ANNUAL REPORT **2014**
ELECTRIC POWER INDUSTRY OF SERBIA

MISSION

Electric Power Industry of Serbia mission is 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

Electric Power Industry of Serbia vision is 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.

CONTENTS

Aleksandar Obradović

General Manager

Year 2014 will be remembered in the history of Electric Power Industry of Serbia as one of the most dramatic, but also as a year when radical reforms began. Unprecedented natural disasters of catastrophic proportions lined up one after another. First the floods in May flooded Kolubara mines, the operation of thermal power plant Nikola Tesla A was also interrupted, water's destructive power endangered many substations and generation facilities of Electric Power Industry of Serbia. The real cataclysm in July struck production capacities of TPPs-OCMs Kostolac, and in September the rains and river floods caused great damage to Đerdap hydro power plants.

Natural disasters had an enormous impact on business operation of EPS in 2014. For only a few days, starting from 14 May, Kolubara mines had been disabled, overburden and coal production stopped and it was questionable with what will we "feed" thermal power plants in Obrenovac. Battles were waged for our thermal power plants: Obrenovac thermal power plants Nikola Tesla, Kostolac and Morava. Inflows rose. Danube was approaching historical inflow from 2006, and on the banks of Drina landslides appeared. The disaster has not missed distributors either. Linemen fought the nature day and night in order to minimize the number of citizens left without electricity.

The repair of damage started immediately, and in early August coal production started in Veliki Crljeni, where about 47 million cubic meters of water was pumped out with own capacities. Contractor for pumping out water and silt was selected for Tamnava-West Field mine, in which more than 180 million cubic meters of water entered, and on 25 December coal production started there.

EPS managed to ensure a stable supply and sufficient quantities of electricity for the citizens and economy of Serbia even in these extraordinary conditions. There were no electricity restrictions. Constant engagement of all EPS employees saved the stability of the electric power system of Serbia. Thanks to the huge dedication of employees, as well as the excellent cooperation we had in those moments with the Government of Serbia, the Ministry of Mining and Energy and other state institutions, we preserved the energy system.

Already at the end of July, an unprecedented storm and hail caused damage to the capacities in Kostolac. In mid-September, foul weather left huge impact on Đerdap hydro power plants as well. The employees put enormous efforts into combat with torrents and a large amount of water that was destructing everything in sight.

In December, the ice chained eastern Serbia. Freezing rain and heavy wind tore cables and knocked down concrete poles, and more than 30 villages were without electricity for days.

However, despite catastrophic foul weather, 2014 will be remembered as the beginning of the new chapter in the development of Serbian Electric Power Industry. We have undertaken number of steps that represent the foundation for better and more efficient business operation of EPS.

Firstly in February Serbian Government gave the consent to Statute of PE Electric Power Industry of Serbia that represents the foundation for the change of legal

form of PE EPS into joint-stock company. The plan is to make this change until July 2016. Articles of Incorporation of subsidiaries were harmonized in August with new statute of EPS, and in November 2014 the Government accepted PE Electric Power Industry of Serbia Reorganization Program. Program defined that reorganization will be implemented by improving management within the existing organizational structure, by implementing status changes, establishing ownership over properties of PE EPS and its subsidiaries and change of legal form from public enterprise into joint-stock company. This finalizes the corporatization process of Electric Power Industry of Serbia.

When we go through all the steps of EPS corporatization, we will have vertically integrated electric power company that will include the entire chain – from mines, power plants and distribution, to the electricity wholesale and retail.

Now we can say that conditions have been created for the beginning of EPS reorganization and introduction of corporate governance. By implementing corporatization in EPS business processes will be uniform, a single system of management and administration and cost optimization in finance, legal affairs, information and communication technologies, human resources, public procurement, public relations will be provided.

It is necessary to introduce a pyramid level of responsibility, and the final result then must be more efficient business operation and greater profitability. Through centralization and improvement of the management process we will succeed to create a more efficient, more competitive and better organized company.

As of 1 January 2014 the medium voltage market was opened for about 3,000 customers, and EPS has prepared for the third wave of market liberalization as of 1 January 2015. EPS cope with competition and remained dominant supplier in the electricity market.

Our Chinese partner, China Machinery Engineering Corporation (CMEC) finished revitalization of unit B1 in TPP Kostolac B, within the Chinese arrangement. With the previous modernization of unit B2, TPP Kostolac became a safe support of electricity generation within EPS.

In terms of investments 2014 was very important for EPS. At the end of December loan agreement was signed between Serbia and Chinese Exim Bank for the construction of 350 MW unit and increase of annual production of mine Drmno from nine to 12 million tons of coal. This strategically important project for EPS will bring safety of electricity supply, in compliance with all strict European standards regarding environmental protection.

Modern IT solutions provide great support for reform implementation. Thus, SAP information system was introduced in EPS as of 1 January 2014 covering finance, controlling, material accounting, investment and loans management. We are introducing SAP modules in human resources, which is vital for the most valuable resource of the company – the employees.

Because employees are most important part of all changes. I am confident that they will be able to carry out changes towards a successful and profitable EPS with their skills, knowledge, hard work and dedication.

Branko Kovačević, PhD

Chairman of Supervisory Board

Business operation of Electric Power Industry of Serbia was marked in 2014 with catastrophic natural disasters on the one hand and steps that EPS undertook in corporatization and reorganization process of the company on the other hand. Unprecedented floods in May, and then in July and September affected almost all EPS generation capacities and threatened to endanger the stability of electric energy system of Serbia. All EPS employees, from those in open cast mines, then in thermal power plants and hydro power plants, up to distributors led the fight day and night with the destructive power of water in order to preserve capacities. In those critical moments EPS showed that economy and citizens may rely on the largest Serbian energy company.

Together with Ministry of Energy and Serbian Government and with their support several important steps were made in Electric Power Industry of Serbia in 2014 that initiated announced changes in the company. One of those steps was the development of new PE EPS statute that Serbian Government adopted at the beginning of March. In accordance with this document the amendments to Articles of Incorporation of subsidiaries within the company were prepared in EPS and were sent for approval of previous members of Supervisory Board, with Aca Marković, PhD as the Chairman. These documents were adopted in December 2014 by the new members of EPS Supervisory Board, and Serbian Government adopted EPS Reorganization Program also in December. That made firm foundation for corporatization and reorganization of the company.

With organizational changes and EPS as joint-stock company and single company, Electric Power Industry of Serbia will become profitable company expected to be the leader in the region. And implementation of corporatization is the only way for EPS to be more efficient and more transparent.

I believe that we all have the same goal – better and more profitable EPS, since everything we do now is in the interest of EPS itself, in the interest of the state, employees and all citizens.

Electric Power Industry of Serbia was and still is a driver of Serbian industry. Through the projects of maintenance and revitalisation of its generation and distribution capacities, EPS traditionally engages a great number of companies in the electrical and mechanical engineering sector, but also institutes, universities and project organizations. The said engagement of domestic industry is very important for the entire country as it will open the labour market and employ young people. They would have opportunity to acquire experience working with senior colleagues and thus the necessary qualified personnel would be formed and highly required continuity of professionals would be maintained. This is what I specially highlight, taking into account the fact that from the position of the Dean of the Faculty of Electrical Engineering I may confirm that our students have great potentials which the state should use in the best possible manner. I am certain that the traditionally good cooperation that EPS has with technical faculties and institutions will continue.

Great efforts are made in EPS in order to preserve generation and distribution capacities. Unfortunately, both capacities and technology are very old,

about thirty years average, and therefore a lower efficiency coefficient is achieved compared to modern technology. Indeed, thanks to its professionals, EPS managed to preserve technology, increase power and extend the life-cycle of power plants. I am convinced that the advantage of EPS is in generation and I hope it will stay that way. Up to May floods, electricity generation, overburden and coal production was at the level higher than the generation from the same period in 2013. The record annual generation from 2013 was expected to be achieved, even surpassed. Unfortunately, unfavourable weather conditions prevented it. Therefore, the Supervisory Board of PE EPS in September approved changes to Electric Power Portfolio for 2014.

Electric Power Industry of Serbia continued the revitalisation and modernisation project in both units of TPP Kostolac B and the construction of a new one, the third unit in this power plant, as well as expansion of Drmno open pit. This project is part of the state arrangement between the governments of People's Republic of China and the Republic of Serbia and is certainly one of the largest in the country. In addition to Chinese companies and Serbian companies, enganged by the Chinese side, domestic companies were engaged by TPPs-OCMs Kostolac and about 400 workers from Serbia shall execute the works. This project shows that Electric Power Industry of Serbia can be the mainspring of recovery and reindustrialization of Serbia. EPS is expected to be a key factor in establishing a new business environment that will contribute to the development of the economy, the inclusion of domestic intelligence in this process and the creation of new jobs.

In order to attain the set goals, it is necessary that the company changes and adapts to market operation, to be competitive and make profit. In both phases of market liberalization that took place in Serbia by the end of 2014 Electric Power Industry of Serbia has kept the largest share of the market and showed that it will be very competitive player at the market. Since I come from the university, I know how Belgrade Faculties selected the supplier: from a list with 73 bidders, 31 faculty chose EPS for the supplier.

As an important factor in the development of economy and society in the broadest sense, Electric Power Industry of Serbia supported all segments of life in 2014 as well. This support was in line with the difficult situation that has affected EPS, which was caused by catastrophic floods. However, EPS has confirmed its social responsibility as a permanent choice. PE EPS and its Supervisory Board supported in 2014 many projects aimed at improving the health of citizens, development of science, education, culture, sports and religious communities. PE EPS Strategy fosters a responsible attitude towards the community in which it operates, since when EPS is in a good position the whole society feels the benefits.

COMPANY DATA

Name of the company	Public Enterprise Electric Power Industry of Serbia Belgrade (PE EPS Belgrade)
Head Office	11 000 Belgrade, 2 Carice Milice St
Phone	+381 11 20 24 600, +381 11 20 24 800
Email, website	pr@eps.rs, www.eps.rs
Registration	Decision BD 80380/2005 Serbian Business Registers Agency
Registration number	20053658
TIN	103920327
Establishment	Public Enterprise Electric Power Industry of Serbia was established July 1st 2005 by the Government of the Republic of Serbia.

Organizational structure

Public Enterprise Electric Power Industry of Serbia is a parent company – controlling company for 14 dependent - controlled subsidiaries, 13 of them based in the Republic:

- Seven subsidiaries for electricity and coal generation;
- Five subsidiaries for electricity distribution and distribution system management;
- One subsidiary for final customers electricity supply, which is entrusted with energy activities of general interest – public electricity supply, by Governmental Act, in accordance with the law.

One subsidiary for electricity trading with its head office in Slovenia, started to operate on 1st July 2014.

Pursuant to the Article 551 of the Law on Subsidiaries, they altogether make a group of companies linked by capital.

Public Enterprise Electric Power Industry of Serbia has founder's rights in three public enterprises at Kosovo and Metohija. Since June 1999, EPS has not been operating its facilities at Kosovo and Metohija.

On the basis of founding, Public Enterprise Electric Power Industry of Serbia has important share in subsidiaries:

- Company for combined generation of thermoelectrical energy and heating, Energija Novi Sad, joint stock company, Novi Sad, founded with the City of Novi Sad, in the amount of 50 percent of shares in company's equity;
- Company Ibarske hidroelektrane, limited liability company, Kraljevo, founded with Seci Energia S.p.A, Italy, with 49 percent of shares in company's equity;
- Company Moravske hidroelektrane, limited liability company, Belgrade, founded with RWE Innogy, Germany, with 49 percent of shares in company's equity.

Ownership structure

100 percent owned by the Republic of Serbia

Bodies of the company

In accordance with regulations, Decision on Harmonization of Business Operations of Public Enterprise for Generation, Distribution and Trading of Electricity with the Law on Public Enterprises (Official Gazette of the Republic of Serbia, No 50/2013) and the Statue of the Public Enterprise Electric Power Industry of Serbia (revised text of PE EPS No 935/3–15 dated 29th January 2015):

- Supervisory Board;
- Executive Board;
- General Manager.

Supervisory Board and General Manager are appointed by the Government of the Republic of Serbia, and Executive Board is appointed by the Supervisory Board, at the proposal of General Manager. The Executive Board is board of executive directors. General Manager holds the position of President of the Executive Board.

Public Enterprise has Commission for revision as a separate body with rights and obligations provided for under the law and acts of the Public Enterprise, which performs tasks for EPS group.

