ▶ Hydro Power Plant Djerdap 2 celebrated 25 years of its operation.

MAY

- ▶ EPS established and published technical specifications of measuring equipment, so that all producers could have the opportunity to meet the requirements of EPS and prepare for the procurement of metering devices in the years to come.
- ▶ The complete documentation, for the owners of thermal power plants that generate electricity from renewable energy sources, was published, in order to be able to sign contracts on the purchase of "green" kilowatt-hours at feed-in tariffs with EPS.

JUNE

- ▶ TPPs-OCMs Kostolac and Energoprojekt-Entel signed a contract on the major overhaul of Unit 2 in TPP Kostolac B.
- ▶ Training of 157 interns, that applied under the vacancy announcement "You are the one we need" started. Out of more than 8500 young professionals who applied, 5600 met the conditions of the announcement.
- ▶ EPS telecommunication network received the highest US award from the UTC Association, consisting of more than one hundred energy and other companies.
- ▶ 52 years since the founding of Elektrovojvodina was celebrated.



JULY

- ▶ EPS and the Italian company SECI Energija SpA signed Articles of Incorporation of Ibarske Hidroelektrane, that will construct 10 hydro power plants on the Ibar River, the total power of 103 megawatts. The value of this investment is EUR 285 million.
- ▶ International conference, Renewable Energy Sources and Sustainable Development, was held in Drvengrad, Međavnik. The conference gathered many participants from the energy sector from the countries in the region.
- ▶ Marked 110 years of operation of the hydro power plant "Pod Gradom", on the River Djetinja, near Užice.

AUGUST

- ▶ Due to heavy deposits of waste in Perućac Lake, an irregular overhaul was done on hydro-mechanical equipment and shutters of HPP Bajina Bašta and the lake level was lowered by 18 meters, from elevation at 290 to 272 meters above sea level.
- ▶ HPP Djerdap 1 celebrated four decades since the start of its operation. During that time it generated 222 billion kilowatt-hours of electricity.

SEPTEMBER

- ▶ Dragomir Marković, EPS General Manager and Hildegard Gacek, General Manager of European Bank for Reconstruction and Development for Serbia signed a loan agreement between EBRD and EPS, worth EUR 40 million, for the purchase and introduction of meters for remote reading of used electric energy.

- ▶ In Kostolac, a new system for collection, transportation and disposal of ash and slag from units in Thermal Power Plant Kostolac B worth EUR 35 million was put into operation.
- ▶ Celebrated 55 years of HPP Zvornik.
- ▶ Ceremony on the 40th anniversary of Electricity Distribution Company Elektrosrbija was held in Kraljevo.
- ▶ Tesla roadster, the first electric vehicle, arrived in Belgrade and charged its batteries on special devices that were installed by Elektro distribucija Beograd.

OCTOBER

- ▶ The Day of EPS was celebrated, and at the ceremony "Today for the Future" the donations worth RSD 10.5 million and the highest EPS awards – Honorary Certificate and Medallion "Djordje Stanojević" were given.
- ▶ Under the slogan "In the energy beat – to your address" EPS presented itself at the Sixth International Energy Fair.
- ▶ After five years from the breakdown, the most powerful machine on OCM Field D in MB Kolubara, G-IX was again put into operation.
- ▶ EPS and the German Development Bank (KfW) signed a loan agreement, worth EUR 70 million, for the rehabilitation of Hydro Power Plant Zvornik.
- ▶ Five decades of operation of hydro power plants on the River Lim were celebrated.
- ▶ Thermal Power Plant Kolubara A celebrated 54 years of operation.



NOVEMBER

- ▶ 140 years since the beginning of industrialization of Serbia and coal production in Kostolac were celebrated at the Academy, in the Yugoslav Drama Theatre in Belgrade.
- ▶ The first phase of HPP Bajina Bašta was officially completed and simultaneously the modernisation of the second machine began. Rehabilitation of the four units in HPP Bajina Bašta, with the capacity of 368 megawatts, is worth EUR 75 million.
- ▶ Delegation of the European Commission Energy Directorate and the European Bank for Reconstruction and Development visited EPS, and also indicated that the Serbian power utility strongly moves towards fulfilling the obligations expected by the European Union, the Energy Community and the European Commission Energy Directorate.
- ▶ 55 years of HPP Vlasina was celebrated.



- ▶ EPS donated RSD 10 million to Kraljevo and areas affected by the earthquake in order to fix the damages, normalise life and eliminate the consequences of the earthquake.
- ▶ EPS and European Investment Bank signed a loan agreement worth EUR 40 million for the purchase of smart meters and the introduction of modern infrastructure that will reduce losses in electricity distribution network.

DECEMBER

- ▶ With Chinese company CMEC a credit arrangement was signed, to implement the first phase of the rehabilitation project of Thermal Power Plant Kostolac B, for the rehabilitation of Unit 1 and Unit 2 in TPP Kostolac B, for the construction of the desulfurisation system for these units, for the river port and railway. The contract is 344.63 million dollars, i.e. EUR 255 million worth.
- ▶ Thermal Power Plant Nikola Tesla B officially took over a new system for collection, transportation and disposal of ash, worth more than EUR 30 million, out of which EUR 28 million is donated by the EU. For the first time, the construction of a new system enabled the commercial use of ash in cement, construction and road industry.
- ▶ The first year student at the Faculty of Electronics in Niš, Aleksandra Stojanović won the internet quiz "140 years of Industrialization of Serbia". The winner answered all 15 questions correctly, proposed by the rules, and within 51.532 seconds.
- ▶ 156,637,000 kilowatt-hours of electricity was spent in Serbia on the last day in 2010. So far, the maximum load of the power system was recorded during the 18th hour, on 31 December and at the same time the power plants of total capacity 7,656 MW operated for the consumers. So far, these are the two unprecedented records.

Good Legal Bases for Future Challenges

The most important legal affairs in PE EPS were related to: the changing of regulatory framework in which core activities in EPS are performed, the implementation of joint ventures with strategic partners, improvement of the work and relations organisation within the EPS group, and the regulation of the rights and obligations of the employees.

The implementation of the public procurement procedures was equally important, establishing relations with new institutions in the Republic, in terms of the performance of activities of public interest and protection of personal data, as well as the rights and obligations of employees and consumers. Significant activities were also performed within the protection of PE EPS property, as well as within the rights in disputes arising from business relations, especially in costly disputes from business relations with foreign partners.

Remarkable successes have been achieved in the improvement of the system for health and safety at work, raising the level of asset protection and office business system improvement and preparation for e-business introduction. In anticipation of the application of the Law on Free Shares and Monetary Compensation, which citizens acquire in the privatization process, that implies the change of form of the organization of PE EPS into a joint stock company (changes in the work, business, management method and relations within the EPS group), the legal conditions for the implementation of the change process of legal form of public enterprises into joint stock company were analysed. The most appropriate management structure of the future joint stock company and the regulation of relations within EPS were evaluated, in order to provide the improvement of business and financial efficiency. Basic rights of PE EPS, as the founder and controlling company, in respect of subsidiaries, are now regulated by the founding acts and are realized through the enactment and enforcement of acts and directives made by the EPS bodies. However, these methods have proved to be ineffective in practice, therefore, in 2010, in accordance with the legal possibilities and with the help of consultants, the relations, that can be regulated by special agreements between EPS and subsidiaries were also considered.

The law amendments that are essential for the organization, conditions and manner of business operation were initiated and completed in 2010 as well. For the purpose of harmonisation of the legal system with EU *acquis communautaire* and in accordance with the obligations undertaken by the Treaty establishing Energy Community of South East Europe, Ministry of Energy and Mining has began the activities on creating the new Energy Law. Important suggestions about this text were given, since the Law contains solutions essential for the operation and business of the entities engaged in energy activities within the EPS group. The Law shall provide significant amendments in: energy supply,

All necessary preparations for changing PE EPS organisational structure into a joint stock company, work method, business, management and relations within the EPS group have been completed

defining the public supply conditions, that is the right of customers to this service. Also, it is insisted on the right of the supplier of last resort and vulnerable consumer groups, electricity trading, and on the conditions for the organisation of the electricity distribution actions and management of the distribution system in terms of legal and organisational independence and status independence related to the business of electricity generation and supply. The need of the price regulation, competencies of the Energy Agency, determining the type and content of acts for the application of the Law, the rights and protection of electricity consumers, the dynamics of the electricity market opening by 2015 are also pointed out. It is also important to mention the measures to increase participation of the electricity generation from renewable sources and other significant conditions for performing the energy activities.

Within the preparation of the new text of the Energy Law, in order to achieve the planned goals of Serbia in the energy sector and EU directives, especially paying attention to the priority tasks arising from the Pre-accession Agreement on Stabilisation and Association and acquiring the status of candidate for membership of Serbia in EU, it is proposed, that with the amendments to the Energy Law, other laws relevant to the performance of the energy activity be amended, as well as determinations of the rights and obligations in their performance. In that the necessity to amend regulations on the performance of the activities of general interest and public procurements sense has been pointed out to, the adoption of regulation on the so-called public-private partnerships well, as a possible model for the construction of the energy facilities of public importance and performing the activities of electricity generation and the organisation of a clear procedure, terms and methods for the selection of strategic partners. Amendment of these regulations was initiated, considering demands of potential strategic partners. They pointed out the need to harmonise legal framework, as an essential prerequisite for the investment of the required investment capital for the implementation of energy projects envisaged by the Energy Development Strategy.

At the same time, along with the new amendments of the Energy Law, new Company Law was drafted. This Law does not regulate public enterprises, nor recognizes the details of the organization and management of joint stock companies with more than

million shareholders. Additionally, an increased number of legal entities that are established with foreign investment, where it is necessary to ensure compliance of the principles of safety and protection of foreign investment for the foreign investor, imposed the obligation to consider those specifics, during the process of the law drafting.

Public Property Law has a significant influence on regulation of PE EPS property and its subsidiaries in terms of property rights, i.e. right of use over property and assets that are used in performance of the activity, as well as the implementation of the necessary organizational changes within the change of legal form. In this regard, EPS legal advisors indicated that it is most suitable to adopt such a law before EPS corporatization.

In addition to these system laws important for EPS, substantive objections to the solutions of the Planning and Construction

Law and Consumer Protection Act are given, where some of the remarks were acknowledged, thus, for a number of specific features, some special rules are provided for the energy sector, preventing negative consequences for daily activities and operation of the system such as EPS. However, with no Public Property Law, whose adoption is expected, there are many unresolved issues in practice, related to the state assets disposal. This required a variety of activities and finding solutions for specific situations such as, for example, construction of energy facilities and assignment of the right of use of these facilities. Within the activities planned for joint investments with strategic partners for the implementation of priority investment enterprises, necessary legal Acts were being prepared for strategic partner selection process for the completion of the construction of TPP Kolubara B and construction of TPP Nikola Tesla B3, reconstruction of CHP Novi Sad, the regulation of relations for the start of operation of



the subsidiary "Ibarske hidroelektrane", realization of Cooperation Agreement with RWE Ag and cooperation with Mješoviti Holding "Elektroprivreda Republike Srpske" on the middle course of the river Drina.

In order to create legal assumptions for continuation of activities on projects with strategic partners, the Decision on Amendments to the Decision on Establishing Public Enterprise for Energy Generation, Distribution and Trade was taken and Conclusion which sets the basic elements of Conferral Act in TPP Kolubara B and TPP Nikola Tesla B3, subsidiaries that shall be established with joint investment by PE EPS and foreigner partners, and in which the foreign partner shall have majority ownership.

The activities for the capital increase of the Company for the combined production of thermal power and thermal energy/heat "Energija Novi Sad", also included reaching an agreement on the content of the tender documentation and agreement on Joint Investment and Agreement on Energy and Heat Power Trade, which are very complex. Specifically, the contract stipulates the complex issues of power plant operation, and adjustments of needs to achieve energy and heat power generation balance and energy and heat power pricing, while respecting the equal status of all parties, in terms of achieving the investment goal.

In accordance with the international multilateral agreements and protocols signed between the Ministries of the Republic of Serbia and the Republic of Italy, the necessary actions were carried out and conditions were created for PE EPS and the Company SECI Energija SpA to incorporate the project company "Ibarske hidroelektrane", Kraljevo, which began to operate after the approval by the Commission for Protection of Competition of the Republic of Serbia, at the end of the year. This is the first company that was founded by EPS with a foreign partner to carry out energy generation activities and which has begun with the activities for the construction of hydro power plants on the river Ibar.

Also, during the implementation of Memorandum of Understanding between PE EPS and RWE Ag, Germany, agreements and other documents which set the basic principles for cooperation were prepared. Joint bodies were established, which, apart from technical and economic conditions discussed legal requirements for the construction of hydro power facilities and incorporation of the project company. At the end of the year, the procedure for obtaining approval for the concentration that will be created by joint investment of PE EPS and RWE for establishing a project company for construction of hydro power plants and performing electricity generation activities on the river Velika Morava. This is the second project to boost generation from renewable sources, in which the majority owner is a foreign investor. Both projects are aiming at implementation of strategic planning objectives of the Republic of Serbia.

In the attainment of goals of the Agreement on Establishing Special Parallel Relations between the Republic of Serbia and the Republic of Srpska and policy goals of promoting the cooperation in the energy sector, Agreement on Cooperation for preparation of technical documentation for the construction of hydro power facilities in Srednja Drina, between PE EPS and MH "Elektroprivreda Republike Srpske", preduzeće a.d., Trebinje was prepared. This documentation should assess the environmental, ecological, social, financial, market and economic feasibilities of investment into construction of hydro power plants in Srednja Drina.

Since by the end of 2009 and in 2010, the validity date of collective agreements in subsidiaries was expiring, to ensure the rights acquired and provided by General Collective Agreement, and for a simultaneous and coordinated regulation of the type and scope of rights and obligations of the employees, together with trade union representatives the collective bargaining was organized and directed, so that the signing of new collective agreements was successfully completed.

ECONOMIC AND FINANCIAL OPERATIONS



Receivables Led to Loss

Events on the global and domestic economic scene have an influence on the EPS business environment, as well as on the results obtained by the Electric Power Industry of Serbia. The World and domestic economic crises, after the high rates of economic growth since 2001 until 2008, slowed the economic activity and the volume of external trade in Serbia, first as a result of reduction of foreign and then domestic demand. Consequently, the capital inflow from abroad was reduced due to investors caution and worsening of the conditions in the world financial markets. The Government and The National Bank of Serbia have undertaken measures to mitigate negative effects of the world economic crisis on the economy and finance in Serbia. As a result, a minimal recovery of economic and foreign trade activities was noted when compared to the countries in the region. Real GDP growth is based primarily on export growth, and on the real RSD depreciation as well. The economy recovery relied on export, but it did not initiate improvement of overall economic trends, so the unfavorable labour market trends led to the lower growth in budget revenues.

In the second half of 2010, an acceleration of price increase and strengthening of inflation pressures started, which had an adverse affect on macroeconomic stability. The economic recovery was accompanied by a growth of current account deficit and lower capital inflow, thus the exchange rate was exposed to constant depreciation pressures. The slight recovery in economic activity in 2010 was affected by a slight recovery of the EU economy. It should be noted that the revision of the arrangement with the IMF was successfully completed, and of no less importance was the commitment of foreign banks operating in Serbia, to maintain the level of exposure to Serbia and to support the economic policy measures undertaken.