Activities

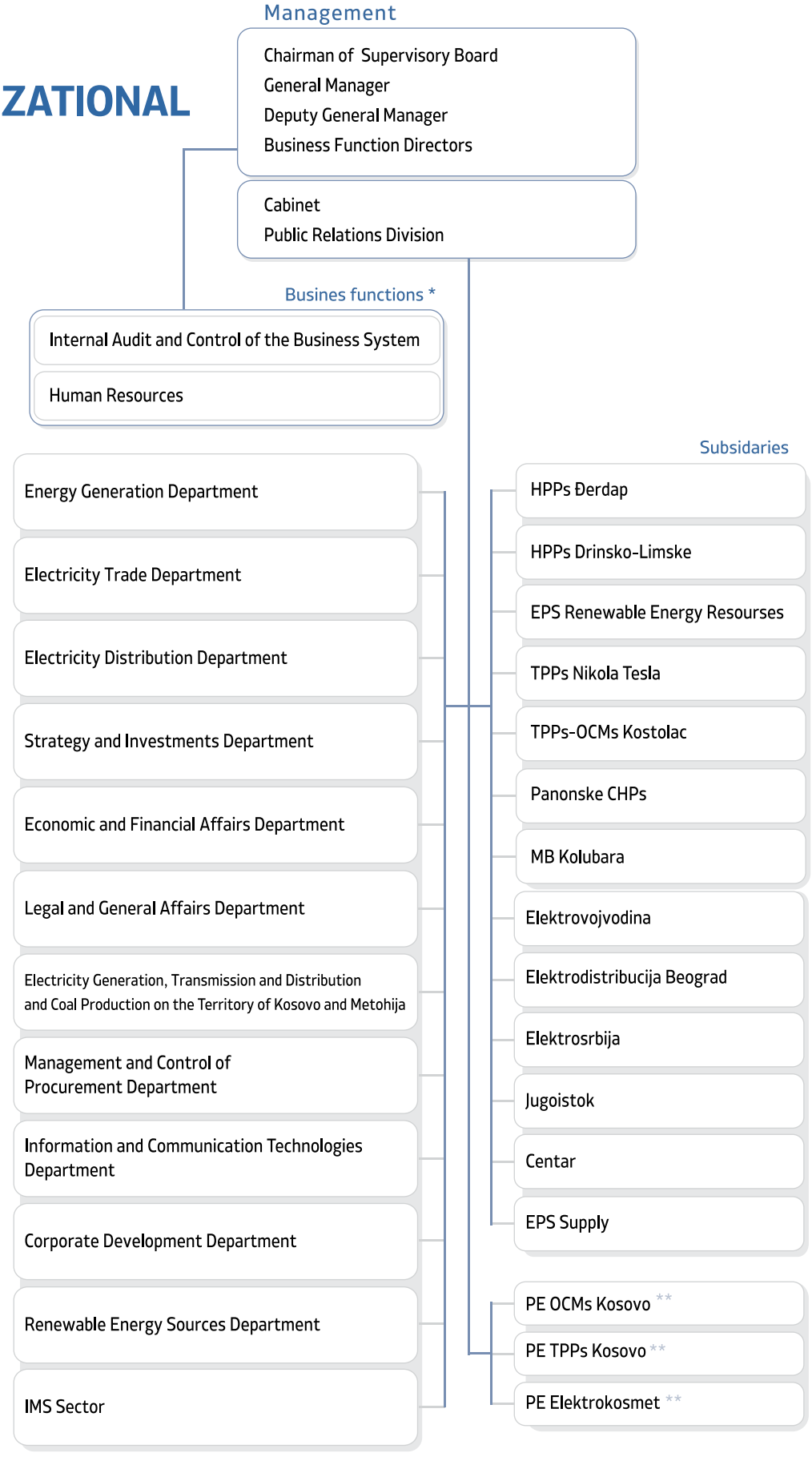
Prevailing activity of the Public Enterprise Electric Power Industry of Serbia is energy activity of electricity supply – activity code 35.14 – electricity trading.

In addition to the prevailing activity, Public Enterprise performs also the following activities:

1) generation of electric energy and generation of electric and heating energy in combined processes;
2) electricity distribution and distribution system management;
3) lignite exploitation;
4) business entity management;
5) cable telecommunications.

The above activities are performed by the Public Enterprise Electric Power of Serbia directly or through dependent subsidiaries, with the activity of business entity management performed only by the Public Enterprise as parental – controlling company.

ORGANIZATIONAL CHART



* Common business functions – perform activities within their competence for all subsidiaries and companies within EPS

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

MAJOR EVENTS

JANUARY

- Beginning of the second phase of liberalisation of the electricity market in Serbia.

FEBRUARY

- PE EPS Supervisory Board has adopted the decision on founding the company EPS Trgovanje in Slovenia.

MARCH

- New Statute of PE EPS came into force, which represents the first step in corporatisation of the company.
- Revitalisation of TPP Kostolac B unit B1 began, as one of the projects from the first phase of Chinese credit arrangement.

APRIL

- Record results in generation were beaten by TPP Nikola Tesla B unit B1 (on monthly level), MB Kolubara in generation of lignite and overburden, and HPP Đerdap 2, daily record in electric power generation.

MAY

- Catastrophic floods hit Serbia and caused great damage to Serbian electricity system. It was one of the most difficult periods of operation of Electric Power Industry of Serbia.

JUNE

- Introduction of SAP business-information system in the area of human resources for the entire EPS began.

JULY

- Severe weather and abundant precipitations affected Kostolac area. Torrential precipitations threatened the operation of all vital TPPs-OCMs Kostolac capacities.
- The Government of Serbia gave its consent to the amendments of founding acts of dependent subsidiaries within EPS.

AUGUST

- Construction of a new stack in TPP Kostolac B within construction of the flue gas desulphurization plant, began.

SEPTEMBER

- An unprecedented weather disaster affected Kladovo and Negotin municipalities and caused great damage to Đerdap hydro power plants.

OCTOBER

- The Government of Serbia appointed Aleksandar Obradović General Manager of Electric Power Industry of Serbia.
- Snow and strong wind strikes led to problems in electricity supply in the area of Elektrosrbija Subsidiary.

NOVEMBER

- Serbian Government nominated new PE EPS Supervisory Board, and Mr. Branko Kovačević, dean of the Faculty of Electrical Engineering in Belgrade, was appointed its Chairman.
- The Government of Serbia adopted EPS Reorganization Plan.

DECEMBER

- Big storm affected eastern Serbia, many places on the territory of Jugoistok Subsidiary were without electricity supply.
- After seven months of deadlock due to the floods of May, lignite excavation in Tamnava-Western field restarted on 25th December.
- Finalized capital revitalisation of the unit B1 in TPP Kostolac B.

EPS in Figures

GENERATION CAPACITIES
Net output capacity
7,124 MW

ELECTRICITY GENERATION
31,963 GWh

COAL PRODUCTION
29,204,294 t

OVERBURDEN REMOVAL
81,029,219 bcm

FULL SUPPLY
Domestic market
32,461 GWh

SALE
Out of EPS system
1,114 GWh

TOTAL SALE
33,575 GWh

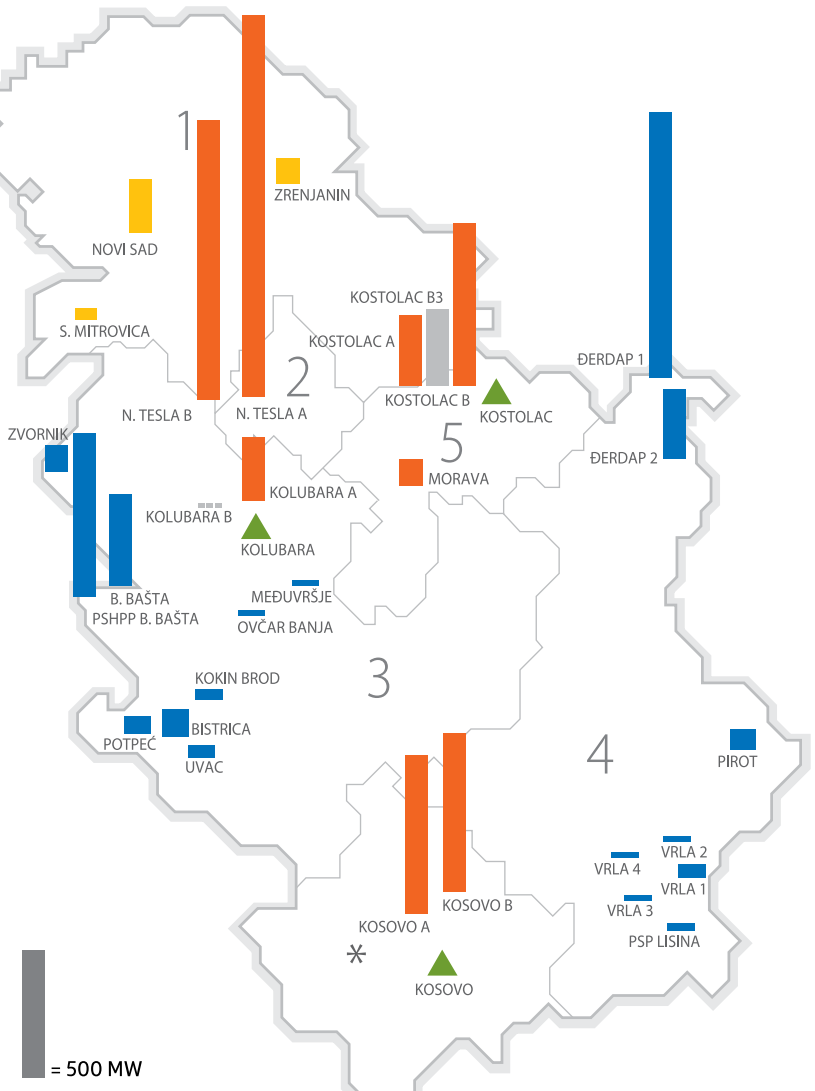
PURCHASE
Out of EPS system
2,611 GWh

NUMBER OF CUSTOMERS

Total	3,550,588
Public supply	3,546,087
Last resort supply	676
Commercial supply	3,825

Data related to capacities managed by
Public Enterprise Electric Power Industry of Serbia

EPS Installed Capacities



Power plants and coal mines:

- TPP
- TPP UNDER CONSTRUCTION
- TPP potentially place
- CHP
- HPP
- COAL MINE

Electricity distribution areas:

1_Elektrovojvodina, Novi Sad
2_Elektrodistribucija Beograd, Beograd
3_Elektrosrbija, Kraljevo
4_Jugoistok, Niš
5_Centar, Kragujevac
*_PE Elektrokosmet, Priština

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

ECONOMIC AND FINANCIAL AFFAIRS

Basic Characteristics of Macroeconomic Trends

Decline in economic activity and law inflation rate were prevailing economic characteristics in 2014. Unfavourable weather conditions and catastrophic floods significantly worsened the conditions under which the economic activities were carried out. The greatest damages occurred in industry, especially in mining and electricity generation sectors. In addition to slowing down the growth in the countries which are the main foreign trade partners of the Republic of Serbia, this led to deepening the fall of economic activity in the second and third quarter.

In 2104, gross domestic product, representing the measure of total economic activity of all residential institutional units, as the most important macroeconomic aggregate, recorded a real fall of 1.8 percent compared to the previous year, according to the data of the National Bank of Serbia. Observed by activities, in 2014, growth in gross value added was reached only in agriculture, forestry and fishery, information and communication and transportation and warehousing sectors. Unlike the aforesaid, drop in gross value added was recorded in sectors for supply of electric energy, gas and steam, mining, civil engineering and financial and insurance activities.

Reduction in gross domestic product in 2014 was due to decline in industrial production and continuation of negative trends in the sector of civil engineering as direct consequences of unfavourable weather circumstances and major floods.

Industrial production index in 2014 had a fall in physical volume of 6.5 percent. This fall was primarily aided by power, gas and steam supply sector. Consumer price index during 2014 was an average of 2.9 percent, and price index in December 2014 compared to December 2013 was 1.7 percent.

According to the data on labour force of the Republic Office for Statistics, the unemployment rate in the fourth quarter of 2014 amounted to 16.8 percent and was lower compared to the third quarter of the mentioned year, when it had been 17.6 percent. Unemployment rate in 2014 (as per the Survey) stood at 18.9 percent, according to the data of the NBS.

Average salary paid in the period January – December 2014, compared to the average salary paid in the period January – December 2013, was nominally higher by 1.2 percent, but was actually lower by 1.7 percent.

Generation Results of EPS Group

GENERATION		Unit	Realization 2014	Plan 2014	Realization 2013	Indices	
1		2	3	4	5	3/4	3/5
1.	Electricity	GWh	**32,014***	**31,866**	**37,476**	**100**	**85**
2.	Coal	000 t	**29,204**	**31,979**	**39,514**	**91**	**74**
3.	Overburden	000 m^3	**81,029**	**99,110**	**110,485**	**82**	**73**
4.	Auxiliary steam	000 t	**179**	**211**	**577**	**85**	**31**
5.	Heat	GWh	**806**	**936**	**1,017**	**86**	**79**

*with generation of small hydro power plants owned by subsidiaries for electricity distribution

In 2014, electricity production was at the planned level, but 15 percent lower than the production in the previous year. Realized electricity production of 32,014 GWh was the lowest production realized in last 10 years, first of all due to lower production in TENT and TPPs-OPMs Kostolac units caused by catastrophic floods that occurred in Serbia. Only hydro power plants of HPPs Đerdap surpassed their production in 2013.

Coal production of 29.2 million tons in 2014 was by nine percent lower than planned and by 26 percent lower than the previous year production. As consequence of floods that occurred in Serbia in May, open cast mines Veliki Crljeni, Tamnava-West Field and Drmno were flooded and coal generation in these open pits was temporarily or permanently suspended.

Electricity Prices

In 2014, an average selling price of electric energy of 6.820 RSD/kWh was achieved. Average price of electric energy for the purpose of public supply was 6.662 RSD/kWh, and the price for qualified customers was 7.027 RSD/kWh.

Average electricity prices (external deliveries)					
Category	Realization 2014.	Plan 2014.	Realization 2013.	Indices	
	RSD/kWh				
	1	2	3	1/2	1/3
High voltage (110 kV)	0.000	0.000	4.280	0	0
Middle voltage – total	0.000	0.000	5.540	0	0
Total high and middle voltage	**0.000**	**0.000**	**5.503**	**0**	**0**
Low voltage (0.4 kV I level)	9.467	8.994	8.475	105	112
Mass consumption – total	6.357	6.423	6.039	99	105
- 0.4 kV II level	8.278	8.344	7.874	99	105
- households	6.144	6.183	5.792	99	106
Public lighting	5.754	5.739	5.480	100	105
Low voltage total	**6.662**	**6.730**	**6.399**	**99**	**104**
Public supplier total	**6.662**	**6.730**	**6.189**	**99**	**108**
Electricity deliveries to eligible customers	7.027	6.855	6.287	103	112
PE EMS Deliveries	5.360	5.227	6.170	103	87
External deliveries (on demand area of Serbia)	**6.740**	**6.711**	**6.194**	**100**	**109**
Deliveries to other companies (export, electricity traders...)	**4.510**	**5.040**	**4.637**	**89**	**97**
TOTAL DELIVERIES	**6.820**	**6.795**	**6.105**	**100**	**112**

Financial Results of EPS Group (consolidated)

Income statement of EPS for 2014 showed net loss in operations of RSD 9,920 million. A loss of RSD 37,510 million was also envisaged by the plan. In 2014, positive result of RSD 24,014 million was achieved from business relations, positive result of RSD 1,302 million from financial relations and negative result of RSD 34,592 million from other relations.

Significantly more favourable financial result achieved in 2014, compared to the plan, was the result of higher savings in operating expenses which were by 15 percent lower than planned for the same period. Significant savings were in the positions as follows:

- Material and fuel expenses – lower than planned by 51 percent, especially coal expenses that were lower than planned by 84 percent (in absolute amount the difference is RSD 6.2 billion).
- Maintenance expenses – due to impossibility to fulfil the dynamics and the plan of maintenance in the plants that were flooded (MB Kolubara and TPPs-OPMs Kostolac), these expenses were lower than planned by 47 percent (in absolute amount of RSD 17.1 billion).

Operating income as reported in consolidated income statement, is RSD 217.4 billion and has crucial impact on total income forming (makes 91 percent of total income).

Income achieved from electric energy in the period January – December 2014 is by one percent lower than the one realized in the same period of the previous year.

Income related to the coal for industry and common use is by 54 percent lower compared to the one realized in the previous year and is the result of catastrophic floods that seriously endangered EPS mining capacities (MB Kolubara and Drmno in TPPs-OPMs Kostolac), which seriously endangered the operation of thermal power plants due to coal lack.

Revenue achieved from heat and auxiliary steam is lower by 47 percent compared to the revenue from the previous year, and compared to the plan by 46 percent. Generation, i.e. the placement of this type of energy is conditioned by the intensity of industrial activities of consumers and the needs for heat energy depending on temperature conditions. Considering the fact that EPS underwent the huge damages in the second quarter of 2014 incurred as consequences of the floods, all this resulted in lower production of this type of energy.

Investments for own purposes (income from work performed) are lower by seven percent than those realized in the previous report period, while they are higher by 13 percent compared to the plan.

Revenues realized from donations and subventions are higher than planned by 11 percent, as well as compared to those realized in the previous year, by four percent. In this item, in addition to activation and generation of revenue from foreign donations, funds of the electricity consumers amounting to RSD 1.6 billion are also presented and they are by five percent lower compared to the previous year.

Other operating incomes amounting to RSD 8.3 billion are almost twice higher than the realization in the previous year, mostly on the basis of income, on the basis of services and on the basis of other operating incomes. Other operating incomes were twice higher than realized incomes in the previous year. They are incomes generated mainly on the basis of investments in rehabilitation of the B1 unit in TPP Kostolac B: construction of the wharf and railway line of the contractor China Machinery Engineering Corporation, China (CMEK) in TPPs-OPMs Kostolac.

In 2014, an electricity export of 985 GWh was realized, which was at the same level as the plan, and thus the income of RSD 4.86 billion was achieved.

Operating expenses presented in consolidated balance of EPS in the period January – December 2014 amounted to RSD 193.4 billion, which was 15 percent less than planned and four percent more than realized in the same period of the previous year.

Electricity purchase costs are expressed in consolidated balance of EPS for the period January – December 2014 amounting to RSD 32.5 billion which matches the level of the plan. Compared to those realized in the previous year, they are higher by 11

percent. Increase of these costs is result of larger import of electric energy due to insufficient generation, conditioned by floods, and higher electricity supply from privileged producers.

Costs of materials and fuels in observed period for EPS group amount to RSD 9.4 billion and they are by 19 percent lower than those made in the same period of the previous year, and compared to those planned for the same time period they are lower by 51 percent.

Maintenance costs are stated in consolidated balance of EPS for the period January – December 2014 amounting to RSD 19.6 billion and they are lower than planned by 47 percent, while compared to the costs realized in the same period of the previous year they are higher by 21 percent.

Staff costs expressed in consolidated balance of EPS for the period January – December 2014 comprise salaries, benefits, contributions and other considerations paid to employees as in accordance with the general enactments of EPS determining the labour-based rights and they amount to RSD 55.7 billion (excluding public enterprises from Kosmet) and exceed by three percent those made in the same period of the previous year, while they are lower by three percent compared to those planned.

Liabilities toward the state in the amount of RSD 10.8 billion are lower by 21 percent compared to those from the same period of the previous year and higher by three percent than planned.

Other operating expenses are higher by 21 percent than those created in the previous year and lower by 23 percent than planned. Other material expenses and other services account for 81 percent of total other operating expenses. Other services recorded a significant growth. In the position of other non-material costs (RSD 4.9 billion), the expenditures are mainly on the basis of investments in rehabilitation of the B1 unit in TPP Kostolac B, construction of the wharf and railway line.

Finance income expressed in consolidated balance of EPS for the period January – December 2014 is lower by six percent than in the same period of the previous year and higher by 23 percent than planned for the same period. Decisive influence on such result came from incomes that are significantly lower than interests and from other finance incomes.

Finance expenses are by 94 percent higher than in the same period of the previous year, and by 43 percent higher than planned. Decisive influences on such result came from significantly lower interests and lower other finance costs showing a significant fall comparing to the same period of the previous year. Negative currency differentials are almost 10 times higher than in the same period of the previous year, whereby negative currency differentials related to liabilities and receivables at the end of accounting period are RSD 8.9 billion.

Other income amounting to RSD 5.97 billion are by 24 percent lower than in the same period of the previous year, and by 47 percent higher than planned for the same period. A significant growth within other income is recorded in: income from write-off of liabilities, income from value adjustment of assets, income based on value adjustment of receivables from buyers for services, for prepayments made for supplies and services.

Other expenses amounting to RSD 40.6 billion are significantly higher than those created in the same period of the previous year – by 51 percent, and by 14 percent higher than planned for the same period. Impairment of receivables from customers for electric energy in the period January – December 2014 amounts to RSD 22.9 billion and is by 57 percent higher than in the same period of the previous year. Expenses amounting to RSD 5.4 billion are recognized based on the benefits accrued and paid to employees in the public companies on the territory of Kosovo and Metohija, as well as in connection with the investments intended to provide for an uninterrupted energy supply to private individuals on the territory of the North part of Kosmet.

Total value of assets of PE EPS as of 31st December 2014 in consolidated balance sheet amounts to RSD 1,052 billion. Value of non-current assets is RSD 941.6 billion, while the value of current assets is RSD 110.3 billion. The share of non-current assets in total assets is 89.5 percent. Structure of business property of PE Electric Power Industry of Serbia shows that share of capital assets prevails in total business assets, which is a characteristic of capital intensive activities and huge technical systems such as PE Electric Power Industry of Serbia.

Capital accounts for 74.5 percent of total liabilities, while the share of accumulated loss in the capital is 15.8 percent. Cumulative loss on 31st December 2014 was RSD 124.1 billion.

State of total liabilities and long-term provisions on 31st December 2014 was RSD 179.7 billion, and of receivables RSD 177.7 billion (gross). Receivables from customers for electric energy make 84 percent of total receivables from the customers. Receivables from customers on 31st December 2014 were 1.22 times higher than liabilities toward suppliers. Share of total liabilities in capital and reserves amounts to 23 percent. Short-term liabilities constitute 48 percent of total liabilities.

General liquidity ratio - Current ratio (ratio of current assets and current liabilities) shows that each 1 RSD of current liabilities was covered by RSD 1.27 of current assets in the period January – December 2014. Considering the fact that this indicator shows the coverage of short-term liabilities by current assets, it is also indicated as the first security indicator protecting interests of short-term creditors.

Reduced liquidity ratio in the amount of 0.96 in the period January – December 2014, measured through relation between current assets lowered by state of reserves and total current liabilities, shows that the company operates in a liquid manner and that it may settle current liabilities.

Debt to equity ratio – in the amount of 22.9 in the period January - December 2014, measured by ratio of total liabilities and capital, was an indicator of risk of company financing, since the higher the share of borrowed assets in the structure, the higher the risk.

Ratio of total indebtedness - Debt/Assets ratio on 31st December 2014, as ratio between total debts and total assets amounted 17.1 percent, which is low level of indebtedness for infrastructure activity. Indebtedness coefficient shows the extent to which the company is financed from external sources. The higher indebtedness coefficient indicates that the company's activities are financed from loans, which may be bad guarantee for creditors in the future.

Customers' turnover ratio shows how many times in average the receivables are collected from customers during the year. Calculated through gross receivables, this ratio amounted 1.31 in the period January – December 2014, while an average period of collection of receivables counts 278 days.

Supplier's turnover ratio shows how many times during the year the liabilities toward suppliers are paid. The state on 31st December 2014 showed its value of 3.71. Average period of payment of liabilities to suppliers in the period January – December 2014 counts 98 days.

PROCUREMENT MANAGEMENT AND CONTROL

In 2014, a large number of initiated procurement procedures was successfully implemented, which contributed to improved business operations of PE EPS. Department for Procurement Management and Control participated in implementation of procurement procedures for the needs of departments and sectors of PE EPS, as well as for the needs of dependent subsidiaries.

PROCUREMENT	High value public procurements	Low value public procurements
Outcome of the procedure	Number	Number
Successfully performed	136	26
Suspended	35	5
Cancelled in full	3	0
TOTAL	**174**	**31**

16 procurements exempt from the law application (under the Articles 39, 7 and 122) were initiated and performed.

Initiation of procurement procedures in subsidiaries was monitored on a weekly level and control over the implementation of public procurement procedures, control of documents regarding modifications of concluded contracts and justification of conclusion of new contracts, as well as control of usage of funds were established.

Subsidiaries asked for consent to initiate procurements in the value of RSD 95.7 billion, and they were approved to launch procurements in the value of RSD 86.2 billion.

In 2014, quarterly Report on Public Procurements, as well as Report on Procurement Plan Implementation for the previous year were prepared in Department for Procurement Management and Control. The reports were submitted to the Public Procurement Administration and to the State Auditing Institution. Besides, on the basis of procurement plans received from departments and sectors of PE EPS, unified PE EPS Procurement Plan for 2014 was made, which was entered into the software for public procurement planning of the Public Procurement Administration.

Monthly reports on realization of planned procurements, containing data on launched procurement procedures, contracted values of procurements, level of realization of concluded contracts and level of realization of the Procurement Plan for 2014, were prepared and submitted to Director of Electric Power Industry of Serbia.

Monitoring of the work of the Public Procurement Commissions of subsidiaries contributed to significant savings in public procurement procedures and to improvements in the very procedures concerning the manner of implementation of public procurement procedures, unification of working processes, as well as simple, precise and systematic implementation of procurement procedures through the preparation of QMS procedures.

Nevertheless numerous problems caused by the May floods, Tender for Pumping out smudged water and sludge in the open cast mine MB Kolubara was successfully executed, which enabled continuing of operation of MB Kolubara subsidiary within a very short period of time. In 2014, significant savings in the field of centralized procurement of energy-generating products were realized and Tender for Data Centre upgrading and reconstruction was also successfully realized.

ELECTRICITY TRADING

Energy Balance and Operation of EPS Production Capacities

Realization of Energy Balance (EB) in 2014 significantly deviated from the balance assumptions. It is the consequence of catastrophic floods that hit the Republic of Serbia in the middle of May and significantly reduced coal production and thus the generation of coal fired thermal power plants. Therefore, the amendment of balance was started in the middle of the year.

From the point of actual temperatures in Belgrade, 2014 was the third warmest year since the beginning of the measurement. The annual mean temperature was 13.9°C which is by 2.1°C higher than the 120-year average. All months were warmer except for May, which was slightly colder than the average, but the maximum deviation of temperature was in the first quarter (January and February were warmer by about 5°C, and March by about 4°C).

Electricity sale to end customers (full supply) was 32,462 GWh, which is by 2.1 percent i.e. by about 704 GWh less than balance. In the first and fourth quarter by about 430 GWh less was generated, which is the result of warmer weather in those two quarters.

From the point of actual inflows 2014 was very good from hydrological aspect, as a result of heavy rainfall. Generation of run-of –the-river hydro power plants amounted to 9,923 GWh, and it is by 1,808 GWh (22.3 percent) more than the balance. In the third and fourth quarter they have generated more than the balance by about 1,823 GWh, while the inflows into reservoirs were higher by about 200 GWh.

Coal-fired thermal power plants operated according to the available quantity of coal and generated 20,455 GWh, which is less than the balance by 1,916 GWh, i.e. 8.4 percent. Taking into account the reduced coal production due to floods, amended balance envisaged coal import in the fourth quarter amounting to 1.3 million tons.

HYDRO POWER PLANTS

Run-of-the-river HPPs generated **9,923** GWh, which is by **1,808** GWh (**22.3** percent) more than balance

In the third and fourth quarter they generated more than balance by about **1,823** GWh, while the inflows in reservoirs were higher by about **200** GWh

Due to delay of contracted delivery only 364 tons of coal was purchased, and the reduced generation of coal-fired thermal power plants was compensated with significantly higher generation of hydro power plants in the third and fourth quarter and lower electricity sale to end customers (full supply) in the fourth quarter. All this gave more positive financial effects than the planned.