Economic development – The total value of newly created annual gross domestic product for 2010 increased by 1.8%, when compared to 2009.

Foreign trade activity – Serbian foreign trade activity in 2010 recorded a significant growth and it was in line with the revival of aggregate demand and economic activity, with a slightly faster growth of export than import. The largest contribution to the export growth came from the delivery of basic metals and chemical products, and from selling of food. The structure of imports was dominated by the means of production, which should positively affect the acceleration of economic growth.

Physical volume of industrial production – Industrial production increased by 2.9 percent in 2010 compared to 2009.

Labour Market – Due to the economic crisis the number of employees is lower by 4.9 percent in 2010 than in the previous year. In 2010, average monthly net salary per employee was RSD 34,142 and, when compared to 2009, nominally was higher by 7.6 percent, and considering that the cost of living increased by 6.8 percent, the recorded growth in real wages was only 0.7 percent.

PE EPS posted a 3.2 billion dinar loss in 2010 as a result of uncollected debt for electricity supplied, although it realised a 13.2 billion dinar profit from current operations (operating profit/loss)

Prices - Total inflation, measured by retail price indices, was 11.5 percent and its average annual growth was 8.6 percent, in December 2010 compared to December 2009. The inflation growth was usually accompanied by the cost of living prices growth.

The **cost of living** had an average 6.8 percent growth in 2010.





Monetary flow – In 2010 The National Bank of Serbia adopted a new Decision on Mandatory Reserves of Banks with the NBS, in order to reduce inflation within target frames, by more restrictive mid-term monetary policy. Inflation was not stopped, but weakening of the dinar continued and reducing of the NBS foreign exchange reserves continued. In December, the borrowing of foreign currency by the state increased foreign reserves, which resulted in the dinar appreciation. It is estimated that this

situation in the country will improve business climate and enable greater inflow of foreign direct investments. If there are no unexpected currency fluctuations, the exchange rate stability might be expected in the next period.

Achieved Electricity Prices

The average electricity selling price for external delivery in the EPS consumption area was 4.973 RSD/kWh in 2010.

Average Electricity Prices in the EPS Consumption Area (External Deliveries)

Category of consumption	Actual 2010.	Plan 2010.	Actual 2009.	Indices	
				2/3	2/4
1	2	3	4	5	6
	RSD/kWh				
High voltage (110 kV)	3.415	3.414	3.209	100	106
Medium voltage-total	4.530	4.476	4.281	101	106
Total high and medium voltage	4.220	4.204	4.008	100	105
Low voltage (0.4 kV level I)	6.714	6.568	6.298	102	107
General consumption - total	4.997	4.989	4.577	100	109
- 0.4 kV level II	6.491	6.571	5.968	99	109
- households	4.801	4.782	4.391	100	109
Public lighting	4.541	4.557	4.448	100	102
Total low voltage	5.248	5.223	4.843	100	108
TOTAL	4.973	4.963	4.630	100	107

The realised level of average annual electricity price for external deliveries in 2010, after the price increase on 1 March 2010, by an average of ten percent, was 5.05 din/kWh. The achieved level of electricity

price in Serbia in 2010 was lower compared to the countries in transition, for two to three times and when compared to developed countries for two to 3.5 times.

Consolidated Balance Sheet of PE EPS and Subsidiaries

RSD 000

Item	EDP	Amount	
		Balance as of 12/31/2010	Balance as of 01/01/2010
ASSETS			
A. FIXED ASSETS (002+003+004+005+009)	001	527,386,292	520,826,325
I. UNPAID REGISTERED CAPITAL	002	0	0
II. GOODWILL	003	0	0
III. INTANGIBLE INVESTMENTS	004	2,480,700	2,425,997
IV. PROPERTY, PLANT, EQUIPMENT AND BIOLOGICAL ASSETS (006+007+008)	005	521,719,910	515,654,159
1. Property, plant and equipment	006	521,667,685	515,597,454
2. Investment properties	007	52,225	56,705
3. Biological assets	008	0	0
V. LONG-TERM FINANCIAL INVESTMENTS (010+011)	009	3,185,682	2,746,169
1. Investments in capital of other entities	010	1,481,113	1,268,160
2. Other long-term financial investments	011	1,704,569	1,478,009
B. CURRENT ASSETS (013+014+015)	012	98,033,097	85,868,552
I. INVENTORIES	013	27,579,495	24,208,579
II. FIXES ASSETS AVAILABLE FOR SALE AND ASSETS OF DISCOUNTING OPERATIONS	014	0	0
III. SHORT-TERM RECEIVABLES, INVESTMENTS AND CASH (016+017+018+019+020)	015	70,453,602	61,659,973
1. Receivables	016	60,497,409	49,410,551
2. Receivables on account of prepaid income tax	017	0	268,887
3. Short-term financial investments	018	1,898,285	2,031,109
4. Cash equivalents and cash	019	6,053,650	8,661,722
5. Value-added tax, accruals and prepaid expenses	020	2,004,258	1,287,704
IV. DEFERRED TAX ASSETS	021	0	0
C. OPERATING ASSETS (001+012+021)	022	625,419,389	606,694,877
D. LOSS EXCEEDING THE VALUE OF EQUITY	023	0	0
E. TOTAL ASSETS (022+023)	024	625,419,389	606,694,877
F. OFF-BALANCE SHEET ASSETS	025	140,004,924	76,989,568
EQUITY AND LIABILITIES			
A. EQUITY (102+103+104+105+106-107+108-109-110)	101	451,883,181	456,041,676
I. FIXED AND OTHER CAPITAL	102	359,983,647	359,949,724
II. UNPAID REGISTERED CAPITAL	103	0	0
III. RESERVES	104	0	0
IV. REVALUATION RESERVES	105	245,639,460	246,539,177
V. UNREALISED GAINS ON SECURITIES	106	399,870	196,884
VI. UNREALISED LOSSES ON SECURITIES	107	475,535	476,523
VII. UNDISTRIBUTED PROFIT	108	0	0
VIII. LOSS	109	153,664,261	150,167,586
IX. TREASURY SHARES	110	0	0
B. LONG-TERM PROVISIONS AND LIABILITIES (112+113+116)	111	150,804,675	126,929,032
I. LONG-TERM PROVISIONS	112	10,848,301	9,087,952
II. LONG-TERM LIABILITIES (114+115)	113	53,336,738	46,037,343
1. Long-term loans	114	49,869,951	41,450,980
2. Other long-term liabilities	115	3,466,787	4,586,363
III. SHORT-TERM LIABILITIES (117+118+119+120+121+122)	116	86,619,636	71,803,737
1. Short-term financial liabilities	117	16,225,608	12,845,041
2. Liabilities on account of assets available for sale and assets of discounting operations	118	0	0
3. Operating liabilities	119	42,031,180	33,019,599
4. Other short-term liabilities	120	5,945,007	4,133,781
5. Liabilities on account of vat and other public revenues, accruals and deferred income	121	22,348,222	21,740,055
6. Liabilities on account of income tax	122	69,619	65,261
C. DEFERRED TAX LIABILITIES	123	22,731,533	23,724,169
D. TOTAL EQUITY AND LIABILITIES (101+111+123)	124	625,419,389	606,694,877
E. OFF-BALANCE SHEET LIABILITIES	125	140,004,924	76,989,568

Consolidated Income Statement of PE EPS and Subsidiaries

RSD 000

Elements		ACTUAL 2010	PLAN 2010	ACTUAL 2009	INDICES	
1	2	3	4	5	(3/4)	(3/5)
I	OPERATING REVENUE	171,107,158	166,385,735	154,185,973	103	111
II	OPERATING EXPENDITURE	157,927,421	147,155,342	143,609,529	107	110
II.1.	Electricity procurement	20,254,061	15,347,601	13,822,670	132	147
II.2.	Material and fuel costs	12,389,573	12,319,551	9,068,974	101	137
II.3.	Maintenance	17,817,579	15,288,355	17,376,656	117	103
II.4.	Depreciation	35,983,708	38,047,724	37,586,807	95	96
II.5.	Employee costs	41,323,530	40,645,191	39,147,874	102	106
II.6.	Insurance	1,858,853	2,227,127	2,065,866	83	90
II.7.	Liabilities towards the state	11,532,938	9,547,423	9,459,170	121	122
II.8.	Other operating expenditure	16,767,179	13,732,370	15,081,512	122	111
I-II	Operating profit/loss	13,179,737	19,230,393	10,576,444	69	125
III	FINANCIAL REVENUE	13,653,883	9,329,026	9,701,484	146	141
IV	FINANCIAL EXPENDITURE	12,590,194	8,165,808	6,740,320	154	187
III-IV	Financial profit/loss	1,063,689	1,163,218	2,961,164	91	36
V	OTHER REVENUE	5,981,330	2,902,061	2,431,236	206	246
VI	OTHER EXPENDITURE	23,609,097	21,610,338	25,481,484	109	93
V-VI	Other profit/loss	-17,627,767	-18,708,277	-23,050,248	0	0
VII	PROFIT FROM DISCONTINUED OPERATIONS	0	0	0	0	0
VIII	LOSS FROM DISCONTINUED OPERATIONS	0	0	0	0	0
VII-VIII	Net profit/loss from discontinued operations	0	0	0	0	0
A	TOTAL REVENUE (I+III+V+VII)	190,742,371	178,616,822	166,318,693	107	115
B	TOTAL EXPENDITURES (II+IV+VI+VIII)	194,126,712	176,931,488	175,831,333	110	110
A-B	Total profit/loss	-3,384,341	1,685,334	-9,512,640	-201	0
	INCOME TAX	182,216	0	989,213	0	18
	NET TOTAL PROFIT/LOSS	-3,202,125	1,685,334	-8,523,427	-190	0

Several years in a row, EPS production capacities have unusually high generation and since 2001 continuously meet the balance sheets tasks with no new production capacities.

In 2010, the generation of electricity was one percentage higher than it was planned and by one percentage less than in the previous year. In the last ten years, electricity generation rose by 19 percent, but at the same time there was also an increase in electricity consumption by 11.8 percent.

In 2010, the losses by a transferred kilowatt-hour on the distribution network were 15.1 percent, precisely nine percent higher than planned and by one percent less than the loss in 2009.

The company's financial position as regards liquidity and profitability is still unfavourable in view of the high borrowing level dating from previous years. The balance of liabilities and receivables (not including the radio and television subscription charge) as of 31/12/2010 was 128 billion dinars and 123 billion dinars.

Operating expenditure was ten percent, i.e. 14 billion dinars, higher in relation to the preceding year. Taking inflation into account, operating expenditure was higher than in 2009 by 1.4 percent, in real terms.

The realised collection rate on account of electricity supplied to distribution consumers in 2010 was 95.13 percent, and the collection rate on account of supplied electricity invoiced by PE EPS to the eligible customer PE Serbian Railways was 41.68 percent.

Electricity power export was 3.2 times higher than planned, thus creating a higher income of 3.7 billion dinars. Electricity power import, in the winter months, was higher by 350 million kWh and on that basis the expenditures increased by two billion more than planned.

PE EPS posted a 3.2 billion dinar loss in 2010, as a result of uncollected debt for electricity supplied, while as regards current operations (operating profit/loss), the company realised a 13.2 billion dinar profit.

The existing electricity price, with further measures towards streamlining operations, enables the coverage of current operating costs and funding only part of the essential investments required to maintain the attained output. But this does not provide the funds for the investments needed to meet the growing demand for electricity in the forthcoming period.



POWER PLANTS



Realized Energy Balance

Generation and Consumption

EPS power plants, with Kosovo and Metohija capacities, delivered 40,980 GWh of electricity to the energy system in 2010. Energy balance is achieved with 100.3%. To be precise, energy generation was less by 0.3% than in 2009. Since 2001, generation capacities of EPS, even though electricity consumption continued to grow every year, still manage to meet the balance tasks, with the same capacities that worked then.

Gross consumption (Kosovo and Metohija included) was 39,819 GWh. This is a record annual consumption which is by 898 GWh (2.3%) higher than in 2009. Total achieved generation was higher than EPS gross consumption by 2.8%.

EPS, without power plants from Kosovo and mini HPPs, generated 35,803 GWh of electricity that is by one percent above the energy balance, but also by 0.8% less than the maximum annual generation that was achieved in 2009. Gross consumption, without territory under the administration of UNMIK, amounted to 34,073 GWh. This is a record and it is higher by 780 GWh or 2.3% than the one achieved in 2009.

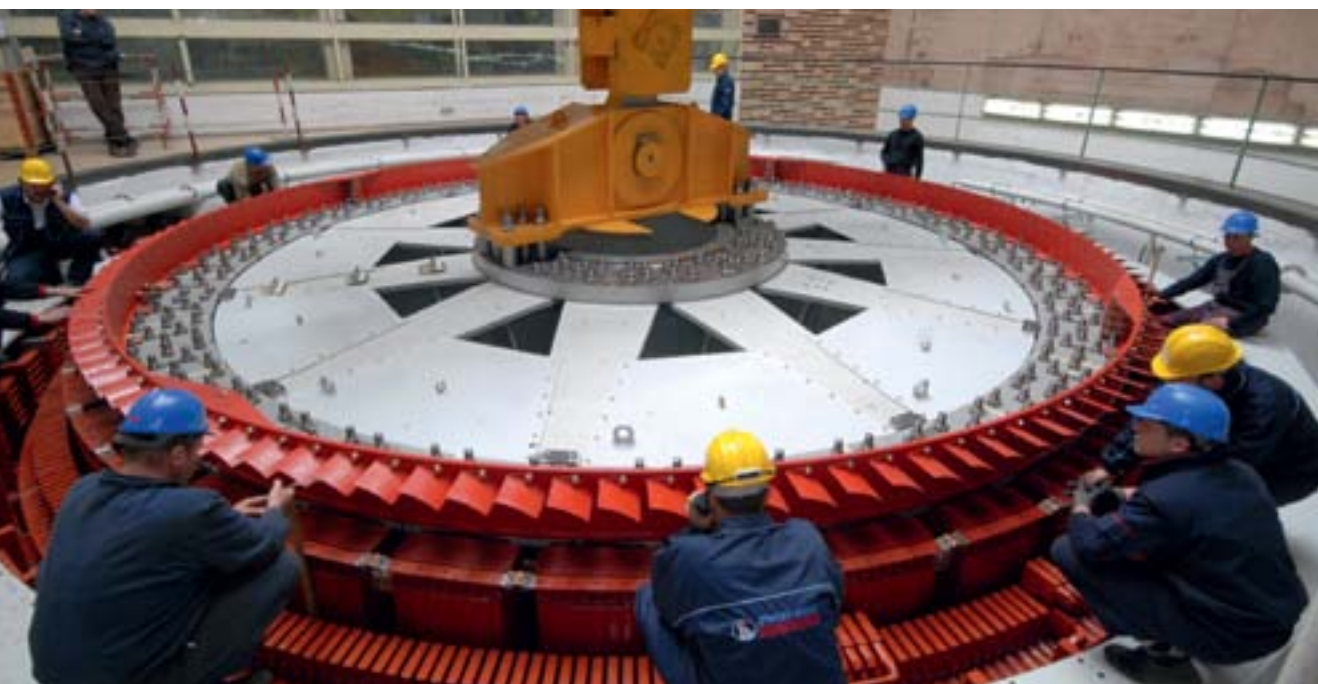
In the last ten years, the consumption on the territory of the Republic of Serbia, excluding Kosovo and Metohija, increased by 11.8 percent or 3,591 GWh. In this decade there were no significant changes in demographic and industry factors that would have a greater impact on the volume of consumption. Climate changes, standard improvement, energy environment... are reflected in the parity of energy prices and cost of kilowatt-hours

Even though electricity consumption continued to grow every year since 2001, the same production capacities of EPS that worked then, continued to meet balance tasks

and have undoubted impact on the volume of consumption. We can have effective influence on some of these factors, even on the irrational consumption, so that the generation from the existing sources, which is already close to maximum, can reduce recurring deficits that began to increase.