Combined heat and power plants were engaged only when there was the need for supply of heating energy and they generated 63 GWh, i.e. by about 58 GWh less than balance.

Total of 2,611 GWh was purchased, out of which 2,300.5 GWh on the free market which is by about 598 GWh less than balance.

985.3 GWh was sold on the free market, out of which 605.2 GWh was sold in the first quarter that was significantly warmer than the average.

Electricity Trading

Electricity trading is performed in Electricity Trading Department for the purpose of harmonization and optimization of unified electric energy portfolio of BRP PE EPS (Balance Responsible Party PE EPS). The goal is to achieve maximum profit from available primary energy and sale of system services to transmission system operator.

Tariff customers in the Republic of Serbia were supplied with electricity in 2014 based on the annual contracts that PE EPS has with subsidiary EPS Supply.

In 2014, 9,938.1 GWh was sold to end customers who lost right to public supply, at market conditions. Also, 6,086.6 GWh was sold to subsidiaries within PE EPS for own consumption and transmission losses, and 873.3 GWh was sold to Public Enterprise Elektromreža Srbije for losses coverage in transmission system and own consumption at market conditions.

Electricity trading is performed on wholesale electricity market within electric energy system of the Republic of Serbia and at the borders of electric energy system of the Republic of Serbia.

Trading was performed with 31 companies, out of which 28 are licensed for electricity trading on the internal electricity market of the Republic of Serbia. Trading was also performed with three foreign companies.

Total of 985.3 GWh was sold on free wholesale electricity market, and 2,300.5 GWh was purchased.

Cooperation with Elektroprivreda Republike Srpske in the field of electricity purchase and sale was performed in accordance with the agreement on long-term business and technical cooperation. 48.6 GWh was purchased from this company and 49.4 GWh was sold.

In 2014, electricity trading was characterized by good partnership relations with all participants on the electricity market. All obligations were realized in accordance with the agreements without delay; either related the deliveries/acceptance of electricity or the collection/payment of receivables.

TRADING

985.3 GWh was sold on free wholesale electricity market, and **2,300.5** GWh was purchased

OPEN CAST MINES

Coal production and overburden removal on open cast mines of Electric Power Industry of Serbia in 2014 was certainly marked by a catastrophic flood that occurred on May 14th, and for several days almost completely flooded open cast mines Veliki Crljeni and Tamnava-West Field, and partly Field D and Field B in the Subsidiary MB Kolubara. After the flood, completely was stopped overburden removal and coal production at all open cast mines.

Works on the repair of occurred damage has started immediately, so that 20th - 23th May overburden removal was continued on the open cast mines Field B and Field and D, and on the OPC Tamnava - West Field on July 5th, when the 1st ECS system went in operation (2nd ECS system has not yet started to work because of flooded excavators). Production of coal in the mine of Field D was continued on one excavation line on May 26th (ECS system), and on June 4th on the second excavation line (ECL system). On the part of the Field B mine that was not flooded, coal production resumed on 22nd of May. On the mine Veliki Crljeni after water pumping and completed repair of excavator, began coal production on 6th of August. Transportation of coal from the opencast mine to the crushing plant is carried out via a new line of belt conveyors since the old line is under water. On OCM Tamnava-West Field coal production was partially established again on 25th of December with a new excavator G5 (SchRs 740), and planned daily production to 10,000 tons. Excavation is done in the eastern part of the open cast mine, which is released from water by pumping.

Natural disasters influenced the Subsidiary TPPs-OCMs Kostolac on 14th of May, and then in the night between 22nd and 23rd July, as well as in the night between 30th and 31st July. Torrent flood covered by mud equipment at the lowest elevation of the open cast mine: excavator SRS-470+BW- BRS, belt conveyors in the length of approx. 900 meters and excavator Sch RS 800 as well as three drive stations. By the end of 2014 with great efforts excavator Sch RS 800 and two drive station were released from the mud.

For all these reasons, it was performed revision of a plan for coal production and overburden removal in the Electric Power Industry of Serbia. The revised plan for coal production was reduced in MB Kolubara by 5.8 million tons, or 19 percent; and overburden removal plan was reduced for 10.9 million cubic meters, or 16 percent. The revised coal production plan in the Subsidiary TPPs-OCMs Kostolac was increased by 200,000 tons.

Despite revisions, achievement of coal production and overburden removal in both mining basins is under the planned. The ratio of excavation weights for coal and overburden amounted to 2.02 m^3/t in MB Kolubara, and 5.87 m^3/t in TPPs-OCMs Kostolac.

All this resulted in a reduction of uncovered coal reserves, but with great persistence and commitment of expert teams problems were successfully overcome and provided sufficient and safe quantities of coal for normal and smooth operation of power plants during 2014, as well as in the next period. It should be noted that a number of open cast mines ended its operating life, and the same is expected on some currently active mines. It is necessary to open as soon as it is possible a new replacement open cast mines, which will allow the smooth operation of the thermal sector.

During 2014, at open cast mines in the territory of the Republic of Serbia, which production is managed by the EPS (Kolubara and Kostolac basins), was produced 29.2 million tons of coal, from which in thermal power plants of EPS was generated 64 percent of the electricity.

Coal produced in the Subsidiary MB Kolubara enabled production of 51 percent of electricity in the EPS, and coal from mines of Subsidiary TPPs-OCMs Kostolac 13 percent of this production.

In 2014, out of the total produced coal in mine where EPS is managing the production, in the Kolubara basin was produced 80.50 percent (23.5 million tons), and in Kostolac basins 19.50 percent (5.7 million tons).

In the Subsidiary MB Kolubara mining of coal was carried out on four open cast mines: Field B, Field D, Veliki Crljeni and Tamnava-West Field. They were supplied by coal TPP Kolubara, TPP Nikola Tesla A and B and TPP Morava. In the Subsidiary TPPs-OCMs Kostolac mining took place in the open cast mine Drmno, from which by coal were supplied TPPs Kostolac A and Kostolac B, and partly TPP Morava.

In addition to problems due to the floods which occurred on open cast mines, mining in the Kolubara basin takes place in areas that are relatively densely populated, with arable land, road communication and water courses. All this significantly affects the speed and cost of the mining process. There are in Kostolac basin agricultural areas and archaeological site Viminacium.

The average heat of supplied coal for power plants operation in 2014 was 7,804 kJ/kg in the MB Kolubara, and 8,499 kJ/kg in the TPP-OCM Kostolac. It is planned to introduce a modern system for coal quality management by which coal quality is to be unified for power plants operation. This one is of the most significant projects in the PE Electric Power Industry of Serbia, and its implementation is in progress. It will make possible to supply power plants with suitable quality of coal, with simultaneous mining of coal from parts of deposit which would remain unexcavated without the application of these new technologies.

Due to flooding occurred on open cast mines in May and July 2014 will be required greater investment in the mining sector. It is necessary to repair flooded mining equipment and invest in its modernization and by new investments in coal production to provide replacement capacity for open cast mines whose service life is at an end, and also to increase coal production in the coming years.

Repair of Capacities for Overburden Removal and Coal Production

Tasks on repairs in MB Kolubara, was performed by Kolubara Metal (excavators, mobile belt conveyors, spreaders) and employed on the mines (belt conveyors), on these parts of the system where due to natural disaster - floods there were no flooding of mining equipment. The scope and quality of the repair operations was significantly affected by the reduced number of employees and insufficient capacities of service equipment due to engagement in the field of dismantling, defects inspection, transportation and workmanship of parts and equipment for the operation of various types of pump units required for pumping of huge water amounts from mines. All this was accompanied by a slower tempo of public procurement implementation and delivery of parts and materials required for all planned and unplanned works realization during 2014.

Opencast mine Drmno in the TPPs-OCMs Kostolac regarding quality and deadlines of performed repairs were influenced by similar issues, caused by large inflow of groundwater and surface water on the slope of coal seam and internal dump site, too. There occurred flooding of a piece of equipment for coal mining, which made difficult later repairs and current operations.

Typical issues for all mines during 2014 were: implementation of public procurement for some parts of equipment, which extended deadlines of repairs, and in some cases planned parts were not replaced; mini stocks were reduced or emptied regarding some parts/assemblies in the warehouses. Incompletion of tasks related to drainage of mines (especially Tamnava - Scheduled start for some repairs in MB Kolubara) were postponed for 2015, and therefore in one moment during a year it will happen large concentration of tasks.

Mitigation of Floods Consequences

MB Kolubara - from 14th to 16th May 2014, catastrophic floods affected the part of the Republic of Serbia territory, and among others, Kolubara lignite basin. In the Kolubara basin there were leakage of water from the existing Kolubara, Peštan and Vraničina riverbeds and opencast mines Tamnava-West Field and Veliki Crljeni were flooded. Water flooding in Tamnava - West Field happened due to break of Kladnica dam on the watercourse with the same name. It is estimated that in the mine Tamnava - West Field was entered around 190 million cubic meters of water, and in Veliki Crljeni more than 25 million. Along with the water in mines was entered a large amount of mud, too, being formed as a result of erosion and the destructive effects of flood waves. Leakage of water happened upstream from the southern border of the OCM Tamnava - West Field, as a result of the embankments demolition on the river Kolubara and its tributaries Vraničina and Peštan.

OCM Veliki Crljeni was defined as a priority mine from which must be dislocated water as soon as it is possible, and established conditions for the necessary repair of excavators and conveyor equipment for starting of coal excavation for the needs of TENT.

Operational activities in the MB Kolubara began on 20th of May, with its own machinery, equipment and personnel, and later inclusion of certain utilities and industrial organizations from Serbia in the field of providing pump units and pipes.

Characteristics of created reservoirs on the mine Veliki Crljeni are:

- Elevation of water surface after floods 86.2 meters above sea level;
- Total water surface area 2,222,000 of square meters;
- Volume of water in the mine 27,000,000 of cubic meters.

In order to continue with repair activities on the excavator G-2 it was necessary to pump out 10 million m^3 of water, the remaining 14 million would be pumped during the planned repair of the excavator, and in order to pump water within a period of 30 days it was been necessary to engage pumping units with a total capacity of 10 m^3/s. Pumping started from water surface level at 86.2 MSL. It was started with centrifugal pumps being available by MB Kolubara, with a total capacity of 1.2 m^3/s. At the request of this subsidiary for the support in securing pump aggregates EA Vodovod i kanalizacija from Novi Sad answered, offering three pumps with capacity of 3x500 l/s, being commissioned on July 9th. From 23rd of July MB Kolubara received support by Vode Vojvodine with four diesel pumps and supporting equipment, with capacity of 4x500 l/s. Pumps had halved their capacities due to the low height pressure and it operates in ordinal system with a total capacity of about 400 l/s.

MB Kolubara had removed from the mine Field D two pumps from TPPs-OCMs Kostolac and activated them on the mine Veliki Crljeni, with capacity of 2x180 l/s. From the RTB Bor was taken seven pump units with capacity of 7x500 l/s. Till July 8, started to work six pumps with total capacity of 3,000 l/s. Pontoons for pumps were provided by the Army of Serbia. Till July 3 the level of water surface was lowered below the alignment of excavator G-2 and activities on mud drainage and construction of the access road to the excavator started. After the repair, excavator G-2 was put into regular operation on 5th of August. From mid-May to early September from OCM Veliki Crljeni was pumped out 27,500,000 m^3 of water.

OCM Tamnava West-Field with the production of 14 million tons of coal annually was providing 25 percent of eletricity generation in Serbia.

Hence, the pumping of water from this opencast mine and functionality re-establishing is of special importance for the electric power system of Serbia.

Characteristics of created reservoirs on the mine Tamnava-West Field are:

- Volume of accumulated water 186.14 x106 m^3;
- Surface under water after flooding 7.4 x106 m^2;
- Elevation of water surface after floods 76.6 MSL;
- Elevation of mud surface 23 MSL.

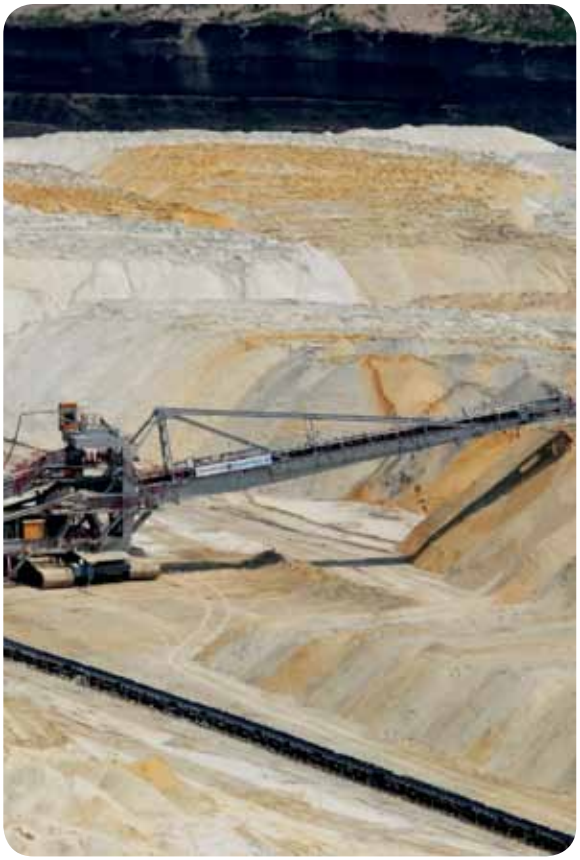
Since 24th of July to 16th September, MB Kolubara pumped out about 21.14 million cubic meters of water and lowered the water level in the reservoir from 76.6 to 73.9 meters above sea level.