The generation, without any new capacities, has increased by 19 percent or 5,743 GWh. Each thermal power plant unit worked, on average, more than 193,000 hours in 2010, and the average age of the hydro power plants, whose rehabilitation began in the second half of 2009, is more than 36 years.

January 2010 was the coldest month with the highest cumulative requirements. Despite this adverse circumstance, the highest monthly consumption of 4,252 GWh was achieved, which is the third highest since 1990. The highest monthly generation in the year was also achieved in January and it reached 3,973 GWh. Although hydro power plants gave full contribution, it was not enough to reach the maximum generation from January 2009 – 4,190 GWh.





Although December was warmer than January for 1.8 ° C, on the territory of Serbia, without Kosovo and Metohija, the highest cumulative monthly consumption was achieved in 2010, because the temperature variations were frequent and high.

The coldest day in 2010 was exactly 31 December with an average daily temperature of -8.40°C. Large-scale generation of hydro power plants could not compensate for the reduced generation of thermal power plants, so December deficit of 323 GWh was the highest in the year.

Maximum daily generation, without power plants in Kosovo and Metohija, without hydro power plants Piva and Gazivode (power plants on whose maintenance EPS does not have an influence) was achieved on 26 January and amounted to 130.8 GWh and was for 0.4 GWh higher than the previous January maximum. The consumption on 31 December exceeded 156.6 GWh, and it was the absolute maximum of daily consumption (not only in the season). On the territory of Serbia, without Kosovo and Metohija, the daily maximum in consumption was also on 31 December and it amounted to 134.9 GWh.

The highest mean hourly gross consumption (Kosovo and Metohija included) was recorded in the eighteenth hour of December 31, when at the same time the power plants of total capacity 7,656 MW operated for the consumers.

Thermal Power Plants Generation

Lignite-fired thermal power plants (with power plants in Kosovo and Metohija) generated 28,287 GWh. The realized generation was less 6.3% (1,888 GWh), than planned. The units in subsidiaries TPPs Nikola Tesla and TPPs-OCMs Kostolac generated 23,162 GWh in 2010, which is just 6.6 percent less than planned (1,640 GWh) and by 6.9 percent (1,718 GWh) less than it was in 2009.

The decade of technical consolidation of generation capacities, primarily thermal power plants, with the goal of rehabilitation and revival of generation capacities was completed with an overhaul 2009 season, but all scheduled tasks were not implemented.

The world will remember 2009 by the culmination of the economic crisis that did not surpass EPS as well. That was the year

with a minimum length of planned downtimes, and because of the delayed works, it should have been the year with the longest planned downtimes. This did not happen because once more the delay of works occurred, EPS technical consolidation plans are delayed for about three years. To increase energy efficiency we need time, knowledge, responsibility as well as financial resources.

The rehabilitation of equipment of generation capacities led to continuous improvement of results each year, and it also increased technical efficiency. From 2001 to 2010, the average annual engagement of thermal power plants increased by 400 hours compared to annual average work from the beginning of the first synchronization until 2001. In 2010, it was recorded that



it was the first season in which all parameters of work of thermal power plants were deteriorated.

Thermal power plants spent 17 percent of calendar time in planned downtime and had by 2.9% longer time of planned downtimes than in 2009. In the fourth quarter of 2010, downtime was unusually high – 13.6 percent. This was not determined by balance plans. This was due to prolonged works on unit 6 in TPP Nikola Tesla A and unit 2 in TPP Kostolac B.

There was also reduced generation at different times because of: longer work at the technical minimum ("suppression" due to high inflows in HPP), problems with equipment, but also inadequate quality of coal. The number and length of unplanned downtimes were also increased.

Combined Heat and Power Plant Generation

Combined heat and power plants met the balance tasks with 79.4 percent, as they generated 222 GWh and exceeded realized generation from the comparable period by 60.3 percent. In EPS, without challenging the technical justification for engaging Panske CHP, careful analysis is always carried out and the most economical operation of these units is what we tend to achieve, where the technical condition of their equipment over the past five years is not a limiting factor.

Hydro Power Plant Generation

Hydro power plants generated 12,471 GWh of electricity, which is more than planned, by 19.8% and by 12.4% more than generation realized in comparable period. It means they generated 2,053 GWh above balance and contributed to the significant improvement of the financial status of the company (improvement of cost and profit balance in the financially hardest year since 2001).

Related to the comparable period, hydro power plants generated 1,374.5 GWh more, and realized generation is higher by

1,875 GWh than the twenty year average. Minimum hydro power plants generation was realized in 1990 (8,282 GWh) and for more than 4,000 GWh is less than the maximum in 2010, which represents an annual generation of a unit of 400 MW.

Favourable hydrological conditions are necessary but not sufficient condition for these exceptional generation results. The high reliability, but also delay and adjustment of overhauls in power plants have contributed to these achievements.

When it comes to hydro power plants, it is certain that 2010 will be remembered by solving problems during the revitalization of one unit in HPP Djerdap and one unit in HPP Bajina Bašta, but also by the highest average annual inflow of Danube of 7,613 m³/sec and emptying the lake Perućac, when it was not possible to engage PSHPP Bajina Bašta for 40 days. Lake Perućac was emptied due to the problems on the unit A1 inlet cap of HPP Bajina Bašta. These unique special conditions made it possible to carry out general overhaul of all in-take gates and five segmental spillway gates. The absence of PSHPP Bajina Bašta unit could not provide the flexible work of the system in the pumped and the generator mode, which once again confirmed the importance of this facility, not only for the generation but also for the functioning of the whole system.

The test synchronization of the revitalized unit 1 in HPP Bajina Bašta was performed on 24 September 2010. After three months of work, it can be said that all jobs are realized successfully and that after the lessons learned, the revitalization of the following three units shall be performed without major surprises on the terms and content of the jobs.

Previous works on the revitalization of the unit 6 in HPP Djerdap showed that the scope of work (after almost 10 years since the announcement of tender for the revitalization of the unit) has significantly increased, both in terms of scope of works performance, as well as the need for signing contracts for new parts. The procurement of the new upper ring of the wicket gate, which was not planned to be replaced, caused postponement of the deadline of the revitalization completion.



Open Cast Mines Keep Up with Thermal Power Plants

During 2010, 37.2 million tons of coal were produced at open cast mines on the territory of the Republic of Serbia, where EPS manages the production (Kolubara and Kostolac basins). This coal was used to generate 65% of all electricity generated by EPS. This, combined with the generation from thermal power plants in Kosovo and Metohija, accounts for 69% of total electricity generation in the Republic of Serbia.

The coal produced in subsidiary MB Kolubara enabled generation of 51% of the total electricity generated in EPS, while the coal from TPPs-OCMs Kostolac provided 14% of this generation. Electric Power Industry of Serbia has not operated its facilities in Kosovo and Metohija since 1999.

Kolubara basin accounted for 80% and Kostolac basin for 20% in 2010, out of the total lignite output in mines where EPS controls the production.

Coal subsidiary MB Kolubara was excavated at four open cast mines: Field B, Field D, Veliki Crljeni and Tamnava - West Field. They supplied TPP Kolubara, TPPs Nikola Tesla A and B and TPP Morava with coal. In subsidiary TPPs-OCMs Kostolac coal was excavated in the open cast mine Drmno, from which TPPs Kostolac A and B were supplied with coal.

37.2 million tons of coal were excavated from Kolubara and Kostolac basins that accounts for 65% of all electricity generated

Balance coal reserves in these two basins ensure secure production to meet the needs of thermal power plants for more than fifty years. The present installed capacities are sufficient for the smooth operation of thermal power plants within balance limits. Coal production was preceded by a corresponding overburden production. In 2010, the ratio of excavated overburden and coal was 1.99 m³/t in MB Kolubara and 4.90 m³/t in the TPPs-OCMs Kostolac.

Coal mining in Kolubara basin takes place in relatively densely populated zones with arable land, road links and water flows. All this affects the pace and cost of land expropriation process. In Kostolac basin, there is agricultural land and the renowned archaeological site Viminacium.





The average calorific value of coal supplied for the operation of thermal power plants in 2010 was 7,499 KJ/kg in MB Kolubara, and 8,162 KJ/kg in TPPs-OCMs Kostolac. The planned introduction of automation in the process of coal quality management in order to equalize quality of the coal for thermal power plants is one of the crucial projects in Electric Power Industry of Serbia. The goal is to enable supply of adequate quality coal to thermal power plants through the process of quality management, along with the excavation of the parts of the coal deposits, that without this technology could not be used for thermal power plants operation. Increasing coal output is planned in Kolubara and Kostolac basins. Investments into these coal basins will provide replacement capacities for coal deposits becoming mined-out, as well as increased coal output in the forthcoming years.

Owing to long-lasting problems, with the relocation of the community of Vreoci and inability to mine-out the coal resources, overburden removal and mining of the coal seam top at Field E, adjacent to Field D, was initiated. Coal mining started towards the end of 2009 (13 November, 2009). The output from this field should overcome the problems arising as a result of delays in the relocation of Vreoci. As regards the land expropriation process, there were problems in all EPS open cast mines, which resulted in underperformance in overburden removal in comparison to the realistic possibilities. With the assistance of competent public authorities. EPS is looking for a solution which will enable smooth

operation and development of open cast mining in the forthcoming years.

During 2010, several important investment projects, that will have significant influence on the production process, were completed in the subsidiaries for coal production.

Overburden removal in MB Kolubara in 2010 was marked by land expropriation problems, low bearing capacity of the soil and difficulties in the operation of the eastern dump site of Field D. In this zone, at a certain period of time, excavation was conducted with four out of the six available excavator-conveyor-stacker (ECS) systems, in order to provide prerequisites for the opening of the future open cast mine Field E, which will be the largest and deepest open cast mine in Electric Power Industry of Serbia. Besides all the problems, the overburden removal balance was achieved with 101%.

The coal output balance in this subsidiary is 1% less than planned. The main reason for this lies in unfavourable weather conditions in the winter period, requiring long defrosting periods for trains, which had a direct impact on output reduction.

In TPPs-OCMs Kostolac, in 2010, in spite of all the problems faced by the staff, overburden output was achieved with 102% compared to amount provided in the balance. Even in this subsidiary there were problems with untimely solved expropriation of the land planned for the excavation. The coal output balance in this subsidiary was achieved with 100.5% in 2010.

Overhauls

The overall state of the implementation of overhauls of the capacities for overburden removal and coal production and processing up to 31 December, 2010 is summarized in the table below:

Capacities	Planned		Realized	
	To start	To finish	Started	Finished
For overburden	18 systems	18 systems	15 systems	15 systems
For coal production	6 systems	6 systems	6 systems	6 systems
For coal processing	3 systems	3 systems	3 systems	3 systems



During the overhauls most of the previously identified operations by defectation were realized, while a small part remained unrealized.

In subsidiary TPPs-OCMs Kostolac on 10 January 2010, revitalized excavator SchRs 800 was put into operation, which significantly contributed to the stabilization of the coal mining, and therefore to the reliability of all thermal power plants operation in subsidiary TPPs-OCMs Kostolac.

In subsidiary MB Kolubara on 25 June 2010, new self-propelled belt conveyor/spreader BRs/ARs 1600 was put into operation in Field D, allowing activation after long period of downtime of III ECS system.

In Field D, on 22 October 2010, after a long and very complex revitalization, excavator SchRs 1760 (G-IX) started with operation. It will, with its possible production of approximately 10 million m³ of solid mass per year, significantly contribute to the stabilization of coal production at that mine.

In April 2010, in open cast mine Tamnava West, II ECS system started with operation. This is one of the most powerful systems in PE EPS that will after a period of operation be able to dig up to 15 million m³ of solid mass per year.

DISTRIBUTION COMPANIES

CO₂ emissions EDB
excavation
2010
open cast ECS
voltage system human resources
focus
consumers
TPPs-OCMs
Kostolac
needs
power efficiency MW
devices reconstruction
collection
acceptance
green
EU
tariff mines
strategy
expropriation
competitiveness
grid system
record
reconstruction
subcontractors
turbine
Electric Power
market transport import
generator step
public
Industry of people
hydro potential
Pannoniske
capacities
rationalization
CHP
balance
European Union
land
Serbia
overburden
CHP
ash
society
rehabilitation measures source
TPP
energy
balance
MHPP
communication customer
education satisfaction
TENT
river
plan
recovery
equipment
quality
thermal and power
Jugoistak
excavator
kWh
Central-right network
procedure fair
fair
recognition
asset
mass
recognition
operation
modernization
practice
Energy
TS
maintenance
sector
distribution
coal energy
batteries
unit
export
processing
value
zone
relations
road
combined heat
media
Elektrovojvodina
document
first
power plants
customer
recovery
road
zone
relations
road
combined heat
media
Elektrovojvodina
document
first
power plants
customer
recovery



Loss Reduction is the Most Important Job

Faced with a high percentage of electric energy losses in distribution network, Programme of Losses Reduction Measures was designed in EPS and became effective with the adoption of Action Plan for the Implementation of the Programme. The Action Plan provides activities aimed at reducing non-technical losses. It is, above all, about the intense customer control in order to detect irregularities in power consumption metering and registration and various forms of misuse. A step further is the replacement of meters for the purpose of improving the overall state of metering infrastructure and conducting of the calibration cycle. Additionally, activities are planned on relocating the metering points to the border of a property or public area, as well as better organization and results in reading of consumed electric energy in order to reduce the number of customers whose meters are not read.

Electricity losses in the distribution part of the energy system were 15.1% in 2010, which is slightly less than in the previous year. During this period, more than 500,000 controls were conducted and more than eight thousand cases of unauthorized use of electricity were discovered. More than 150,000 meters were replaced and about four thousand of metering points were re-

Customer control, metering points relocation and investment in metering equipment stopped loss increase on the distribution network, which is still high (15.1%)

lated. It is expected that activities undertaken to reduce non-technical losses and intense investment activity, which aims to reduce technical losses, shall bring the desired result, which is the reduction of losses to 13.73%.

In 2010, many jobs were performed in order to easily process EUR 80 million worth international loan for modernization of metering in the distribution system of EPS. Its implementation is expected to further reduce energy losses. The implementation of this work is the first phase of the modernization project that lasted for several years, which creates prerequisites for the establishment of smart grid concept.





Distribution Network Maintenance

All maintenance activities in subsidiaries for energy distribution were conducted in compliance with adopted business activities programs of subsidiaries and detailed plans of the current maintenance.

All the deadlines regulated by law and technical norms were met for certain activities in the maintenance process, all in compliance with business program and limited funds. Tasks performed last year and funds allocated may be seen in the following table.

No.	SUBSIDIARY	Plan for 2010	Implementation 2010	Annual plan realization
1	Elektrovojvodina	900,000.00	1,241,040.15	137.89%
2	EDB	574,741.00	579,258.00	100.79%
3	Elektrosrbija	1,244,610.00	1,518,114.00	121.98%
4	Jugoistok	343,400.00	364,976.00	106.28%
5	Centar	299,070.00	303,184.00	101.38%
	Total	3,361,821.00	4,006,572.15	119.18%

Maintenance plan for last year was conducted on average with 119.18%.

Network elements that could be the cause of reduced supply reliability were identified. In the forthcoming period, if weather conditions allow it, focus will be on the parts of energy system that are identified as the weakest.

Cooperation with the Energy Agency of the Republic of Serbia

Head Department for Electricity Distribution cooperates with the Energy Agency of the Republic of Serbia, through activities of joint working groups or through organizing thematic meetings. Cooperation was very intensive as in the previous years. It is primarily

reflected in monitoring of implementation of already adopted documents, such as: the electric power tariff system for tariff customers, the tariff system for electric power transmission system access and use, the tariff system for electric power distribution system access and use, the methodology for customer connection to the electric power transmission and distribution system and the Distribution Code.

In addition, the cooperation is manifested in joint data gathering and analysis for the purpose of quality assessment of electricity supplied, as well as in the significant task of developing, together with the competent Ministry, the Action Plan for Addressing the Issue of Existing Household Connections and Metering-Switching Cabinets.



Better Customer Relations

More than 150 petitions in the form of appeals, requests and complaints of electricity customers from all parts of Serbia were submitted to Head Department for Electricity Distribution, in business year 2010. All are handled with due care in the Sector for Trading and Relations with Tariff Customers. Every customer letter, regardless of the type of problem, was forwarded to the authorized distribution, which in accordance with the established procedures, checked customer statements and then responded to that request, i.e. appeal. Response of the distribution, which was sent to the customer, also arrived in Sector for Trading and Relations with Tariff Customers in the Head Department for Electricity Distribution. This is one way of communication that is available to electricity customers in the Republic of Serbia.

Employees in Sector for Trading and Relations with Tariff Customers communicate with customers on a daily basis and in a highly professional manner educate, explain and direct them to the right addresses where they can obtain quality information to solve their problem.

The largest number of customer problems are related to debts for electricity. The most common reason is a difficult financial situation in which they found themselves and the desire for finding ways to, however, pay their debts. Frequently asked are also the questions about the legal and technical procedures for obtaining approval for a new connection.

Previous professional experience indicates the need for education and professionalism of staff who would be fully able to commu-

nicate well with customers and serve to improve the relations with them. Only in this way everyday problems can be more easily addressed and business cooperation to mutual satisfaction can be established. In the future, special attention shall be paid to improving communication between customers and distributions, customers and Head Department for Electricity Distribution.

Small Hydro Power Plants

Ten out of 17 small hydro power plants owned by PE EPS generated about 51.7 GWh in 2010. This result is 13.6 % above the annual plan or 15.9% higher than generation in 2009. This good performance was achieved primarily due to good hydrological conditions.

Although only four small hydro power plants were built after World War II, while others were put into operation between 1900 and 1940 (and three celebrated hundredth birthday), the majority of plants registered a record-breaking production, especially SHPP Sokolovica, which exceeded generation annual plan by 56.9%.

Due to feed-in tariffs for the purchase of electricity from alternative sources, in 2010, 19 privately owned small hydro power plants were connected to the distribution system of PE EPS. There were significant investments last year in SHPP Moravica and SHPP Sokolovica.

ELECTRICITY TRADE

Month	2011	2012	2013
Aug-11	5 214.5	225.0	5
Sep-11	5 213.6	225.0	5
Oct-11			
Nov-11			
Dec-11			
Jan-12			
Feb-12			
Q411	5 208.0	215.0	5
Q112		225.0	5
Q212			
Q312			
Q412			
H112			
H212		5 210.0	225.0 5
2012	5 198.5		
2013			

Serbian BSLO				Serbian PEAKS			
Code	Qty	Bid	Ask	Code	Qty	Bid	Ask
							64.75

Phone No: +44 20 7550 1775
Email: trayport@tfsbrokers.com

Handwritten notes:
The 14/07/2011
Fri 15/07/2011
Sat 16/07/2011
Week end 16/7-17/7
Week 20 16/07/11

Labels: TFS, Serbian Power, Serbian BSLO, Serbian PEAKS, Tfs - Non Tradable, Calculated - Tradable, Calculated - Non Tradable

energy
Electric
Power
Industry
of
consumption
Serbia
market
GWh

thermal
power
plants
feed-in
privileged
producers
consumption
balance
2010
GWh

generation
consumption
consumers
protection
EB

standards reconstruction
voltage
excavation-processing
collection
combined heat
and power
network
TENT
strategy
zone
system

expropriation
focus
media
energy
plants
efficiency
aim
fair
balance

reconstruction
rehabilitation
equipment
electrostatic
precipitator
European
MW
Union

recovery
transformer
customer
satisfaction
modernization
unit
tariff
document
Central
system
coal
process

value
prices
renewable
energy
protection
environmental
human
resources
relations
equipment
electrostatic
precipitator
European
MW
Union

Deviation from Balance – Positive for EPS

In the realization of the Electric Energy Balance (EEB) in 2010, there were deviations from balance assumptions, depending on the time of the year and the aspects of balance elements. However, overall deviations were positive for the annual operation of EPS.

As regards the temperatures occurring in Belgrade, the year 2010 was 1.2°C warmer in comparison to the 120 years' average. All months except October were warmer. Electricity consumption (not including Kosovo and Metohija) matched balance, beside the fact that the year was warmer. The reason for this is mitigating the effects of the global economic crisis. The largest deviation of consumption and the temperature was in the fourth quarter. October was 2°C colder than average. That was the reason why consumption was about 180 GWh or 7% higher than foreseen in the balance. November was 5.5°C warmer than average, even warmer than October. That was the reason why consumption was about 250 GWh or 8% lower than foreseen in the balance.

As regards the realised water inflow in hydro power plants, 2010 was characterised with very good hydrology. Due to the big inflow to Danube in the first half of March, as well as in June, the reduction of power and production occurred, and due to less head on HPP Djerdap 1 and HPP Djerdap 2. Besides that, generation in hydro power plants (including HPP Piva) was about 13,760 GWh at the annual level, by about 2,580 GWh, i.e. about 23% higher than foreseen in the balance, which represents the highest annual generation so far. Run-of-river hydro power plants gener-

2010 was the warmest year in the last 120 years, so EPS had no problem to, with record water inflow and good production in thermal power plants, provide enough electricity for all customers' needs

ated about 1,330 GWh, i.e. about 15% more electricity than foreseen in the balance.

Coal-fired thermal power plants (not including Kosovo and Metohija) generated about 1,640 GWh, i.e. 6.5% less than foreseen in the balance, which is primarily the consequence of suppression of generation with the aim of putting hydropower on the market and inability to sell all surplus energy on the open market because of the providing of agreed level of system services with Serbian Transmission System and Market Operator (PE EMS). The greatest suppression of generation of about 330 GWh was in January, due to record rainfall and reduced consumption because of warmer weather.

Combined power and heating plants were in operation only when there was a need for heat supply, except in October when they worked for EPS, and generated about 60 GWh less than foreseen in the balance which resulted in the reduction of generation costs.

EPS БЕОГРАД	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Башка Бања	2025	20	20	20	20	20	20	20	20	20	20	105	195	195	195	195	195	195	195	195	195	
Тердан 1	11816	150	140	130	140	140	140	140	140	140	140	180	180	180	200	200	200	200	200	180	180	
Тердан 2	3970	150	140	130	140	140	140	140	140	140	140	180	180	180	200	200	200	200	200	180	180	
Електроморава	61																					
Дерин	900	30	10	10	10	10	10	10	10	10	10	10	10	25	25	25	25	25	25	25	25	25
Поплаб	230	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Копин Брод	190	10																				
Бестрца	1000	50	50									50	50	50	50	50	50	50	50	50	50	50
Власинска ХЕ																						
РПЕ Башка Бања	3000	300										100	200									
Увац	270																					
Пива	1500											100	100									
Галичеда	192																					
Парот																						
УКУПНО АКУМУЛАЦИЈА	6452							60	60													
УКУПНО ХЕ	25444	671						363	363													
Калуђара 1	480	20	20	20	20	20	20															
Калуђара 2																						
Калуђара 3																						
Калуђара 4																						
Калуђара 5	2160	90	90	90	90	90	90															
Костољак А 1	4320	180	180	180	180	180	180	180	180													
Костољак А 2																						
Костољак Б 1	7440	310	310	310	310	310	310	310	310	310												
Костољак Б 2																						
Мирава	2160	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Никола Тесла 1	4320	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180
Никола Тесла 2	4320	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180



Planning the operation of EPS generation capacities during 2010 was successful. The greatest problems in planning and optimization of operation of the system occurred in the third and the beginning of the fourth quarter of the year, when due to discharge of reservoir HPP Bajina Bašta with elevation up to 272 m sea level, PSHPP Bajina Bašta was not operating for two months.

In order to maintain energy balance, 755 GWh of electricity was purchased, to be precise 350 GWh more than foreseen by the balance. The greatest purchase of electricity over balance in the amount of 171 GWh was in October, when the consumption of electricity was significantly above balance.

Higher generation from hydro capacities, apart from covering expensive generation in CHPs Panonske, enabled selling of 1,286 GWh at the free market in 2010 and significantly increased the revenues and improved operation of EPS.

Regulated Market

The supply of tariff customers in the Republic of Serbia was realised on the basis of annual agreements between PE Electric Power Industry of Serbia and subsidiaries for electricity generation and subsidiaries for electricity distribution within EPS. Likewise, on the basis of annual agreements, the sale of electric energy and power to Serbian Transmission System and Market Operator was realised with the view to secure and stable operation of the national electric power system. This enabled the supply of tariff customers,

as well as trade in electricity in the region of South East Europe, where the electric power system of Serbia is the key system.

Free Market

Head Department for Electricity Trade sold electricity in the internal and regional markets in 2010. Trading was realised with nineteen companies and the sales reached 1,286 GWh of electricity in total.

The procurement of missing quantities of electricity took place in conformity with the Public Procurement Law. PE EPS purchased a total of 754.7 GWh of missing quantities of electricity from seven companies licensed in the Republic of Serbia for electricity trading and four foreign companies. The cooperation with the Electric Power Industries of the Republic of Srpska and of Montenegro in the area of electricity purchase and sale, under annual agreements, was on partnership level and in line with the agreed commitments.

Purchase of Electricity from Privileged Producers

In 2010, the Head Department for Electricity Trade purchased electricity from privileged producers at the prices determined by decisions of the Government of the Republic of Serbia. Contracts were signed with twelve privileged power producers (small hydro power plants) in 2010. PE Electric Power Industry of Serbia purchased from privileged power producers 4,252,406 kWh of electricity at feed-in tariffs.

Achieved Electric Power Balance

Kosovo and Metohija not included	GWh
TPP generation at the outlet	23,384
HPP generation at the outlet	12,471
Total EPS generation at the outlet	35,855
Procurements	2,407
Available energy	38,262
Gross Consumption	34,073
Deliveries	2,704
Pumping (PSHPP B. Bašta and PSP Lisina)	1,049
HPP and TPP needs	436

Kosovo and Metohija included	GWh
TPP generation at the outlet	28,509
HPP generation at the outlet	12,471
Total EPS generation at the outlet	40,980
Procurements	3,235
Available energy	44,215
Gross Consumption	39,819
Deliveries	2,911
Pumping (PSHPP B. Bašta and PSP Lisina)	1,049
HPP and TPP needs	436

INVESTMENTS

excavation
strategic
projects
energy
efficiency
turbine
needs
devices
major
mass
overhaul
thermal
MB
Kolubara
Centar
meters
power
plants
development
sources
river
preparation
investment
export
relations
revitalization
processing

TPP distribution
import
electrical
capacities
energy
strategic
relations
MHP
excavator
planning
energy
zone
process
land
public
promotion
reconstruction
focus
rehabilitation
aim
subcontractors
step
communication
standards
prices
a
management
staff

electric
document
power
system
renewable
system
society
energy
IMS
losses
sources
Drinsko-Limske
HPP
value
e-info
protection
kV
environmental
media
consumption
kW/h
TENT strategy
overburden
practiced
at
Serbia
Elektrovodina
dinar
right
studies
Industry of
rehabilitation
communication
standards
prices
a
management
staff

strategic
Electric
Power
of
projects
Industry
studies
partners
rehabilitation
communication
standards
prices
a
management
staff

EPS
open
cast
generator
mines
sector
lignite
balance
recognition
asset
fair
disposal
power
EB
generator
people
aggregate
road
record
quality
frame
reconstruction
focus
rehabilitation
aim
subcontractors
step
communication
standards
prices
a
management
staff

Reliance on Own Funds and Knowledge

Basic strategic and investment activities in 2010 in Public Enterprise Electric Power Industry of Serbia were marked by continuation of the investment projects initiated in the previous period, along with the significant activities in relation to the beginning of the construction of new generating capacities through strategic partnerships with foreign companies.

PE EPS had investments 31.3 billion dinars worth in 2010.

The structure of invested funds was as follows: own funds – 27.4 billion dinars, loans – 2 billion dinars, consumer funds – 2.1 billion dinars and donations – 0.4 billion dinars.

Thermal Power Plants

The most important investments in the thermal power sector were aimed at the completion of the second phase of the rehabilitation of unit 6 in TPP Nikola Tesla A, on the turbogenerator part of the facility and on further advancement of environmental protection through reconstruction and modernization of the electrostatic precipitators. Four mills were reconstructed and modernised on unit 6 in TPP Nikola Tesla A.

During the extended overhaul of the unit 1, the condenser tubes were replaced in TPP Nikola Tesla B. On unit 2, the reconstruc-

In 2010, 31.3 billion dinars was invested, out of which own funds were even 27.4 billion dinars, but the foreign investments for the implementation of capital projects were still encouraged, including direct foreign investments for the incorporation of project companies

tion of the electrostatic precipitator facility was prepared and is planned for 2011. In TPP Nikola Tesla B tender procedure for modernization of the management system was also in progress, and the reconstruction of the system for collection, mixing, transport and disposal of ash and slag was completed.