In June 2014 competent Ministry established a professional operation team with the task to coordinate activities on pumping of water from the opencast mine. Team consisted of representatives by competent Ministry, the Ministry of Agriculture and Environment, Ministry of Interior (Sector for Emergency Situations), Ministry of health, Ministry of defence (war flotilla), the Republic Hydro meteorological Institute of Serbia, City of Belgrade, the Agency for Environmental Protection, the Institute for Water Resources Jaroslav Černi, company Srbijavode, Beogradvode, Faculty of Mechanical Engineering in Belgrade, MB Kolubara and Head Department of EPS.

Team worked on regular sampling, analysis and monitoring of water quality being pumped out, being all the time satisfying, and the integrity of the environment quality parameters was not affected. Analysis of the sediment samples (mud) showed that there were no exceedance of the limit values. There were no morphological changes in the riverbed of Kolubara downstream from pumping point. On Kolubara embankments, especially in the region where they were previously damaged, it was not observed violation of their stability. Water inflow from tributaries of Kolubara was followed and Kolubara, too, in order to have insight into the amount of water that can be pumped into Kolubara during high flow of water. In this period there were no restrictions on water pumping in Kolubara. It was followed stability of benches in the mine and area out of the mine, and it was provided a large number of supporting pontoons (99), boats and tugboats.

Although the activities on the pumping were slower than it was foreseen by time schedule in the contract, the World Bank, which has agreed to extend the deadline for water pumping considers this dynamics reasonable bearing in mind conditions in which pumping takes place.

Freed equipment from water was put into operation as soon as it was possible: excavator G-2 on the OCM Veliki Crljeni already achieved planned production, excavator 740, at the end of December 2014, began with the excavation of coal at the OCM Tamnava-West Field with higher capacity than it was announced.



TPPs-OCMs Kostolac

During two hours on the night between 22nd and 23rd July, torrential rains and severe floods inundated part of the production capacities of mine Drmno and lightning strikes have left mine without power supply.

According to rough estimates, at the lowest point of mine, at that time there were more than 200,000 m^3 of water. Flooded were SRs 470 14/2 + BRs 1400 (inv. No.5) at a depth of two to three meters and belt conveyors UZ/1, U-I and U-I-3, with length of 180, 300 and 400 meters, also at a depth of two to three meters. The sinking was prevented excavation and production of coal.

After enabling power supply, were included pumps, with capacity of 2x315 kW, for pumping of water, and on July 25th was commissioned pump of 450 kW. Its operation made possible to pump out from the mine approx. 16,000 m^3, which would require for permanent pumping a work of at least 12 days. In order to secure supply of units in Kostolac thermal power plant with coal, immediately started reconstruction of the coal system over the part of the head conveyor belts of the 1st ECS system. Coal system has started to work on August the 1st, with an average daily production of 15,000 to 20,000 t.

During the night between 30th and 31st of July, more intense rainfall and new inflow of water occurred, and water level on coal benches was again increased. A torrent of water down benches was moving along with part of sand. In the western part of the mine water level was increased by about five meters, the total amount of water and mud amounted to more than 1,300,000 m^3, and from that, water was at approx. 220.000 m^3 with a depth more than 5.5 meters. It is assembled additional equipment to pump water from the opencast mine, so that daily capacity was 52,000 m^3, and given that the flow of ground water on a daily basis was 12,000 m^3, evacuation of water from the opencast mine was about 40,000 m^3 per day.

During two weeks of intensive pumping expected issue with sand which was in the water (mud) occurred, making it was necessary to include a majority of pump units.

Taking of mining equipment out from mud began in early September by construction of stone barriers - embankments around the equipment. It was taken out repaired excavator SchRs 800 and drive station UZ/1, being involved in the operation in early November, and drive station U-I-3 is involved in operation in January 2015.

After November 2014, were not conducted activities on equipment taking out due to the lack of stone aggregates and machinery. It is expected that the remaining equipment is to be taken out by mid of April 2015.

POWER PLANTS

In 2014, power plants of the Electric Power Industry of Serbia (without mini power plants) have generated 31,962.3 GWh of electricity. Thus, realized tasks identified by updated Electric Power Portfolio are fulfilled with 100.4 percent. However, that generation is 14.6 percent lower than the record generation in 2013. That is, as well, the lowest generation in the past 10 years.

Coal-tired thermal power plants have not met the annual generating schedule. With 20,454.7 GWh, they have realized the minimal generation in the past ten years. Hydro power plants (HPP) generated 11,445 GWh, which is the third maximum generation since 2001. That generation is higher than scheduled in the last year. HPP have participated in the total generation with 35.8 percent.

The greatest impact on the lower generation has the lower engagement of TENT units due to shortage of coal quantities from the flooded Kolubara opencast mines, as well as lower generation in TPPs-OCMs Kostolac units due to scheduled downtimes on Unit 1 revitalisation in TPP Kostolac B.

However, after the floods in May and the consequences they caused, primary in the activity of coal generation, Electric Power Portfolio rebalancing was carried out for actual conditions of electricity generation and company business.

Total sales in Serbia comprise supply of the economy, public services and the citizens, as well as the execution of obligations PE EPS, according to the annual contracts. In the year which was warmer for 2.2°C than multi-year average, total demands were lower for 4.5 percent than demands from the previous year, and amounted 32,462 GWh, and they were the lowest in the previous nine years. Generation was lower than the total sales for 1.6 percent, which represents the highest annual cumulative deficit in the past 24 years. Maximum monthly surplus of 344 GWh is realized in March and maximum deficit of 447 GWh is realized in December.

In the period July – December, both generation and consumption were the lowest since 2003, and thus, the cumulative deficit was the highest and amounted 1,370 GWh. For the first time in the past 14 years, deficit was realized in May.

During the whole period, with provided imports of electricity, the generation process was carried out without any significant problems for EES operation, therefore the customer supply, from the aspect of generation, was not jeopardized in any day of 2014.

Considering the period from 1990, the generation of run-off-river power plants was the highest in the second semester of the year and amounted 5,034 GWh.

MONTHLY GENERATION AND DEMANDS

3,376 GWh - maximum monthly generation (January)

2,057 GWh - minimum monthly generation (June)

3,381 GWh - the highest monthly demands (December)

2,216 GWh - the lowest monthly demands (June)

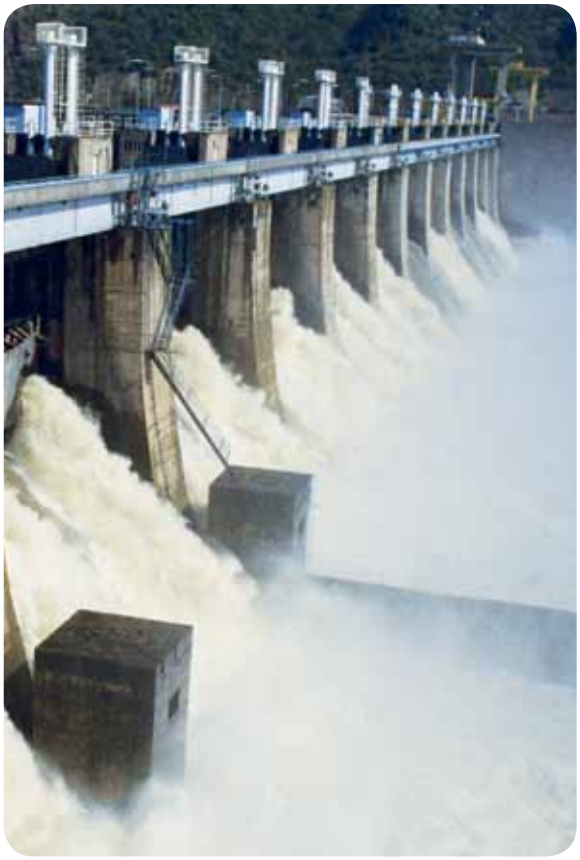
DAILY GENERATION AND CONSUMPTION

129.7 GWh - maximum daily generation (26th February)

54.4 GWh - minimum daily generation (22nd June)

126.3 GWh - maximum daily consumption (31st December)

68.4 GWh - minimum daily consumption (17th August)



Regarding the period from 2000, the most significant characteristics of power plants operation are:

- Units in the subsidiaries TENT and TTPs-OCMs Kostolac realized in the first quarter maximum generation and in the third quarter minimum generation;
- Generation was higher than total demands and needs, almost every day up to 15th May;
- The maximum unused operational readiness of thermal units, due to lack of coal, during the period July – December was 12.5 percent of calendar time;
- For the first time in one month (May), hydro power plants produced more than thermal power plants;
- The lowest monthly generation in TPP was realized in June (1,051 GWh);
- The lowest monthly generation of TENT A, and by that of all units at TENT was realized in May;
- The lowest daily generation of 17.87 GWh TPP realized on 21th June;
- In the summer period (April – September), for the first and only time surpluses weren't achieved, and cumulative deficit in this period was 419 GWh.

Characteristics of the period 15th – 31st May 2014.

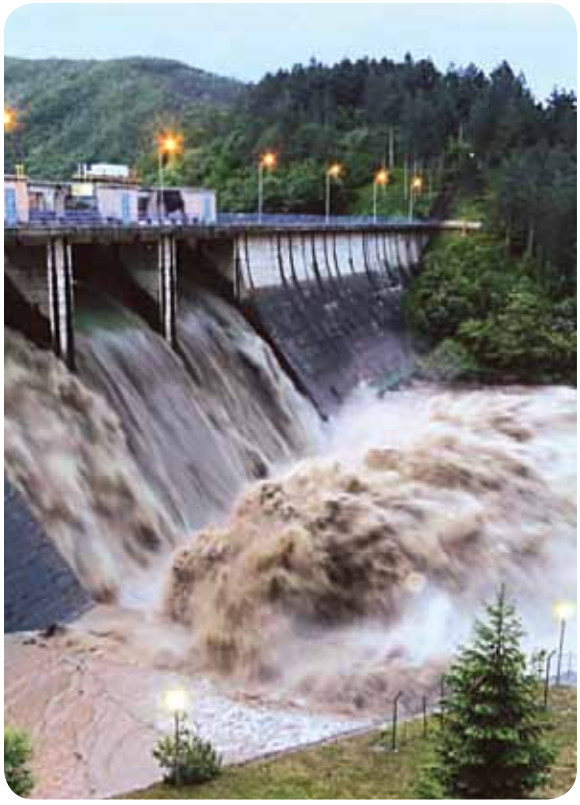
By the first half of May the engaged generation units have been working with high reliability, and were ready for announced cold wave.

Total generation of TPP and HPP was approximately equal (about 655 GWh), and in the second half of the month, from the 16th May, HHPs generated 598 GWh, which is nearly 100 GWh more than TPPs which produced 492 GWh. The first problems appeared with loading and transport of the coal. The generation of coal and overburden has been stopped on 14th May, as a consequence of floods caused by heavy rainfall and spillage of river watercourses. Due to spillage of the Turija River and water penetration into auxiliary equipment room, unit A3 at TPP Kolubara A was stopped on 15th May.

Due to interruptions in coal supply from MB Kolubara and limited capacity of the coal digging machinery for the supply of TENT A, which was insufficient for 3 units supply, it has been decided to stop unit 2, in addition to fact that the overhaul of this unit was planned for 18th May. The unit was stopped on 15th May, and tree other units continued to operate with 59 percent lower power. Heavy rainfall influenced on coal quality at stockyard, so it was necessary to use approx. up to 800 tons of fuel oil per day. Units A4 and A6 has already been in overhaul.

Unit B1 in TENT B has been in overhaul and unit 2 continued to work with 80 percent of the installed net power, with minimum use of fuel oil. 16th May, in the morning, due to heavy rain and daily precipitations which exceeded monthly quantities, traffic to Obrenovac is interrupted. In that emergency situation, all overhaul activities were stopped. During more than five days, all efforts of engaged employees were focused on maintaining the existing scope of generation.

On 16th May, in TPP Kolubara A fault occurred on transformer T5 110/6 kV, whereby the fire broke out, and there was spillage of transformer oil as well. The fire was transferred to the energized transformer T4, which was energized as well. According to the orders of dispatchers from PE EMS, the operational staff of the power plant was engaged in normalization of the situation. Later, it was ascertained that the transformer T6, cables and complete control equipment of the units 1 – 4 were damaged. In the evening of that day, all three units in TENT A were stopped, and the unit TENT A3 was the last disconnected, because substation 400/220 kV was flooded.



Unit A1 was the first unit in TENT A synchronized on 24th May. It was the most important step in normalization of electricity generation in TENT A, as well as in EPS, because the preconditions for easier start of operation of other units were created. After several days of traffic interruption on railroad track Vreoci – Obrenovac, the first trains with lignite from MB Kolubara started on 23rd May. More than 4,500 tons of coals were delivered in four railway compositions to TENT B, and those were the first quantities of coal arrived on TENT TPP's stockyards after seven days.

Overhaul of unit B1 in TENT B is completed on 23rd May, but due to coal shortage, it hasn't been synchronized up to 27th May, when unit B2 was put in overhaul. Unit in TPP Morava was continuously in operation during this critical period. The level of the Morava River was 736 cm, while power plant can withstand maximum up to 740 cm.

On 17th May, from the upper parts of the Mlava River, the flood surge spilled via right side of embankment. Water broke through the two newly built provisional embankments, after which a release from the flood "lake" using pumps that pump the water back into the Mlava River was controlled. From 19th May, PE EPS and the Government of Serbia, with the help from Czech Republic, France and Germany, organized mounting and setting of the pumps. Made walls have saved the lowest elevations of 400 kV and 110 kV switchgear around TPP Kostolac B.