New system for transport and disposal of ash and slag was implemented in TPP Kostolac B, and the designing of a new ash handling system in TPP Kostolac A has begun. The first phase of rehabilitation and modernization of unit 2 in TPP Kostolac B was completed in 2010.



Hydro Power Plants

The most important investments in hydro power sector in 2010 were related to the completion of the rehabilitation of the first and start of the rehabilitation of the second unit in HPP Bajina Bašta, as well as the first of the six units in HPP Djerdap 1. The tender procedure for the rehabilitation of HPP Zvornik was prepared. The rehabilitation of the second unit in HPP Međuvršje was completed.

The activities for the update of the existing and development of new investment and technical documentation concerning the construction of new hydro power plants on the upper and middle course of the river Drina and the rivers Velika Morava and Ibar are in progress.

Mines

In subsidiary MB Kolubara, the overhaul of the broken-down bucket wheel excavator number nine, which was put into operation in December 2010 was completed. At the open-cast mine Tamnava-West Field, a new II ECS system was commissioned. The construction of two mobile conveyors for the needs of the open-cast mines Filed D and Tamnava - West Field was also completed. The activities on the relocation of the village of Vreoci were continued (urban settlement construction, cemetery relocation, etc.)

The operations of the mine drainage continued in the mine Drmno in TPPs-OCMs Kostolac (construction of a new line of wells LC XII was completed) and the construction of two power houses with complete route B = 2000mm was completed.

Renewable Energy Sources

Basic investment activities in the field of renewable energy sources in PE EPS during 2010, were related to the construction of SHPP Prvonek near Vranje, with the capacity of 900 kW. In the second half of 2010, the technical solution for SHPP Prvonek was defined and in accordance with it the production-technical staff meeting of EPS decided to carry out preparatory activities related to the construction of this facility. A tender for the supply of equipment was announced, and in the end 2010 the contract was signed with the supplier. The deadline for the completion of SHPP Prvonek project is September 2011.

Besides the development of small hydro power plants, during the last few years in PE EPS, the use of other forms of renewable energy sources was analysed. Testing of wind potential has started. So far, the tests were done at three locations, and the site Kostolac basin proved to be the most promising. Therefore the development of investment-technical documentation for the construction of wind farms on this site will be continued.

Modernization of Metering Equipment in Distributions

The implementation of the Smart Meters Project, which is one of the most important projects in EPS within the project of the modernisation of measuring equipment in the distributions, in the last year was mainly related to the provision of funds and harmonization of technical specifications. As this is a significant investment activity, when it comes to development of distribution companies and the introduction of "smart grids", the good atmosphere has been set for the start of the project realisation by securing the



funds from the EBRD/EIB loan in the total amount up to EUR 80 million. On the other hand, the procedures of harmonisation of technical specifications were implemented and the activities on preparation of tender documentation have started, and by the selection of a consultant by the end of 2010, the conditions were set for the smooth continuation of the activities during 2011.

Development and Strategic Planning

The most important projects, studies and activities in connection with science and research work and preparation of investment and technical documentation in PE EPS, which were realised, i.e. whose development was carried out during 2010 were: Feasibility Study with the preliminary design of works on units 1 and 2 in TPP Kostolac B with an aim to increase availability, capacity and energy efficiency and meet environmental protection requirements; Previous works for the construction of a new thermal power facility by using the coal from Drmno open-cast mine; Feasibility Study with the preliminary design of measures to increase the capacity of the unit B2 in TPP Nikola Tesla, with the capacity of 618.4 MW; Feasibility study with the preliminary design of lifetime extension and upgrade of the capacity of unit A6, with the capacity of 308.5MW in TPP Nikola Tesla A; Pre-feasibility Study with the main design of the capacities construction for the river transport of limestone, from the quarry Jelenska Stena near Golubac to HPP Kostolac B, equipment and disposal of ash, gypsum, etc. The main architectural-building reconstruction project with the upgrade of HPP Zvornik; Preliminary design and Feasibility Study of rehabilitation and modernization of production units and equipment of HPPs Vlasina; Feasibility study with the preliminary designs for four HPPs (Buk Bijela, Foča, Paunci and Sutjeska) on Gornja Drina; Hydro Power Plants on Srednja Drina, preliminary design with the Pre-feasibility Study; Feasibility analysis for PSHPP Djerdap 3; Pre-feasibility Study with main design of hydro power plants on the

river Ibar, from Raška to Kraljevo; Pre-feasibility Study with main design of hydro power plants on the river Velika Morava, within the integrated use of available waters of the river Velika Morava; Development of investment-technical and spatial-planning documents to open a new open cast mine in Field Radljevo, in MB Kolubara – "Preliminary Design with Feasibility Study of Coal Exploitation in OCM Radljevo"; Development of investment-technical documentation to increase production in OCM Drmno in MB Kostolac – "Innovated preliminary design with Feasibility Study of upgrading open cast mine Drmno for the capacity of 9x106 tons of coal per year"; Introducing the system for operational planning of production on open cast mines in OCM Kostolac, using the software package "Mineks"; Geological research in western part of Kostolac basin, site Dubravica in Kostolac basin; One-year research of wind potential in Kostolac.

Joint Ventures with Foreign Partners

The principal business policy orientation of PE EPS in 2010 was stimulating foreign investments for the implementation of capital projects, including direct foreign investments for the establishment of project companies for electricity generation. In that regard, activities aimed at establishing various forms of business cooperation with foreign partners were undertaken, in particular: Selecting and attracting strategic partners for construction of thermal capacities to be supplied with coal from Kolubara mines (TPP Kolubara B, 2x350 MW and TPP Nikola Tesla B3 700MW); Selecting and attracting a strategic partner for the reconstruction of CHP Novi Sad; Construction of HPP Gornja Drina with partners from the Republic of Srpska; Implementation of investment projects in cooperation with the company SECI Energia S.p.A., Republic of Italy; Implementation of investment projects with RWE AG, Federal Republic of Germany.

In January 2009, the PE EPS Management Board adopted the Notice on the Implementation of Investment Projects and gave consent to the qualification documentation for the selection of strategic partners for the construction of TPP Kolubara B and new unit in TPP Nikola Tesla B3. During 2010, the tender procedure which had started at the end of second quarter of 2009, was continued.

With a purpose of implementing the project of reconstruction of the existing, i.e. construction of a new facility on the site of CHP Novi Sad, PE EPS and the city of Novi Sad established a joint venture in July 2009 – The Enterprise for Combined Heat and Power Generation "Energija Novi Sad", Novi Sad. During 2010, the activities on the implementation of tender procedure for the selection of a strategic partner for the the project implementation were continued.

With the aim of promoting cooperation, representatives of the PE EPS management and MH „Elektroprivreda Republike Srpske“ chose to build HPP Gornja Drina jointly. During 2010, the activities on the development of investment-technical documentation were continued.

Intergovernmental agreements signed between the Government of the Republic of Serbia and Italy foresee that PE EPS and the Italian company SECI Energia S.p.A. start together the development of hydro power projects on the river Ibar, HPP Kupinovo on Sava river and hydro power plants on the middle course of the Drina river, between HPP Bajina Bašta and HPP Zvornik (PE EPS

works together with the Electric Power Industry of the Republic of Srpska on these projects).

In connection with the utilisation of hydro power potentials of the river Ibar, during 2010, activities concerning development of Pre-feasibility Study with the main design of hydro power plants on the river Ibar, on the course between Raška and Kraljevo, were conducted. The documentation was adopted and the activities continued in order to prepare the groundwork for preparation of the following phases of project documentation - preliminary designs and Feasibility Studies. For this purpose, topographic recordings were done and part of the field geotechnical explorations was conducted.

Memorandum of Understanding between EPS and RWE, signed on November 16, 2009, foresees cooperation in the development of the projects for construction of a pumped-storage HPP Djerdap 3, HPP on the West Morava river and on the upper course of the river Drina (in cooperation with the Electric Power Industry of the Republic of Srpska). During 2010 these two documents were implemented: Pre-feasibility Study with the main design for hydro power plants on the river Velika Morava within integrated use of available waters of the river Velika Morava and the first phase of Feasibility Analysis of PSHPP Djerdap 3.

Implementation of Investment Plan in EPS Distributions

In 2010, for the implementation of the investment plan, the subsidiaries for energy distribution invested 6.5 billion dinars in total. About 50% of funds invested in investment programs, was spent on the reconstruction of existing facilities and on the construction of new ones on level of 20(10)kV, which significantly affected the reliability of power supply of consumers, improvement of voltage conditions and upgrading of the operational readiness of the distribution system. Activities on the development of the smart grids concept were continued and "The Functional requirements and technical specifications of AMI/MDM systems", which refers to remote monitoring and power management was adopted.

The activities on the monitoring system implementation, analysis and optimisation of power distribution network in the "extended real-time" (DMS) were started, and the initiated projects for the development of information system for remote control of power plants, and automation with the replacement of relay protection were continued.

Subsidiaries for electricity distribution within the Public Power Industry of Serbia in 2010 put into operation the following facilities:

- Voltage level 110 kV – reconstructed TS Beograd 1, TS Beograd 33 – Kaluderica, TS Guča, TS Kosjerić, TS Ivanjica.
- Voltage level 35 kV – TS Zemun Novi grad, and reconstructed TS Gornji Milanovac 2, Guča 1, Raška 2.
- Voltage level 20(10) kV – put into operation 406 TSs, and built about 320 km of voltage power lines.

INFORMATION TECHNOLOGIES

market
energy
sector
Education
hydrology
Energy
and power efficiency
open cast
mines
network
server
relations
public kWh
customer processing
satisfaction
system
fair
right
Kolubara
MB
MW
aim
migration
Serbia
Elektrosrbija
first
measures
energy
document
balance
lignite
people
energy
media
value
EEDB
procedure
maintenance
construction
TS
migrati
Society
electrical
excavator
river
process
Power
combined
heat
energy
plan
frame
transport
rationalization
export
ash
record
batteries
plants
open cast
strategic
green
projects
asset
practice
right
fair
network
server
relations
public kWh
customer processing
satisfaction
system
fair
right
Kolubara
MB
MW
aim
migration
Serbia
Elektrosrbija
first
measures
energy
document
balance
lignite
people
energy
media
value
EEDB
procedure
maintenance
construction
TS
migrati

relations
generation
EB
needs
quality
equipment
trade
kV
EU
VoIP
data
base
thermal
power plants
e-info
management
expropriation
TENT
excavation
system
aggregate
zone
rehabilitation
power plants
subcontractors
acceptance
power
disposal
turbine
mini hydro
TPP
overburden
consumption
2010
applications
rehabilitation
development
unit
focus
standards
meters
land
overhaul
2010
consumption
2010
applications
rehabilitation
development
unit
focus
standards



Security is Priority

The pilot project for the implementation of integrated computerised accounting system, through which SAP application solution is implemented in EPS, is currently being prepared for the continuation of implementation.

As regards of the existing EPS information system, migrating the existing software to tools, Oracle 11g version was configured, and installation and data consolidation in Oracle 11g version database was done. The goal was to make a new application solution in new development tools and software platform to replace the existing one. In the first stage of the application migration, new forms for entering, updating and data check were created, and the existing system reports were created in the new environment, taking advantage of modern tools for the design and layout applications, especially in terms of data security, reliability and availability.

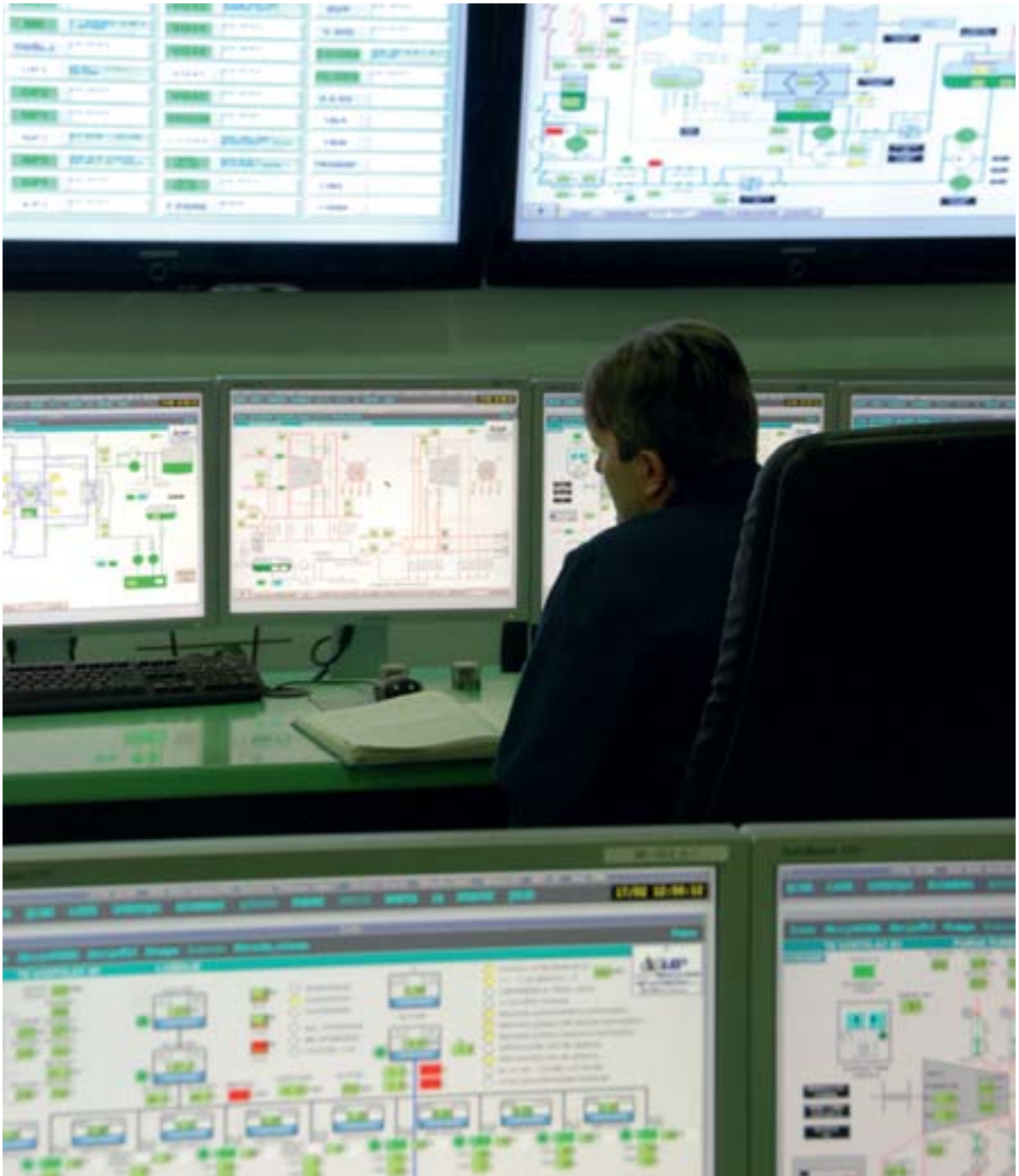
A new base version was installed on a new infrastructure, with the coupled servers - for the production base and its parallel copy

Network security, project development and implementation of solutions to improve productivity, communication and exchange of business information were in the center of activities of EPS IT Specialists

(stand-by base) - ensuring high reliability and system protection from the termination time by moving on a backup system without losing data.

Data migration and testing of software modules is in progress. It is planned that after that users will work in the new environment. During the second modernisation phase of the existing system





the development upgrade and introduction of new functionality are planned.

Migration project was a prerequisite for interface with the technical information system, integration with other data sources, and the development of advanced business intelligence. Preparations and training of IT Specialists for the implementation of a centralised platform and advanced analytical tools and management reports that are support in making business decisions were being held.

The activities on the implementation of advanced IT services within EPS ICT infrastructure were continued. The priority was the security of the existing ICT infrastructure. Regarding this, in EPS the implementations of the active project directory migration to Microsoft Windows Server 2008R2 platform, centralised management and IT infrastructure monitoring, and solution migration for the software firewall to the latest Forefront Threat Manage-

ment Gateway platform are being performed. The solutions that were implemented in the Microsoft System Center product family, within the centralised management promotion and IT infrastructure monitoring;

1. SC Configuration Manager – for centralized and automatic deployment of operating systems and software packages;
2. SC Virtual Machine Manager - to operate and manage virtual machines made in the server infrastructure consolidation process;

SC Operation Manager is in the phase of laboratory testing – for centralised service management, and SC Data Protection Manager - for centralised data backup.

Great progress was made in IT infrastructure area for business productivity needs. Office Share Point Portal environment, as a collaborative platform for the employees regular activity needs



and more successful implementation of projects in PE EPS, was implemented. On this platform, a solution for Electronic file room was put into operation and an internal portal migration to Office Share Point Portal platform is planned.

Within EPS computer-communication network, IP telephony service integrated into a single VoIP network was implemented. Thus, internal communication system between the employees of Electric Power Industry of Serbia was provided, using its own telecommunications resources. The Implemented solution integration projects for telephony into the existing domain infrastructure is being prepared as well.

Also, in all subsidiaries within Electric Power Industry of Serbia, the implementation of the latest Microsoft technologies and services continued. Implementation of the AD infrastructure, installation of Exchange Server platform for e-mail use and management, installation of Forefront Threat Management Gateway as software firewall, installation of Share Point Server as a collaborative platform, were adopted as a standard of future EPS-WAN communication network. The drafting of the preliminary design of communication network of Electric Power Industry of Serbia is being done, for the business-technical data transfer needs. The project is being implemented in cooperation with the Faculty of Electrical Engineering, University of Belgrade.

Serbia "Covered" by Fibre-Optic Cables

The effective functioning of the electric power system of Serbia, consisting of Electric Power Industry of Serbia and Serbian Transmission System and Market Operator, depends on the existence of a modern telecommunication system for the technical and business data transfer. The construction of the new telecommunication system for the needs of electric power companies, that has begun few years ago, is coming to an end. On the backbone level, all the designed networks are completed.

On the transmission lines, voltage 400kV and 220kV, all the old groundwires were replaced by the new ones, which have fibre-optic cables. This is also done on a large number of transmission lines, voltage 110kV, and on a number of transmission lines 35kV, so the length of the fibre-optic cable network has exceeded 5,000km

Fibre-Optic Cable Network

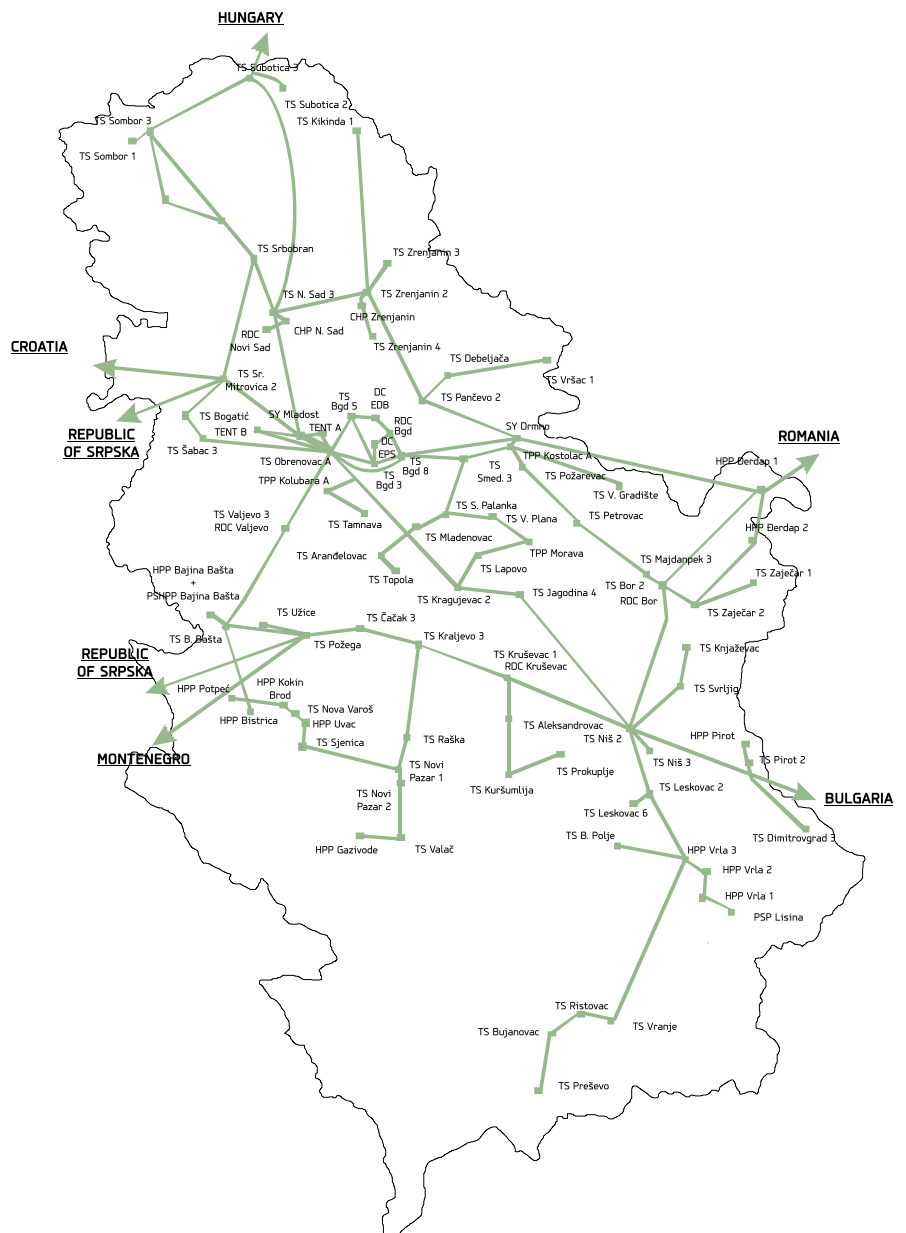
All major electric power facilities are connected by fibre-optic cables. By 2010, the network has reached the length of more than 5,000km OPGW (Optical Ground Wire), ADSS (All Dielectric Self-Supporting Cable) and approach underground fibre-optic cables.

According to its appearance, the fibre-optic cable network is increasingly like a high-voltage transmission network. In 400kV and 220kV transmission lines, almost all old earth wires were replaced with the new, modern ones, containing fibre-optic cables. This was also done in many 110kV transmission lines and some 35kV lines.

Due to the clearly expressed needs for new telecommunication connections at lower levels, regional and local, the fibre-optic cable network is currently also expanding in that direction, so that the current implementations and the immediate plans are focused on covering the entire network of the transmission lines, voltage level 110kV.

The fibre-optic network was built mainly using 48-fiber OPGW cables, i.e. 24 G.652 fibres and 24 G.655 fibres. It was only on the Belgrade – Bajina Bašta route, that the cable with 24 G.652 fibres was used.

The optical network, that has been implemented so far, is shown in the figure on the right.



The figure shows that the optical network covers almost the entire territory of the Republic of Serbia, that it reaches all major facilities of the electric power system. In fact, by its further development, it will cover all the important points in the country from energy and telecommunication aspect. In its further development in regional and lower levels, it will certainly become the most widespread optical transmission medium in this territory, with the possibility of multiple application.

Terminal equipment

On the backbone level, the new telecommunication optical network, contains 75 nodes up to now, in which the adequate terminal equipment was installed. These nodes are the most important sites in the electrical power system of the country, i.e. all hydro and thermal generation facilities, all major substations and facilities through which the electric power system connection is established with the systems of neighboring countries. The entire system is linked with two control centres, main and stand-by (Disaster Recovery Centre). The main centre is located at the National Dispatch Centre in Serbian Transmission System and Market Operator.

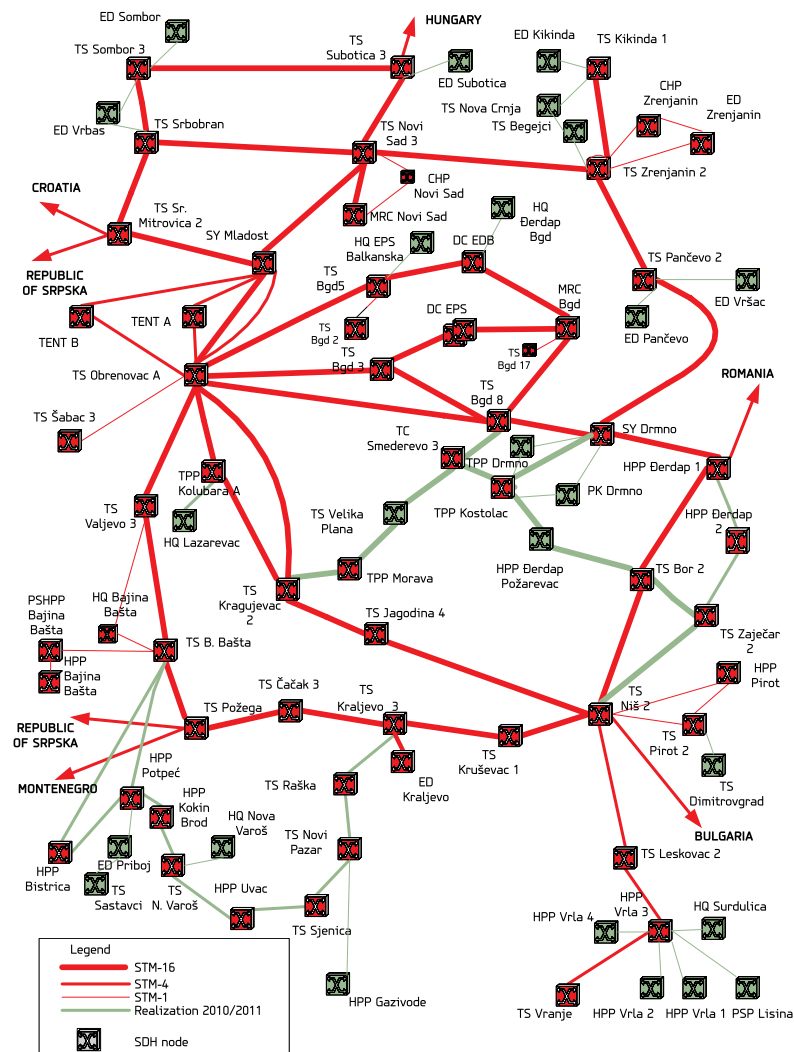
For the purposes of transmitting business, technical and voice data, the preferred solution was SDH technology (Synchronous Digital Hierarchy), which is dominant in these applications world wide. Capacities on major routes are at the level of STM-16 (Syn-

chronous Transport Module), on less crucial routes - STM-4 level, and on some peripheral and terminating - STM-1. The adequate flexible multiplexers for the acceptance of various user interfaces using 64 kbit/s channel were installed in all sites, and they form the network that provides forwarding of the channels in dedicated networks.

Since the SDH network has mesh topology, protection mechanisms have to be adequate. As there are no classic rings in the network, SNCP protection mechanisms (Sub Network Connection Protection) are used for the traffic protection. They provide the protection by point-to-point principle, i.e. between entry and exit points in SDH network. For the purposes of business traffic, LCAS (Link Capacity Adjustment Scheme) and routing through different paths are used.

The monitoring and management system comprises of three independent sub-systems: SDH network monitoring and management system, FMUX network monitoring and management system, synchronisation devices monitoring and management system. The monitoring and management system is centralised, redundant, with high availability, enabling remote monitoring of all network elements, SDH and flexible multiplexers, and synchronisation devices.

The figure below provides an overview of all points, with terminal equipment installed and with its telecommunication capacities for related routes.



Telephone Network

Through implementation of the new telecommunication system in electric power industry, the modern infrastructural telecommunication transport network was created as a basis for construction of the packet data network in electric power industry, on the whole territory of the Republic of Serbia. Many years of great issues related to switching equipment obsolescence in telephone network in most facilities of the electric power system, initiated and led to the modernization of the network and the introduction of IP technology.

The Project of introduction of IP telephony in the electric power industry meant building corporate packet data network of high availability, and strict requirements in terms of QoS, creating an infrastructural network that supports transfer of a large number of services required in the electric power system (data transfer for managing the power system, business data transfer, transmission of video signals for video conferencing...) which leads to greater efficiency and more rational use of telecommunication infrastructure.

The core elements of the packet network of the electric power are the five core routers Cisco 7606, installed in five sites and connected in a full-mesh structure through STM-4 interfaces of SDH devices.

The MPLS technology (Multi Protocol Label Switching) was implemented in the packet network in order to meet the specific functionalities of the network.

In the access part of the network 27 locations are connected, whereas, on each of them, because of the required high availability, there are two independent Cisco 3845 routers, connected to different routers in the core of the packet network.

The technical concept of the telephone network of the electric power system, based on the implementation of IP technology, is based on the centralised call management in the network with two softswitches in two separate locations in cluster architecture.

Out of these 27 locations, in 16 locations the access routers have become voicegateways, i.e. IP telephone exchanges, by installing corresponding cards to connect with the existing TDM exchanges and public network.

The following six facilities, which are major production or management -administrative centers, are included in IP telephone network by access routers: TPP Nikola Tesla A, TPP Nikola Tesla B, TPP Kolubara, TPP Morava, EMS – National Dispatch Center and EMS – Regional Dispatch Center Novi Sad, where the new Avaya IP-TDM exchanges were installed. Five locations that have relatively modern TDM exchanges (HPP Bajina Bašta, HPP Djerdap 1,

HPP Djerdap 2, Substation Niš 2 and Substation Novi Sad 3), have been directly connected to IP telephone network by access routers. Other locations, where the existing telephone exchanges were previously procured and installed, are included in a unified telephone network of the electric power system by SDH devices through E-1 Qsig interface or four-wire channels.

It is important to emphasise that the introduction of IP technology placed Electric Power Industry of Serbia among the first ranked energy companies which started using it.

Telecommunication System Award

Electric Power Industry of Serbia received the award for the project "EPS Telecommunication System" in October 2010.

The highest US professional recognition of UTC association, which includes more than hundred US energy and other companies, was for the first time given to the company that is not from the USA.