Units of TPP Kostolac A has been working without unplanned slowdown, with 95 percent of the net installed power until 19th May, since when they were operated on technical minimum, because the coal transport from opencast mine Drmno was interrupted. Coal from stockyard was used for units operation. On 22nd May, unit A1 stagnated for 27 hours due to pipe bursting on the capacitor. During the same day, the short stoppage occurred on the unit TENT B2, so that during one period of time only three units of TPP Morava as well as units A2 and B2 of Kostolac has been working. During this critical period, unit 2 at TPP Kostolac A has been working all the time without failure, while on 27th May unit 2 in TPP Kostolac B had unplanned downtime of 1.6 hours. Otherwise, unit has been working steadily, with net power of up to 295 MW. After unit A1 in TENT 1, on 28th May unit A3 was connected, and the following day the unit A5 was connected as well. In the most critical period for EPS from 17th to 24th May, four units with installed power of 1,290 MW were in operation, whereby unit in TENT B has been working with limited power due

to shortage of coal. During that period, units with installed power of 1,530 MW were overhaul, and units with installed power of 1,197 MW were not in operation due to floods. During that week, two stoppages occurred: unit 1 in TPP Kostolac A due to capacitor pipe sanation (27 hours) and unit 2 in TENT B due to outage of regulation oil pumps (1.9 hours).

Main characteristics of this period:

- From 15th to 17th May units in HPP Elektromorava have been unavailable due to high inflow of the Morava River and equal level of upper and lower water;
- In certain periods of time (15th and 16th May), overflows of the Drina River between power plants Bajina Bašta and Zvornik have been higher than the Drina River, which was the first time to occur;
- Regarding HPP Zvornik from 18th May the sloughing of the hill on the right bank of the Drina River began, 1.5 km downstream from the dam. The Republic Headquarter for emergency situations coordinated all activities on rehabilitation of the landslides;
- The level of upper water of 63.00 MSL achieved on 17th May on HPP Đerdap 1 was maintained by lifting of various number of crest shutters on various heights, all according to inflows up to 27th May when filling of the lake has begun. About 150 pumps in 55 pumping stations were operating in full capacity, maintaining the water level in channels on slightly higher levels due to big inflows, and with a tendency of decline in water level in channels without major damage in river coast area.

Characteristics of the period July – August:

During 10 days period, i.e. from 23rd July to 2nd August, more than 230 liters of rain per square meter fell and jeopardized in the subsidiary TPPs-OCMs Kostolac the most important electrical equipment and especially opencast mine Drmno where the western part of the coal system was under water from 23rd July. The new storm that began on 30th July not only endangered the flooded area of the open cast mine, but the flood torrents were carrying parts of the mine floors endangering miner's mechanization on all parts of the opencast mine, as well as on the storage area. Especially hard situation was on the lowest points of the OCM and the coal system, as well as on the storage area. The mechanization was almost useless and the use of the roads at the opsencast mine was not possible because they were cut off by a torrent and made into canyons. The em-

ployees have managed to make an alternative route for delivery of coil by bridging of mullock systems. Interruption of coil delivery for a period of five days, with provided occupancy of the storage area, did not caused the stoppage of the units. Water has endangered the work of unit 2 in TPP Kostolac A that was stopped in the morning on 31th July after water ingress into the oil station and was synchronized again in 1st August. At the same time great efforts were put to keep the unit 2 in TPP Kostolac B on the network, because its operation was unstable due to wet coal. The power went down to 100 MW, and more than 285 tons of crude oil were spent in one day to keep the unit in operation.

Characteristics of the September period:

An unprecedented weather disaster hit on 15th September the municipalities of Kladovo and Negotin and made damage to hydro power plants Đerdap. Daily precipitation was more than 150 l/m^2. The employees were engaged on cleaning of units grids, because great amount of branches and waste was coming at high speed along the Danube River. The local roads were interrupted, and numerous landslides were activated as well. The cause of the floods was not the high level and watercourse of Danube River, but torrent courses between the power plants. The pump station near Grabovica was flooded, and the accumulation was formed which flooded the populated area. The measures for water pumping (3 million of cubic meters), with engagement of great number of pumps were undertaken immediately. From 16th to 20th October the water level in the flooded area was cut down for more than 330 cm, pumping station Grabovica was on dry land, and the water was brought back to the supply channel. The great problems occurred on HPP Đerdap 2. The units A9 and A10, which are placed in the additional power plant, were out of order due to ingress of the water and sludge from the surrounding hills. From 19th September all units in this HPP were in operation with maximal power, except unit A1 (overhaul) and A5 (emergency overhaul).

Power Plants Maintenance

Flood wave as of May 15th strongly affected maintenance program as well. Scope of regular maintenance works was reduced in order to recover consequences of the floods. For certain hydro units and thermal units the start of overhaul was postponed, and for some it was reduced. Rehabilitation works for unit B1 in TPP Kostolac B were executed uninterruptedly.

THERMAL POWER PLANTS GENERATION

Thermal power plants at lignite (units of subsidiaries TENT and TPPs-OCMs Kostolac) have generated 20,454 GWh, having achieved 91.4 percent of rebalanced plan. In total generation, they were involved with 64.2 percent. Rebalanced generation plan which included achievements during six-month period hasn't been achieved in any month. But, generation in TPPs up to floods has been higher than the record generation in 2013.

Only units TENT A3 and TENT B2 generated more than planned in 2014, and none TPP hasn't produced more than achievement in 2013 and hasn't fulfilled the plan.

The maximum generation of 7,396 GWh was achieved in first quarter, and that is the highest quarter contribution of TPPs in annual generation of TPPs (36.2 percent). In the second quarter, generation was 4,193 GWh, and it was one of the lowest quarterly generations. Units of EPS's TPPs have achieved minimum generation in third quarter, which is absolute quarter minimum (3,817 GWh). One of the lowest generations was achieved in fourth quarter as well (5,050 GWh). Speaking from 2005, generation of TPPs in 2014 was the lowest.

TENT generated 16,322 GWh and it was the minimum value since 2002.

Four units of TPPs Kostolac generated 4,132 GWh, which is the lowest value from 2004.

Monthly generation of TPP

1,050.8 GWh - minimum monthly generation (June), which represents absolute minimum in monthly generation since 2001.

2,567.6 GWh - maximum monthly generation (January)

Daily generation of TPP

17.871 GWh - minimum daily generation (21th June), what represents absolute minimum since 2001.

91.614 GWh - maximum daily generation (26th February)

RAILROAD TRANSPORT

For the needs of the subsidiary TENT railroad transport have transported 22.8 million tons of coal, which is 95.8 percent of rebalance. Coal consumption for achieved generation in TENT units was 23.2 million which exceeded coal supply by 1.9 percent. Interruption of coal supply in TENT B lasted from 15th to 22nd May, and in TENT A up to 26th May. When the damaged parts of railway have been repaired, coal supply depended on possibilities of coal excavation with available equipment at opencast mines in Kolubara.

MONTHLY SUPPLY

2.9 million tons – maximum (January)

0.99 million tons – minimum (May)

The highest daily coal consumption is achieved on 7th April and was amounted to 108.7 thousands of tons, and maximum daily transportation was achieved on 8th February and was amounted on 111.4 thousands of tons of coal.

In 2014, coal consumption has amounted to 28.8 million tons of coal, which is 10 percent lower than planned, and for about 24 percent less than the one achieved in the 2013.

Crude oil consumption in 2014 has been 4.8 percent higher than 2013, and specific crude oil consumption per generated GWh has been 37.3 percent higher. In the structure of consumption, the most of crude oil is used for start (51 percent), then due to poor quality of coal (37 percent), and on other basis 21 percent. (There was no crude oil consumption on this basis in 2013). In May, coal consumption was highly increased due to reduced coal transportation and for generation maintenance.

TPPs - CHPs

Thermal power plants – Central heating plants were minimally engaged, and with generated 63.1 GWh, they have participated with 0.2 percent in the EPS generation. It was the lowest generation in TTPs – CHPs since 1995.

Panonske TTPs – CHPs were engaged in January, February and December, according to needs of power system of EPS.

HYDRO POWER PLANTS

Hydro power plants generated 11,455 GWh of electricity, which is 22.6 percent over the rebalance and 6.7 percent more than achieved in 2013. It was the third highest maximum generation in the past 14 years. HPPs surpassed rebalance of generation in the third and fourth quarter of 2014. All HPPs fulfilled generation plan.

In average, HPPs fulfilled maximum generation in second quarter (around 29 percent of annual generation), then in the first quarter (around 28 percent) and the fourth quarter (24 percent). Minimum generation was in third quarter (19 percent). When TPPs fulfilled maximum generation in one quarter – in the first quarter, HPPs generated minimum of 2,458.6 GWh.

Cumulatively observed, in the first and second quarter HPPs generated 50 percent of annual generation, instead of average of 56,6 percent. During third quarter, HPPs realized the second maximum generation of 2,564 GWh (previous was in 2005). For the last 25 years, this is the second time that HPPs generation in the third quarter is higher than generation in the first quarter. In the fourth quarter, HPPs operating with a high operational readiness, without technical limits, had taken advantage of extremely favorable water potential and realized the third highest generation of 3,200 GWh (since 1990).

In the fourth quarter, HPPs generation was higher for 645 GWh than multiannual average, which is equal to 300 MW unit operations during three months without any downtime with installed power, and thus, with reduced coal consumption for million tons. Flow power plants have been participated in total generation with 31 percent, because they generated 9,922.4 GWh, what represents 122.3 percent of rebalance. Maximum generation (since 2001) achieved HPP Đerdap 2 with 1,613 GWh. On monthly basis, in May, the Flow hydro power plants and Reservoir hy-

Monthly generation of HPPs

1,247.6 GWh – maximum monthly generation (May), for the first time is surpassed generation of TPPs

735 GWh – minimum monthly generation (July)

952 GWh – the highest generation in September, since 1996

dro power plants have been engaged the most with 1,007 GWh and 240 GWh, respectively. HPP processed all available water potential, without technical limitations in equipment operation.

In first quarter, inflows were lower than average and still lower for the same period in previous year on the Danube (for 58 percent) and on the Drina River for more than 40 percent. The highest inflows were in May, so, during that period, under highest hour engagement was the highest power loss, not only because of lake pre-draining, but also due to frequent unit downtime for big silts cleaning. Inflows in the fourth quarter (the Danube 6,154 m^3/sec, the Drina River 368 m^3/sec) were higher than average ones and even higher for 50 percent on the Danube and for 55 percent on the Drina River than inflows achieved in the same period in 2013. Annual inflow in the Danube was 6,017 m^3/sec, or for 10.9 percent higher than average one, and in the Drina River 328 m^3/sec. In recent years, it is obvious that the ratio of maximum and minimum inflows during a year is higher on the Danube and especially on the Drina River (ratio 52:1,406 m^3/sec), which is not favorable for desired generation volume realization.

Despite all difficulties EPS met in 2014, in third and fourth quarter, i.e. in the period of lower engagement TPPs, HPPs achieved above-average generation, due to favorable hydrological conditions.

In September, HPP Đerdap 1 achieved the highest monthly generation of 555 GWh (which was greater than in May), and HPP Đerdap 2 achieved maximum annual generation of 1,613 GWh, since 1990. Reservoir HPPs generated 1,523 GWh, which represents 124.4 percent of rebalance and it is 22 percent higher than achievement from previous year.

TECHNICAL EFFICIENCY OF THE EPS GENERATION CAPACITIES

Technical efficiency of electricity generating capacities is analyzed based on daily monitoring of the generating capacities operating conditions and periodic estimation of the most important (10) indicators of its operating, in accordance with ANSI/IEEE Std 762. Indicator values for the power plants are calculated according to achieved parameters of individual generating units, with consideration of their power.

THERMAL POWER PLANTS

Regarding the length of (not) operating conditions, they have been operating ready during 67.7 percent of time.

During operation on the grid, has been realized 90.1 percent of possible generation during operation in nominal power; 5.4 percent was not achieved due to inability to achieve nominal power and partial faults (Pne), and 4.5 percent because of decreased power due to the requirements of the system, i.e. suppression.

The length of (not) operating conditions

67.7 percent – operating ready

64.6 percent – on the grid

20.2 percent – scheduled downtimes

12.1 percent – unplanned downtimes

3.1 percent – in cold reserve

Engagement coefficient (Ke) was amounted to 64.6 percent and was 18.6 percent lower than previous year which was the highest in the last 22 years. Weighted blocks of the EPS thermal power plants, at which maintenance and operation we have influence, have spent 5,659 hours on the grid. Operating time of units on the grid of both subsidiaries in the thermo sector is decreased, because duration of both scheduled and unplanned downtimes is increased. The highest engagement, more than 80 percent, only had two units: TENT B1 and unit A2 of TPP Kostolac. Apart from minor improvements realized by units A2 and A1 in TPP Kolubara, all units had decreased engagement, regarding 2013. Due to revitalization, the longest scheduled downtimes had units B1 in TPP Kostolac (83.5 percent of time) and TENT A3 (50.4 percent).

In 2014, units in TPP Kolubara have been less engaged. Flooded power plant switchgear mostly influenced on units downtimes.

Due to coal lack after flooded mines at Kolubara, units in TENT A had the highest decrease of engagement time. Due to coal lack, weighted unit TENT A was 7.1 percent of calendar time operating ready, but units couldn't be engaged. The scope of unavailability on this basis has never been recorded in history of EPS. Decreased engagement of weighted unit TENT B was 9.6 percent of calendar time.