At the ceremony, attended by more than 1200 engineers from all over the world, William Moroni, the Chairman and General Manager of UTC, gave the award UTC APEX-AWARD to Electric Power Industry of Serbia. This is the second award for the successful telecommunication project, which is equally shared with the US company that worked on the project for city of Nashville (Tennessee). The first award went to "Edison", the company from South California.



ENVIRONMENTAL PROTECTION



In Accordance with EU Directives

Environmental protection is one of the priorities of Electric Power Industry of Serbia. The implementation of series of studies and projects that improve the protection of air, water and soil near production capacities of EPS is in progress. Today, it is inconceivable that within a project of modernization and rehabilitation of any production unit, environmental protection projects are not implemented.

Instead of general stories, here are the specific activities in this field in 2010:

General Activities of Environmental Protection Sector

Work plans

- Updating of Midterm Environmental Protection Action Plan for the period from 2010 to 2015

Work reports

- Preparation of an annual State of the Environment Report 2009 for the European Bank for Reconstruction and Development (EBRD), for the needs of Electric Power Industry of Serbia, Ministry of Environmental Protection and Republic of Serbia Environmental Protection Agency.

Training

- Participation by invitation in workshop CDM and JI – Status quo and Future Outlook of both instruments organized by GREENMARKET and FutureCamp Holding GmbH held in Munich.
- Participation by invitation in workshop Reducing Emissions from Energy Sectors in the Energy Community organized by Energy Community and Regional Cooperation Council held in Sarajevo.
- Attending Carbon Markets Masterclass – advanced training course organized by Environmental Finance – PEAR held in London.

Studies and Projects

Environmental Impact Assessment

- Environmental Impact Assessment of the construction project - phase II, TPP Nikola Tesla B – unit 3, 800MW.
- Applying for the Request for the Decision on Need of Environmental Impact Assessment of the Construction Project for flue gas desulphurization facilities TPP Nikola Tesla for the Ministry of Environment and Spatial Planning of the Republic of Serbia.
- Decision No, 353-02-415/2010-02 from 23 April 2010 states that Environmental Impact Assessment for the project

Within the process of modernization and rehabilitation of power plants, environmental projects are an essential part of every investment

of construction of flue gas desulphurization facility of TPP Nikola Tesla A is not required.

- The proposal was considered and given - Activities to be undertaken before applying for the request for issuing integrated work permit of IPPC facility of TPP i.e. CHP in PE EPS.

The activities on considering availability of documentation required to complete the requests and documentation to be submitted with requests for issuing IPPC work permits for IPPC thermal power plant and CHP facilities in PE EPS have begun.

Thermal Power Plants Water Protection

- Completed and adopted study "Balancing wastewater of EPS TPP and CHP" – TENT A and B, at the Expert Council of PE EPS on 07 July, 2010.

- Adopted Terms of Reference - Feasibility Study with the Preliminary Design for Wastewater Treatment Facilities of TPP Nikola Tesla A, Terms of Reference were adopted at the session of the Expert Council of EPS, on 10 September, 2010.

Decision No, 353-02-02198/2010-02 was provided on 08 December 2010 for determining the scope and content of Environmental Impact Assessment for the project of wastewater treatment facilities construction in TPP Nikola Tesla A, on the territory of Obrenovac municipality.

An open procedure for the procurement of services "Preparation of Project Documentation for Wastewater Treatment Facilities Construction in TPP Nikola Tesla A" is initiated.

- Adopted Terms of Reference-Feasibility Study with the Preliminary Design for wastewater treatment facilities of TPP Nikola Tesla B, Terms of Reference were adopted at the session of the Expert Council of EPS, on 10 September, 2010.

Decision No, 353-02-01848/2010-02 was provided on 28 October, 2010 for determining the scope and content of Environmental Impact Assessment for the Project of Wastewater Treatment Facilities Construction in TPP Nikola Tesla B, on the territory of Obrenovac municipality.

An open procedure for the procurement of services "Preparation of Project Documentation for Wastewater Treatment Facilities Construction in TPP Nikola Tesla B" is initiated.



Hydro Power Plants Water Protection

- Preparation of Terms of Reference, "Degradation Processes and Pollution balance in Djerdap Reservoirs - Phase II.
- Preparation of Terms of Reference for the study "Processes and Water Quality Changes Research in the Reservoir 'Zavoji' with the aim of protection and management of water quality in the energy reservoirs - the fourth phase.
- The Expert Council was held on 06 December, 2010 with the aim of adopting the Terms of Reference on the subject: Feasibility Study of RHPP Bistrica construction.
- Ibar HPP

Feasibility Study with the technical expertise of the hydropower plants construction on the Ibar River was completed and adopted at the Expert Council of PE EPS - Prefeasibility Study and Main Design, Expert Council was held on 19 March, 2010.

Proposed solution

Variant 1 was proposed – system of 10 run-of-river hydro power plants in the cascade with falls from 11 to 15 meters: 1. HPP Lakat, 2. HPP Maglič, 3. HPP Dobre Strane, 4. HPP Bela Glava, 5. HPP Gradina, 6. HPP Cerje, 7. HPP Glavica, 8. HPP Ušće, 9. HPP Gokčanica and 10. HPP Bojanići. All steps in the cascade are natural flow hydropower plants with installed discharge $Q=100 \text{ m}^3/\text{s}$. The total installed capacity of the system is 103.150 MW with average annual generation of 418.550 GWh.

Location: At the stream of Ibar (road Kraljevo-Raška) between the most upstream profile Bojanići (KNU – 372.90) and the downstream profile Lakat (KNU – 233.13).

Terms of Reference for the Feasibility Study with Preliminary Design were prepared and tender procedures were conducted. The implementation is in progress.

- HPP Velika Morava

Pre-Feasibility Study with the Main design of hydro power plant on Velika Morava was completed and adopted at the Expert Council of PE EPS along with the integrated use of available water resources of the river Morava. Hydro power plant Fankel, RWE Germany, on the river Moselle was visited, in the period from 3 to September 5, 2010.

- HPP Gornja Drina

Accepted study - Using the Hydro Potential of Gornja Drina and Sutjeska in the Republic of Serbia – Preliminary Design and Pre-Feasibility Study - the Expert Council was held on 20 November 2009. Study was developed by: Energoprojekt-Hidroinženjering and The "Jaroslav Černi" Institute for the Development of Water Resources. Auditor's remarks and final material were submitted in January 2010.

Activities for the construction of four hydro power plants, out of which 3 at the Upper stream of the Drina River (HPP Buk Bijela, HPP Foča and HPP Paunci) and 1 at Sutjeska (HPP Sutjeska) were considered.



- HPP Srednja Drina
Terms of Reference were prepared for the development of investment and technical documentation for the construction of hydropower facilities on Srednja Drina – Preliminary Design and Pre-Feasibility Study.
- HPP Donja Drina
Terms of Reference were prepared for the development of investment and technical documentation for the construction of hydropower facilities on Donja Drina - Preliminary Design and Pre-Feasibility Study.
Project development is in progress.

Soil Protection

- Activities on the implementation of the study – Integrated Overview of Solutions Implemented so far for the recultivation of mines in Kolubara and Kostolac Basin - Processor: Faculty of Agriculture, Zemun.
- Activities on the development of the Feasibility Study with the Preliminary design of the system for obtaining, transporting and disposal of gypsum suspension from the plants for flue gas desulphurization TPP Kolubara B.
- Activities on the realization of the potential loan from EBRD and KfW for the Environmental Improvement Project at MB Kolubara with the Action Plan for Environmental Protection, as well as for social issues arising from the implementation of the project.
- Activities on the conclusion of the Study "Multidisciplinary Impact assessment of Existing Disposal of Ash and Slag on Geo Area, with Remediation Measures Proposal".
– Study was adopted at the Expert Council meeting on 08 April 2010.
- Activities on development of: Feasibility Study with the Preliminary Design for Implementing Remediation of Ash and Slag "secondary Kostolac Island" and "Implementing Remediation measures Monitoring Programme and Design for Soil and Water 'Pilot Programme' Disposal Area of Ash and Slag".
– The study and program with Monitoring Project were adopted at the Expert Council meeting on 23 November 2010.
- Activities on realization of public procurement 50/10/DSI for the Study – Cadastre of Land Polluters of MB Kolubara.

Waste Management

- Activities on Terms of Reference development Earlier Works for Thermal Power Plants Construction using Waste from the Area of the Region that Gravitates to the Regional landfill "Duboko" in Užice.
- Activities on Terms of Reference preparation for the development of the study "Study for Chemical Accident Risk Analyses for Environment Pollution and Chemical Accident Protection Plan for TENT A".
- Activities on Terms of Reference preparation for the development of the study "Study for Chemical Accident Risk Analyses for Environment Pollution and Chemical Accident Protection Plan for TENT B".
- Activities on the development of the study "Waste Management in PE EPS" – phase II "Waste Registry in PE EPS" –

phase II B, Waste Registry – hydropower facilities.

- Activities on the development of the study "Waste Management in PE EPS" - phase II "Waste Registry in PE EPS" – phase II B, Waste Registry – Exploitation and processing of coal. Study is completed and submitted.
- Activities on the development of the study "Waste Management in PE EPS" - phase II "Waste Registry in PE EPS" – phase II A, Waste Registry – thermal power plants. Study is completed and adopted at EPS Expert Council.
- Activities on the development of the study "Improving Ash Market for Ash and Slag from Electric Power Industry of Serbia Thermal Power Plants".

Greenhouse Gases Management

- The acceptance of Framework Inventory of Greenhouse Gases in the Republic of Serbia and the Public Enterprise Electric Power Industry of Serbia in the period 1990-2008. Developer: Institute of Nuclear Sciences "Vinča".
- The acceptance of Projection of Greenhouse Gases Levels in the Republic of Serbia and the Public Enterprise Electric Power Industry of Serbia in the period 1990-2008. Developer: Institute of Nuclear Sciences "Vinča".
- Development of Opportunities for the Implementation of the First CDM Project as the Pilot Project for EPS.
- Work on the interpretation and operationalization of the conclusions of "Application analysis of Clean Development Mechanism of the Kyoto Protocol on Projects that will be Implemented in Cooperation with Strategic Partners".
- Participation in the work of Working Group for Air Quality and Climate Changes within Technical assistance in the development of national strategy for getting closer to the EU in the field of environmental protection (EuropeAid/127462/C/SER/RS).
- Participation in the work of the team for implementation of the National Strategy for Sustainable Development.
- Participation in the work of Working Group for monitoring and coordination of the preparation of documentation entitled "Earlier Works for the Construction of New Thermal Power Plant using Coal from OCM Drmno, MB Kostolac".
- Participation in the development of the mini hydro power plants construction projects, on the possibility of implementation of CDM PoA for the purpose of income increase on the basis of reduction in CO₂ emissions through possible cooperation with UNDP.
- Development of opportunities for establishment of a system for monitoring and reporting on CO₂ emissions.

Studies and Projects in which EPS Participates

Expert Council was held in PE EPS on 06 July, 2010 where 17 Terms of Reference for development of studies and projects were adopted, proposed by research institutes and universities, which apply to the Ministry of Science and Technological Development of Serbia for the funds.

The Development of Environmental Management System (EMS) in PE EPS

- During 2010 internal audit was carried out for ISO standards in HPP Drinsko-Limske - Integrated Management System (ISO - 9001, 14001 and 18001).



Donations and Loans

In March 2010 Feasibility Study for flue gas desulphurization facility construction TPP Nikola Tesla A was completed, for which realization a Contract with company Mitsui- Japan, as study processor, was signed; the value of the contract is EUR 400,000.

In the period from 01.06. to 11.06.2010 Electric Power Industry of Serbia, Department of Environmental Protection, was visited by Japan International Cooperation Agency (JICA) to review the possibilities of financing the project for flue gas desulphurization facilities construction in TPP Nikola Tesla A from ODA loan.

Donation from the European Bank for Reconstruction and Development for the implementation of the project – "Improvement of Health and Safety at Work Management in the Electric Power Industry of Serbia".

The contract was signed with the consultancy firm Ove Arup and International Ltd, and the Institute for Occupational Safety, Novi Sad.

IPA Projects

- Preparation of project proposals that could be financed from international aid funds (IPA donations 2011):
 - Construction of flue gas desulphurization facilities in TPP Nikola Tesla B. Total project value is EUR 210 million,
- Reconstruction of the transportation and ash disposal system in TPP Nikola Tesla A. Total project value is EUR 40 million,
- Construction of Wastewater Treatment Plant in TPP Nikola Tesla B. Total project value is EUR 20 million,
- Construction of Wastewater Treatment Plant in TPP Kostolac B. Total project value is EUR 10 million.
- Continuation of the activities on the project proposals that could be financed from international aid funds (IPA donations III - Regional Development):
 - Reconstruction of electrostatic precipitators of A3 unit in TPP Nikola Tesla A. Total project value is EUR 8.5 million,
 - Reconstruction of electrostatic precipitators in TPP Morava. Total project value is EUR 4 million.
- Preparation of project proposals that could be financed from the Environmental Protection Fund for 2011:
 - Construction of flue gas desulphurization facilities in TPP Nikola Tesla B. Total project value is EUR 210 million.
 - Reconstruction of the transportation and ash disposal system in TPP Nikola Tesla A. Total project value is EUR 50 million.



Table of planned and realized funds from environmental protection field by technological units at the level of PE EPS for 2010

Technological unit	Total planned funds (x 10 ³ dinars)				Total realized funds (x 10 ³ dinars)			
	PE EPS Investment funds	PE EPS Maintenance funds	Donations /Loans/ EPF	Total	PE EPS Investment funds	PE EPS Maintenance funds	Donations /Loans/ EPF	Total
Open cast mines	457,800	189,800	-	647,600	83,026	68,452	-	151,478
Thermal power plants	3,662,940	244,365	1,730,480	5,667,785	1,394,721	162,627	881,434	2,438,782
Hydro power plants	74,200	365,800	-	440,000	65,979	307,513	-	373,492
Distribution company	346,503	-	-	346,503	93,846	93,846	-	93,846
Sector for Environmental Protection in PE EPS	499,774	-	-	499,774	39,555	-	-	39,555
TOTAL	4,694,714	1,146,468	1,730,480	7,571,662	1,583,281	632,438	881,434	3,097,153

Table of planned and realized funds from environmental protection field by subsidiaries at the level of PE EPS for 2010

ACTIVITY	Deadline	Planned funds (x 10 ³ dinars)		Realized funds (x 10 ³ dinars)	
		PE EPS	Donations /Loans/ EPF	PE EPS	Donations /Loans/ EPF
Reclamation works and EP on open cast mines MB Kolubara	2010	189,800	-	68,452	-
Reclamation works and EP on open cast mines TPPs-OCMs Kostolac	2010	647,600	-	151,478	-
Environmental protection works in TENT	2010	930,955	930,480	354,597	524,434
Environmental protection works on thermal power plants TPPs-OCMs Kostolac	2010	2,788,000	800,000	1,133,753	357,000
Environmental protection works in Djerdap	2010	274,000	-	204,848	-
Environmental protection works in HPPs Drinsko Limske	2010	39,000	-	14,471	-
Environmental protection works in Elektrovojvodina Novi Sad	2010	17,453	-	12,847	-
Environmental protection works in Elektrodistribucija Beograd	2010	249,400	-	56,665	-
Environmental protection works in Elektrosrbija Kraljevo	2010	19,835	-	4,897	-
Environmental protection works in Centar Kragujevac	2010	32,510	-	6,570	-
Environmental protection works in Jugoistok Niš	2010	27,305	-	11,319	-
TOTAL	5,841,182	1,730,480	2,215,719	881,434	881,434



EPS Takes Care of Its Employees

In a time when many companies in the world decided to reduce the number of employees, in the middle of 2010, EPS employed 157 interns at the vacancy announcement "You are the one we need". Based on the electronic processing of more than 6,000 applications of candidates with university degree, recruitment and selection were transparently and non-discriminatory carried out. Candidates with higher grades and shorter study period were selected, those who by their studies, seminars and participation in the projects expressed willingness to deal with the most complex areas in the best way. Through tests, all selected candidates expressed a sense for teamwork, fast response in stressful situations and readiness to face the difficult tasks. Intern Training enabled them to acquire knowledge about organisation and basic functioning principles of EPS, future company development plans, tasks from the scope of the specific subsidiaries and the tasks of the position where they had been appointed. Those who successfully complete the training and pass the intern exam, have the chance to stay in EPS. Besides development of the knowledge in their profession, it will also be enabled to them to have trainings in the management field. Although, in 2010, there were other recruitments in EPS, all activities related to this vacancy announcement are an important indicator, that a part of general business policy of the company is to strengthen its personnel structure, by the highest ranked criteria, to give chance to young experts and to recruit employees by clearly defined criteria where knowledge and willingness to work hard are most important.