Decrease in TENT A wasn't linear in all units. The lowest was in units A1 and A2. The highest time of engagement inability was on unit A5 (16.4 percent of calendar time). In total, on the level of weighted unit EPS thermal power plants of 4,017 MW, all generation units in TPPs weren't operating 8.3 percent of calendar time (i.e. one month of 720 hours), what represents 2,916 GWh in energy.

And besides lower engagement, up to floods, the following units were in operation without break: A3 in TPP Kolubara and A1 in TPP Kostolac (more than five months) and TENT A2 (4.5 months). Units TENT B2, TENT A5, TENT B1 and TENT A3 were in operation without break for more than 2,000 hours.

Coefficient of equivalent duration of operation (ETp) Units were in operation with nominal power for 5,092 hours, what is for 1,514 hours less, compared to 2013. Units' engagement was the lowest since 2002, and they operated with average power for 27 MW lower than in the previous year. Annual average realized power was 3,614.3 MW, what represent 90.1 percent of net power. In June the shortest monthly operation time of 302.3 hours is achieved. Minimum monthly time of full power operation in June was 260.6 hours, what represents absolute minimum. In January, February, March and April thermo units achieved the highest power.

Coefficient of generation (Kp) was amounted to 90.1 percent, what is for 0.5 percent less than in 2013. Realized power of units on the grid was 3,614.3 MW. In this year, none of the units realized the maximum power, and six units have operated with slightly higher power, compared to the previous year. Eleven units have operated with lower power. Decrease of average power of units TENT A and B is a consequence of operation on technical minimum, limited quantities of coal, participating in secondary regulations of 300 MW units and occasional problems with equipment.

In the subsidiary TTPs – OCMs Kostolac all units, except of unit 2 in TPP Kostolac A, operated with higher average power. In first quarter are achieved maximum average net power (3,763.1 MW) because system demands and the length of forced downtimes have been the lowest in this quarter. Achieved Kp is 5.3 percent higher than in the second and the third quarter, and 6.3 percent higher than in the fourth quarter, when the lowest Kp is realized. In the second half of the year, total power of hot reserve was 63 percent of annual suppression of EPS units (1,031 GWh), and units of TENT A were the most suppressed (a total of 66 percent of unproduced energy, i.e. 683 GWh). In all months, units of TENT A realized lower

average power than weighted unit TPPs EPS. Maximum monthly coefficient of generation was in January and was amounted to 94.3 percent, which represents the second largest value of Kp in this year (March - 93.8 percent). Units have been working with the lowest average powers in May, when they achieved Kp of 84.6 percent, and units of TENT A 77.6 percent. Two units achieved Kp higher than 95 percent, and 10 units achieved Kp lower than 90 percent.

The highest coefficients of generation achieved units TPP Kostolac A2 (95.2 percent) and TPP Kolubara A5 (95.6). Eleven units have decreased Kp in this year (the most TPP Kostolac A2 of 2.9 percent and TENT A1 of 2 percent). The highest increase achieved TPP Kostolac A1 of 2.8 percent and TENT A2 of 2.1 percent.

Generation with lower power of units is reflected on decrease of coefficient ETp, Ks and an increase of Kiparc. All factors that result in Kp reduction (except "hot reserve"), increase Kiparc, which includes all unavailability during engagement, except system restrictions. Realized coefficient Kiparc was amounted to 4.5 percent, and was for 0.1 percent lower than in previous year, and higher for 1.3 percent than in 2011, when was in minimum (3.2 percent). Measure of this coefficient in energy - in this period is "lost" 1,248 GWh under lower engagement of weighted unit of TPPs EPS, and that decrease amounts to 160 GWh compared to 2013. Due to limits in units operation, every hour 200 MW wasn't realized (compared to 193 MW in 2013).

Coefficient of capacity utilization (Ks) is the ratio of the total energy produced versus the product of the calendar time and the nominal net power. Coefficient is directly dependent on the operating time of units and generated power during the engagement. Since the average power of units operation is lower for 0.5 percent in this year, and engagement is decreased for 18.6 percent, capacity utilization is decreased for 17.2 percent compared to 2013 and was amounted to 58.1 percent. Period of time during which operating ready units couldn't be engaged, due to coal lacking and damages to the units during floods, was amounted, for the first time in EPS history, to 8.3 percent, and period of cold reserve was lower than average for 1 percent. The length of unplanned downtimes which amounted 3.8 percent of calendar time, was for 0.4 percent lower than multiannual average. As a result of all circumstances, operating time was lower for 13.8 percent. Utilization coefficient was the lowest since 2003 and this drastic decrease is consequence of lower engagement, where unplanned downtimes weren't the main reason of this reduction. All units realized lower production than in 2013, except of units 1 and 2 in TPP Kolubara. No thermal unit of EPS achieved maximum utilization coefficient since 1990.

Coefficient of cold reserve (Khr) – available units spent 3.1 percent of calendar time in cold reserve which is 0.9 percent less than in compared period. Kolubara units A1, A5 and A2 (more than 20 percent) and unit in TPP Morava (14.2 percent) had cold reserves most of the time.

Coefficient of operational readiness (Kps) was amounted 67.7 percent and is lower by 19.6 percent than the achieved in the relative period and minimal since 2001. All thermal units had decreased operational readiness compared to the relative period, except of TPP Kolubara A1. Apart of unit TPP Kostolac B1 which has been in overhaul since March, the highest decrease had units' which stopped due to floods in May. Maximum values were not achieved by any unit, and no unit had operational readiness higher than 90 percent. The best operational readiness in 2014 was achieved by units: TENT B1, TPP Kostolac A2, A1 and B2 (more than 80 percent).

Coefficient of scheduled downtime (Kpz)) in 2014 amounted 20.2 percent and was for 10.8 percent higher than in previous year, which was minimum (9.4). Preparation and procurement of necessary parts, ensured contracts with service providers are prerequisite for efficient and planned realization of

operations. Since the business plan was adopted in February, the requirements for overhauls start of in March were not met. The overhauls were realized when coal supply limited available units engagement. Overhaul period started on 28th February with scheduled stoppage of unit 1 in TPP Kostolac B. Overhauls were completed into planned frame, except for units TENT A4 and A6, unit in TPP Morava and unit 1 in TPP Kostolac B.

Coefficient of reliability (Kpu) With 94.4 percent of realization, this coefficient was 1.7 percent lower than realized in 2013, when it was the highest since 1990. All thermal units had the decrease of reliability, and the highest decrease had the units in TPP Kolubara: A2 of 54.7 percent, A5 of 48.3 percent, A3 of 43.6 percent, A1 of 32 percent. Then follows TENT A5 with decrease of 21.9 percent and TENT B2 with decrease of 20.1 percent. The most reliable was unit TPP Kostolac A1 that has two boilers (96.7 percent), as well as units TENT A1, TENT B1, Morava A1 and TPP Kostolac A2 (above 90 percent).

Equivalent coefficient of forced slowdowns (EKi) in 2014. was amounted to 10.1 percent, and was increased for 1.6 percent compared to 2013. Unplanned downtimes are increased for 1.7 percent, and partial outages are decreased for 0.1 percent. Otherwise, the partial outages were the most frequent in May (8.3 percent) and the rarest in March (2.8 percent).

Number and length of unplanned downtimes – failures on equipment have been removed during 334 hours (calculated by weighting data for thermo units with their powers), what represents 42 hours more than in the previous season, when they were minimal. In this year, the month with the minimum length of unplanned downtimes was February, when the weighted thermal unit of EPS was unavailable due to faults repair for 10.3 hours, and June, when it was unavailable 56.6 hours. Number of faults was amounted to 127, and for 30 faults is less than in 2013. Number of downtimes which lasted less than 24 hours was amounted to 58, and which lasted more than 24 hours was amounted to 69. In both cases, it was less than in 2013. The most downtimes less than 24 hours have been on unit TENT B1, and on TPP Kostolac B2 and A2. The most downtimes longer than 24 hours have been on unit 2 TPP Kostolac A, i.e. 14 downtimes, and it was 7 downtimes on B2.

Increased duration of unplanned downtimes in this period is realized under decreased engagement TPPs for 1,629 hours. Units hadn't operated for 165.8 hours due to floods, and for 560.2 hours due to coal lack (calculated by weighting data for thermo units with their powers). Faults on equipment have been repaired for 333.9 hours, which is for 42 hours more than in 2013. In the forced slowdowns structure of TPPs, the largest share had the boiler plant with 59 percent, turbines with 13 percent, generator with

12.6 percent and protection with 4.4 percent. In number of downtimes structure, the largest share had CSK with 41 downtimes, what represents 33 percent of total downtimes. It is followed by downtimes due to acting of different protections, and the least number of faults was on generators failures.

Characteristic downtimes longer than 100 hours were on the unit A3 of TENT A, which hasn't operated for 296 hours due to lack of hydrogen in generator, from 18th June up to 1th July, when the overhaul started. For the same reason, unit B2 in TPP Kostolac hasn't operated for 133 hours. Unit 2 in TPP Kostolac B had a downtime of 356 hours in April, due to accident in block transformer 2AT. TPP Kolubara A1 had two downtimes of 162 and 130 hours. Due to unreliable operation of oil regulation, TPP Kolubara A2 hasn't operated for 168 hours, as well in December for 2 times (175 and 114 hours). Unit in TPP Morava had three downtimes (of 268, 174 and 116 hours). In September, unit A6 in TENT A hasn't operated for 159 hours, and TENT A5 for 176 hours due to control valves replacement. One downtime longer than 100 hours had units: TPP Kolubara A5, TPP Kostolac A1 and TENT B1 i.e. 258, 127 and 104 hours, respectively. Total repair of weighted units due to CS boiler failure lasted 143.6 hours, and was 21.3 hours shorter than in 2013. TPP Kolubara A3 and TPP Kostolac A1 for 9 i.e. 5 years in a row hadn't downtime due to CS boiler, but they are operating with two boilers. Decrease of unplanned downtimes due to CS, including those who were less engaged, had 10 units.

Unit A5 in TPP Kolubara mostly contributed in decrease of unplanned duration (it had no downtime due to CS boiler).

Increased length of repair had three units and TPP Kostolac A2 the most. The highest number of failures (21) had the unit 2 in TPP Kostolac A. During 12 downtimes due to CS boiler recovery, it was unavailable for 544.7 hours (73.8 percent of total duration of unplanned downtimes), and due to other problems on boiler, it was unavailable during 19.9 percent. On this unit there were seven downtimes shorter than 24 hours.

The lowest coefficients of forced downtime in 2014. had units TPP Kostolac A1, TENT A1, TENT B1 (less than 7 percent). In regards to 2013, all units had an increase of coefficient of forced downtime, and the highest coefficient increase had unit 5 in TPP Kolubara A (more than 20 percent). None of the units achieved minimal value and the maximal Ki since 1994 was realized by TPP Kolubara A1 and A2 and TENT B2. Besides all four units in TPP Kolubara, the highest coefficients of outage had the following units: TENT A5, TENT B2, and TENT A3.

TPPs - CHPs

In 2014, TTPs –CHPs have been engaged only 2.7 percent of time, which is for 4.9 percent less than in 2013, and the least since 2000. Only unit 2 in TPP – CHP Novi Sad has been engaged with its average higher power and due to that the generation coefficient was 4.6 percent higher. The use of TPPs – CHPs units amounted to 2 percent, what is the least since 2000.

HYDRO POWER PLANTS

Parameters of technical efficiency of HPPs depend on technical condition of equipment, but, as well in high measure, they depend on inflows, not only low, but the extremely high as well, like in the second quarter, by the end of third and on the beginning of the fourth quarter 2014. In this year, indicators of operation concerning operation on the grid – level of engagement, average realized powers, use of capacities, generation coefficient and operational readiness were improved. Failure coefficient is worsening. In comparison to 2013, coefficients of scheduled downtimes, reliability, reserves and unavailability are reduced.

Operating time at full power (ETp) is increased for 241 hours in comparison to 2013. Cumulatively, units spent 169 hours more on the grid (Tp). Energy performance of run-off-river plants was for 7 days of operation higher than in 2013, with installed power of all run-off-rivers HPPs.

May 2014 was the month with the longest operating time with full power (28 hours less of operating time than in March 2013). Units operated the least in January 2014 (351 hours). Effect of operation of run-off-river HPPs with full power in May was 544 hours, even though units have spent 642 hours on the grid, which means that they have been operating without producing of electricity for 98 hours. On the other hand, the reserve time, or impossibility of generation in this year on the month level was less than in the previous year: in January, that time amounted to 213 hours, while in October 2013 it was amounted to 245 hours. Operating indicators related to duration of operation on the grid, engagement level of power readiness, generation coefficient and coefficient of capacities utilization are higher than realized in average during previous season. The reserve time and scheduled downtimes is decreased, period of unplanned downtimes is increased. Units has been operating with the highest average powers since 1995 what is result of operation of revitalized units, so the increased time engagement allowed higher generation.

Scheduled downtimes coefficient (Kpz) was amounted to 12.8 percent, which is 1.3 percent less than one achieved in 2013. Kpz realized in run-off-river HPPs was amounted to 15.4 percent and was for 1.5 percent less than in the comparative period. The length of scheduled downtimes in storage hydro power plants is one percent lower than the realized in comparative period. In 2014, in HPP Đerdap 1 and 2, in hydro power plants Pirot, Potpeć and Bistrica the length of scheduled downtimes was increased. On the others HPPs, the lengths are reduced. The longest overhaul operations in 2014 realized units A5 HPP Đerdap 1 (revitalization); unit A1 HPP Đerdap 2 (repair of the cracks on transitional radius of the turbine shaft) and unit A2 in HPP Pirot (preinsulation of generator rotor poles). Revitalization of HPP Đerdap 1 is still not completed, but the revitalization of HPP Bajina Bašta is completed. The length of scheduled downtimes in HPP Bajina Bašta is less than in periods before revitalization, thus one of the revitalization goals is met – the length of overhaul operations is decreased.