Development of the employees is a strategic goal of EPS. It has been worked on the planned and organised development of

Professional employee development is a strategic goal of EPS, and it has been worked on the planned and organised development of professional, and managerial knowledge and employee skills for years

professional and managerial knowledge and employee skills for years. In 2010 as well, the employees were enabled different forms of advanced training – from continuing of education and acquiring a higher education level, to participation in relevant professional conferences in the country and abroad, acquiring and renewal of the licences required to perform the job, study trips to introduce new technologies, safe way of work for life and health of employees and environment protection. Participation in projects gives the opportunity for direct cooperation with related companies from the region, which is the source of knowledge and also the basis for the recognition of the needs to innovate knowledge.

In 2010, the trainings were held, for development of the management communication, primarily with the external public and media, and then for the operations related to public procurement, financial and internal audit. A long-term management trainings have started with the goal of being at the highest professional level in all areas.



Goal – Rational Number of Employees

In the past decade EPS made efforts to reduce the number of employees to an optimal level, for the successful performance of the work processes and to reduce and completely eliminate inadequate work organisational costs and irrational engagement of employees. After spun-off of non-core activities, ancillary services are mostly outsourced in accordance with the Public Procurement Law. The number of employees was reduced by about 2% from January to December 2010. The largest reduction was achieved on the basis of the retirement. Larger number of employees left company based on the retirement, and it is the consequence of company age structure and the difficult work conditions in many core businesses. Given that EPS has a reputation of a company that is among the most desired for the employment, that independent research shows, the least outflow was due to the termination of employment.

EPS started 2011 with 29,347 employees (without PEs from the territory of Kosovo and Metohija). It is planned to decrease the total number of employees, although we will continue to receive the young professional staff. This is a condition for EPS to be competitive with the similar companies in the region.

Priority – Health and Safety At Work

The safety at work and employee health is one of the priorities of Human Resources Department in EPS. Risk assessment from the impact on the safety of work processes was made and the acts on risk assessment were brought. One part of the business policy is to prevent all possible risks and predict potential sources of unsafety for any employee.

In order to achieve safety and health at work preventive measures shall be ensured by the implementation of modern technical, ergonomic, health, educational, social, organisational and other measures and means to eliminate the risk of injuries and damage of the health of employees, or their reduction to a minimum. Beside the implementation of preventive measures the industrial accidents still happen, also with the death consequences.

Despite the use of prescribed preventive measures, the industrial accidents still happen, even with fatal consequences. In 2010, there were seven accidents with fatal end and 131 serious industrial accidents. The main causes of most serious accidents are the inattention of employees, non-usage of prescribed safety measures and healthy at work and traffic accidents happened on the way to work. The company continues to work on raising awareness about the importance of prescribed safety measures at work so that they become an integral part of the standard behaviour form and company culture. To protect employees, both at the workplace and in an environment where work processes are performed, the procedures of preventive and periodic inspection and testing of work equipment are being performed in all companies, as well as preventive and periodic examination of conditions in the working environment, or chemical, biological and physical harm, of microclimate and light within the time limits set by law. In all subsidiaries, great attention is paid to provide resources and equipment for personal protection at work. In accordance with the Act on the risk assessment or by the decision of the employer, the company provides the equipment for the employees who have the right for appropriate personal protective equipment at work.



All subsidiaries and parent company regularly check the health condition of employees at preventive medical examinations and specialist medical check-ups. 27,136 employees had preventive medical examinations (compulsory periodic and optional general medical examinations) and specialist medical check-ups (gynecological, oncology, etc.) in 2010. 99,232,304.00 dinars were spent for that purpose. Number of examined employees increased for about 50% compared to 2009. More than 80% of employees responded to regular preventive medical examinations, as in previous years, which is confirmed by the high level of awareness that we should take care about our health and that employees themselves undertake one part of risk if they do not care enough about it.

In addition to preventive health examinations, special attention is paid to rehabilitation and prevention of work disability in rehabilitation centers (spas) in the Republic of Serbia. In 2010, 3206 employees were sent to rehabilitation and 96,353,353.00 dinars was spent for that purpose.

In addition to these activities for health protection of employees, great attention was paid to the organisation and implementation of the staff recreation at resorts and sport recreational centers. This is usually organized by a trade union of the subsidiary, with the help of the employer. In 2010, 6117 employees were sent to recreation programmes, 75,565,178.00 dinars were spent for this purpose - about 20% more than in 2009.



Staff Management

With the rational employment policy, that is expected in business activities in the market conditions, with the improvement of personnel and age structure, further development of the required and desirable skills of employees, EPS would like, to motivate all employees to actively participate in achieving the goals in the future by stimulating performance awarding. The operating

costs rationalisation includes better work organisation, clear roles and responsibilities in the work process, planning of the number and structure of employees in accordance with specific tasks and long-term company development. Rational management of operations can significantly contribute to business efficiency increase in the company and therefore one of the priorities is the improvement of the function of the most important resource within the company - its employees.



QUALITY SYSTEM



public relations
quality
Energy
people
sector
rationalization
distribution
OHSAS
competitiveness
transport operation
mines
Jugoistok
open cast
meters
protection
strategy
asset
TS
batteries
investments
Industry of
telecommunications turbine
Electric Power
step
TENT
aggregation
focus
planning
mass
first
investment
Serbia
measures
consumption
green
efficiency
energy
river
efficiency
EMS
overhaul
development
ISO
standards
environmental
source
protection
process
education
needs
aim
2010
balance
Elektrosrbija
acceptance
fair
record
procedure
relations
market
zone
lignite
EU
communication
promotion
export
combined
heat
power
plants
excavation
e-info
expropriation
disposal
right
capacities
EEDB
diner
frames
European
Union
generator
society
revitalization
disputes
thermal unit
losses
GWh
prices
MW
smart
grids
land
reconstruction
projects
document
strategic
Centar
KV
Kolubara
major
overhaul
system
value
power
overburden

IMS - To Gain Better Reputation

Electric Power Industry of Serbia is the largest company in Serbia, but also among the larger companies in the region. Utmost attention is paid to the operation of the company, by both customers and the state, that is the owner of EPS. Business partners pay due attention to operation of EPS, because EPS operates with nearly a third of the Serbian economy. Thus, one of the most important priorities is the company organization under the requirements of international standards of management through implementation of the project "Integrated Management Systems".

A number of subsidiaries within the company have already introduced and certified their business system under the requirements of standards ISO 9001:2008, ISO 14001:2005 and OHSAS 18001: 2007. This led to the reduction in losses and increase of consumer satisfaction by the increase of security of supply and less voltage variation in the distribution network. An increasing number of satisfied consumers has led to the better reputation of the company in the society.

The company upgrades its business efficiency by introduction of the new management system, the Quality Management System,

EPS upgraded its business efficiency by introduction of Management System

Environmental Management System, Occupational Health and Safety Assessment Series, Risk Management. So far, in a relatively short period of time, the achieved results, in some subsidiaries, encourage staff and provide the basis for optimism.

The developed model of "Integrated Management System" will be implemented in 2011, in Public Enterprise Electric Power Industry of Serbia, and then in the entire electric power system. This will contribute to significant savings at the national level and will provide significant benefits to the society. Additionally, the new model will enable benchmarking with other models in large companies. This will lead to improvement of the developed model of integrated management systems, and the system as a whole.



Report on Management System State in PE EPS and EPS Subsidiaries

	Introduced, implemented, certified				Comment
	QMS	EMS	OHSAS	IMS	
Head Departments and Sectors	2008/TS			Ongoing project	

Coal and Power Generation

Subsidiaries	Introduced, implemented, certified				Comment
	QMS	EMS	OHSAS	IMS	
HPP Djerdap Ltd.	2005/SGS	2008/SGS	Final phase		
Drinsko-Limske HPPs Ltd.	2009/SGS	2009/SGS	2009/SGS	2009	
TPPs Nikola Tesla Ltd.	2010/SGS laboratories-in progress	2008/SGS	2010/SGS	2010	
MB kolubara Ltd.	2009/BV labora- tories 2007/ATC	2009/BV	2009/BV	2010	Laboratories Ther- motechnical vibro- diagnostic chemical analysis
TPPs-OCMs Kostolac Ltd.	2006/SGS 2009/SGS	2010/SGS			Coal and waste water laboratory
Panonske CHPs Ltd.	2002/SGS 2006/SZS 2008/TS	2008/TS	2010/SGS	2010	

Distributions

Subsidiaries	Introduced, implemented, certified				Comment
	QMS	EMS	OHSAS	IMS	
Elektrovojvodina Ltd.	1998/QS/ SZS,SGS 2004/SZS,TS 2010/Ct	2010/Ct	2010/Ct	2010	
Elektrodistribucija Beo- grad Ltd.	2001/QS/FSI	2010/Ct			
Elektrosrbija Ltd.	2006/TS 2009/TS,SGS	2007/TS, SGS	2009/TS, SGS		
Jugoistok Ltd.	2005/TS 2010/SGS	2010/SGS	2010/SGS	2010	
Centar Ltd.	2001/QS/SZS 2005/TS 2008/SGS	2007/TS 2008/SGS	2007/TS 2008/SGS		

Legend:

QS – Quality System
QMS – Quality Management System
EMS – Environment Management System
OHSAS – Occupational Health and Safety Management System
IMS – Integrated Management System

Certified Bodies: SZS – Institute for Standardization, SGS - Societe Generale de Surveillance, TS - TUV SUD, Ct – Certop, BV - Bureau Veritas.



PUBLIC RELATIONS



EPS Has the Best Communication with the Media

Public Enterprise Electric Power Industry of Serbia is an economic organization that had the best communication with the media in 2010. That was shown in "Journalist – your friend" research, that PR agency "Pragma" conducted tenth year in a row. More than 300 journalists from the most prominent Serbian media participated in the research conducted at the end of 2010 and the beginning of 2011. The examinees were journalists from TV and radio stations with the widest national coverage, journalists from the leading daily newspapers and magazines, as well as from three most distinguished domestic news agencies, who evaluated the quality of media relations and relations with journalists of economic and non-economic organizations and public figures in Serbia, in more than one category, such as: the best communication channels, the best press conferences and press materials in 2010. This is a questionnaire in which examinees answer the open type questionnaire and do not have, for example, offered options with the names of organizations. It is clear that the media themselves chose EPS.

The number of texts published about EPS in 2010, as well as the number of broadcasted TV reports testify that EPS was in the center of media attention. Newspapers published 6780 articles, out of which only 180 had a negative context, and TV stations

In the research „Journalist – your friend“, more than 300 journalists, who evaluated the quality of relations with the media, clearly said – EPS has the best communication with the media

broadcasted 2650 reports lasting almost 110 hours in total. Only 53 reports had a negative context.

Media interest was a big test for EPS and the Public Relations Sector. The aforementioned questionnaire and media evaluation of communication of EPS showed that EPS performed the task.

The company magazine "kWh" has an important role in informing employees and creating an internal poll, that has, by many objective assessments, especially outside EPS, largely outgrown the goals for which it was established - to be a corporate internal information bulletin. It is the best energy magazine in the region according to them. It has become widely read and cited monthly publication in the professional and the general public. Among the most important topics in this bulletin was the restructuring of





EPS, energy sector reforms in light of the commitments undertaken by Serbia as a member of the Energy Community of South East Europe, market opening, problems with electricity theft, EPS investment, especially with strategic partners, EPS participation in major international meetings on climate change - Copenhagen, Brussels, Washington, the health of EPS employees.

Daily electronic format of "E-info", which is mailed to more than 700 e-mail addresses within, as well as outside EPS, also serves for internal public informing.

Company website changes as soon as the need arises, if necessary several times a day. This approach has significantly contributed to the website becoming an important channel of communication with external public.

Participation in fairs, panel discussions and debates that were organized with some media houses on topics that were of interest to EPS, also contributed to the company's quality communication with the public. Education courses were organised by EPS

Human Resources and Public Relations Sector on the subject of communication, and company's top management has undergone media training, to master the skill of direct media communication, especially in the TV studio. The aim of these courses and trainings was to improve communication skills, internal communication, communication with external public, particularly crisis communication management.

As a socially responsible company, Electric Power Industry of Serbia supported by donations a number of projects in science, education, health, culture and sports. Special attention is paid to the nurturing of spiritual values and tradition, as well as cooperation with religious organizations. EPS promoted this social responsibility reasonably and in the right way.

EPS Public Relations sector published a number of publications and promotional materials with the professional assistance from Head Departments so that the public could be informed about everything EPS did and achieved in one year.



Published by **PE Electric Power Industry of Serbia**
Public Relations Sector
2 Carice Milice St., Belgrade, Serbia
eps@eps.rs; www.eps.rs

For the publisher **Dragomir Marković**, General Manager

Design **Litho Art Studio**, Belgrade

Printed by **Kolor Pres**, Lapovo

Circulation **1000**

Belgrade, August 2011

CIP – Каталогизacija y publikaciji
Народна библиотека Србије, Београд
621.31(497.11)

ANNUAL Report ... / Electric Power Industry
of Serbia ; for the publisher Dragomir
Marković . – 200?- . . - Beograd (Carice
Milice 2) : Electric Power Industry of
Serbia, 200?- (Lapovo : Kolor pres) . - 30 cm

Godišnje . - Ima izdanje na drugom jeziku :
Годишњи извештај (Електропривреда Србије)
= ISSN 1821 – 1976
ISSN 1821 – 1984 = Annual Report (Electric
Power Industry of Serbia)
COBISS.SR-ID 167990284