Coefficient of unplanned downtimes (Ki) Structure and number of unplanned downtimes are analyzed through the nine factors which caused units unavailability: turbine, generator, excitation, transformer, HMO, protection, grid influence, regulation, problems with software (as a part of regulation). The highest number of downtimes (26) occurred due to activation of electrical protections, as a consequence

of grid fault (20), and the least number due to faults on unit-transformers (5). Removal of downtime due to protection took 18 percent of time, removal of the fault on turbines 25 percent, and faults on unit-transformers 3 percent of time. Coefficient of unplanned downtimes in 2014 was amounted to 0.6 percent, what is for 0.3 percent more than in 2013. The maximum coefficient of unplanned downtimes (observed from 1995) had unit A4 in HPP Đerdap 1, which is still in warranty period and unit A5 in HPP Đerdap 2.

Coefficient of unplanned downtimes of run-off-rivers HPPs was increased for 0.2 percent compared to 2013 and was amounted to 0.4 percent. The greatest influence had HPP Đerdap 2 due to unit A5. Storage hydro power plants had the highest deterioration of this coefficient related to the compared period. The greatest influence on deterioration had HPP Bajina Bašta due to faults on the regulation mechanism on unit A2.

Engagement coefficient (Ke) was 53.5 percent and is higher by 2.5 than in 2013, and in accordance with favorable hydrological conditions and units' operational availability. Units of run-off-rivers HPPs and storage hydro power plants had possibilities to be engaged for the longer period of time, therefore storage hydro power plants realized significant increase. Maximum time engagement (since 1995) had unit A3 in HPP Đerdap 1 (8,367 hours of operation), and revitalized unit A6 in HPP Đerdap 1, with the engagement of 7,676 hours, has operated only three hours less than in 1996.

Reserve coefficient (Krez) was amounted to 29.8 percent, what is 0.6 percent less than in 2013. The greatest influence on decrease had two HPPs Đerdap. Reserve coefficient of storage power plants was lower for 0.7 percent, and of run–off rivers HPPs for 0.6 percent. Due to water shortage in 2014, units hadn't work requirements for 52 days, while in 2013 units hadn't been engaged for 53 days.

Coefficient of operational readiness (Kps) depends on the engagement time and the time operationally ready units were in reserve. In 2014, this coefficient was amounted to 83.2 percent and was for 1.8 percent higher than in 2013. Run off rivers HPPs had increase of operational readiness for 1.3 percent, wherein the reserve time was decreased for 0.7 percent. After 10 years, this is the second year of operational readiness increase as a synergy of increased engagement and decreased unavailability of run off rivers HPPs. Operational readiness of storage power plants is increased for 2.8 percent, because engagement is increased for 3.5 percent, and reserve coefficient is decreased for 0.7 percent. The highest coefficient of 100 percent had units A1 in HPP Đerdap 1, A8 in HPP Đerdap 2, both units in HPP Ovčar Banja and the unit 4 in HPP Bajina Bašta.

Production coefficient (Kp) was amounted to 86.2 percent, what represents 1.5 percent more than in 2013, as well as the maximum achievement since 1995. Both run off river HPPs and storage power plants achieved maximum generation in 2014. Achievement of run off river HPPs is 87.4 percent, what is 1.4 percent more than the previous maximum in 2013. Maximum coefficient of storage power plants was amounted to 78.7 percent, what is 2.8 percent more than achieved in 2013. Operation with maximum average power (regarding from 1995) achieved the following units: 4 and 6 in HPP Đerdap 1, 1, 7 and 8 in HPP Đerdap 2, units of HPP Vrla 1 and unit 4 in HPP Bajina Bašta.

Coefficient of capacity utilization (Ks) is the ratio of totally produced energy and maximum possible energy, and in this year was amounted to 46.1 percent

which is 2.9 percent more than in compared period. There is also improvement concerning this coefficient in both run off river and storage power plants compared to 2013, because the parameters (operation time and average realized power) on which depends this indicator are decreased. This is third consecutive year where the operation time is decreased and so far, regardless the degree of the gradient, it was the maximum trend. On units A6 of HPP Đerdap 1 (good hydrological conditions, finished revitalization), A4 of HPP Đerdap 2 (good hydrological situation and safe operation, without overhauls in this year) and cumulatively HPP Elektromorava (finished revitalization of all four units, good hydrological conditions and safe operation) are realized maximum coefficients of exploitation or maximum annual generation since 1995. Influence of operation with higher powers are the best illustrated by achieved results of run off river HPPs, which were engaged during 70 percent of calendar time and achieved generation coefficient was amounted to 87.5 percent.

Summarizing operation results of generation capacities during 2014 and comparing them with achievements in 2000, the following characteristics can be distinguished as the most important:

- Until 15th May and the first floods, in almost all days, generation was higher than demands and needs;
- In the first quarter, the highest difference between realized generation and needs of consumption is achieved – surplus of 654 GWh;
- In the first quarter, units of subsidiaries TENT and TTPs-OCMs Kostolac realized maximum generation;
- Units TENT A has been continuously working during 46 days which was their maximum. Due to flooding of the plant on 3 m ground level in the machine room and flooding in substation TS 400/220 kV, units of TENT A were not in operation for 178 hours (the last, short-term interruption of generation was in October 2000);
- The first and only time in the summer period (April – September) surpluses were not achieved, and the cumulative deficit of this period was amounted to 419 GWh, because units of TENT and TTPs OCMs Kostolac realized minimum generation;
- The highest unused operating readiness of thermal units due to coal lack was in the period July – December and was amounted to 12.5 percent of calendar time;
- The highest deficit was realized in the fourth quarter and was amounted to 766 GWh (December's monthly deficit was amounted to 432 GWh and was the highest since January 2002).

DISTRIBUTION

Customer Relations

Improvement of customer relations is an important segment of business operations of Electric Power Industry of Serbia. Continuous and direct communication with customers is realized in subsidiaries for distribution of electric energy, as well as in Distribution Department of EPS (Sector for Trading and Tariff Customer Relations). In 2014, 120 "wide consumption – households" customers and 51 transfer buyers complained to this sector, mainly objecting to the calculations of consumed electric energy due to erroneous meter readings, and/or incorrect measuring.

A great number of electricity unauthorized use notifications were also sent to the sector, and the largest number of complaints and appeals referred to the customers in condition of extreme social needs. Therefore special attention was paid to cooperation with Ombudsman, Ministry of Labour, Employment and Social Policy and Ministry of Mining and Energy. Improvement of customer relations is also reflected in common discounts to the customers who regularly meet their liabilities for consumed electricity.

Electricity Distribution Department monitored realisation of rescheduling of old debts, which in 2013 was offered to the customers with outstanding liabilities toward subsidiaries for distribution of electric energy. Special attention in monitoring is paid to rescheduling of the users under the process of restructuring, as well as to payment of liabilities of budgetary beneficiaries. Additionally, monitoring of realisation of debt recovery in court, and/or monitoring of judicial procedures against debtors and unauthorized users of electric energy was established.

Special scope of activities of subsidiaries for distribution of electric energy, when it comes to relations with the factual system users, represent measures for suppression of unauthorized consumption. During 2014, Electricity Distribution Department monitored regularly the number of received notices suspecting unauthorized use, number of control of measuring points and discovered cases of unauthorized electricity consumption, then calculated amounts of unauthorized use of electric energy (in kWh and RSD), as well as debt recovery on that basis. A record was driven on number of relocation of measuring points, disconnection of the users from the system, initiated criminal proceedings, ongoing criminal proceedings, verdicts that claimed users guilty and cases where users were acquitted of charges.

Sector for Trading and Tariff Customer Relations within Electricity Distribution Department made and agreed with representatives of subsidiaries for electricity distribution draft models of procedures to follow in cases of unauthorized electricity consumption, as well as for takeover of measuring points, devices and connections of users. First model was adopted by Board of PE EPS for IMS and an order is issued to subsidiaries to harmonise their practice and QMS/IMS documents with the model, while the second model is under adoption procedure. Bearing in mind provisions of new Energy Law dated 29.12.2014, prescribing new obligations of distribution system operator referring to issues of unauthorized consumption and takeover of measuring points, devices and connections, PE EPS and dependent subsidiaries made preparations in this way for appropriate regulation of their operation and relations with system users in this areas.

Structure of old receivables of subsidiaries for distribution of electric energy (created until 30th June 2013):

Total number of debtors on the basis of old debt is almost **400,000**,and claims (with VAT and default interests) on 1st January 2014 amounted to RSD **93.5** billion

During 2014, for due interests with VAT accrued, RSD **5.9** billion invoiced and RSD **6,8** billion collected

The rest of the claims (with VAT and default interest) on 31 January 2014 amounted to RSD **91.1** billion

More than **73,000** buyers sued within the term, for total amount of RSD **11.5** billion (excluding charges filed on the basis of terminated rescheduling)

Rescheduling contracts terminated with around **23,000** customers, to the amount of RSD **3.8** billion

266 legal persons are under restructuring process, with total debt of RSD **3.9** billion

Rescheduling contracts were concluded with **41** customers, totalling around RSD **940** million

For **160** users under restructuring process, proposal for execution for claims of RSD **2.3** billion was filed

Cooperation with Energy Agency

Even during 2013, a practice was established that each regular monthly meeting for distribution system management was attended by representatives of the Energy Agency of the Republic of Serbia (EARS). The meetings were also regularly attended by representatives of transmission system operator Public Enterprise Elektromreža Srbije. Representatives of EARS participated actively in work of Expert Team for consumption profile defining for all categories of consumption (for medium and for low voltage level), formed within Electricity Distribution Department.

Cooperation with EARS during 2014 was at a very high level. Adoption of Amendments to Distribution System Code was significantly easier and faster due to EARS, and costs of announcing in the Official Gazette lowered.

Action plan for loss reduction

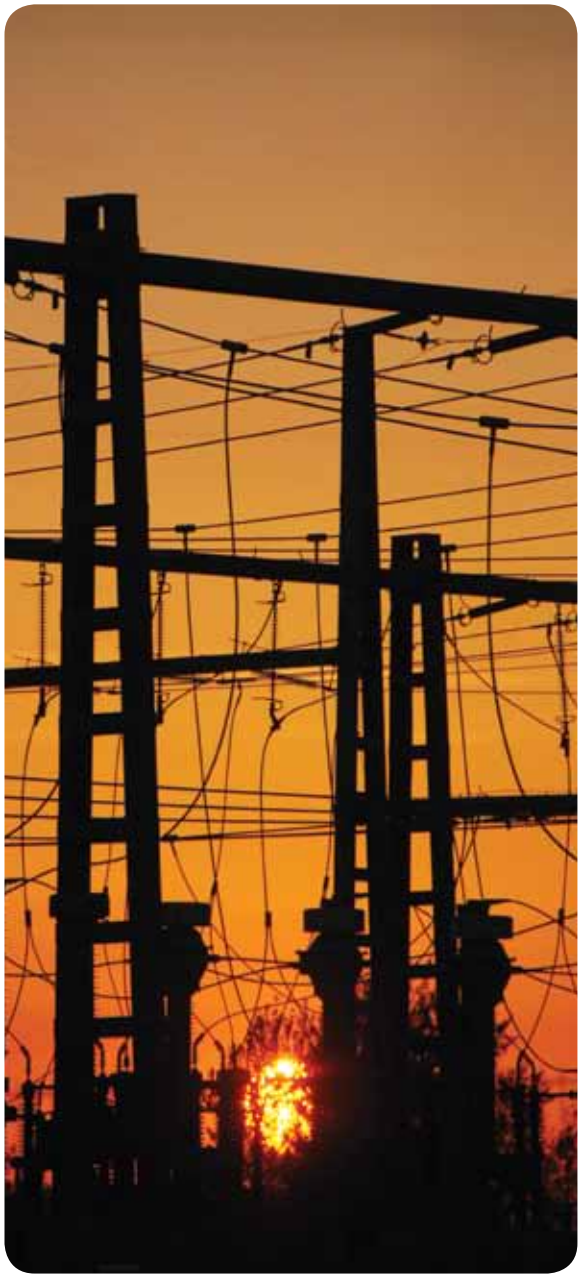
Action plan for losses reduction represents institutional access to problem solving relating to the losses in distribution network. Subsidiaries for distribution of electric energy, in cooperation with the Distribution Department of EPS, continued with plan implementation during 2014, as well. The target set at the beginning of 2014 before subsidiaries for electricity distribution relating to the losses was 14.34 percent at the end of the year. Losses in electricity distribution network of EPS until the end of November amounted 14.12 percent, which was the value below the plan set for the end of the year.

Dominant activities the subsidiaries carry out for loss reduction, and that are at the same time integral parts of the Action plan for loss reduction, are control of measuring points by assembling and professional services of subsidiaries for electricity distribution. These activities makes, on a monthly level, almost always, more than 40 percent of all activities in measuring points. Through controls, regular or planned and also emergency control, subsidiaries for electricity distribution check situation in measuring points and measuring infrastructure, perceive any potential technical defects that may cause technical losses, as well as cases of unauthorized access to and use of electric energy.

An important activity from the Action plan for loss reduction is replacement of certain elements of measuring equipment in measuring point. Around 20 percent of activities of assembling and professional teams in the field on a monthly level is dedicated to this activity. Relocation of measuring points, as one of the measures expected to make the greatest contribution to electricity loss reduction, unfortunately, cannot get its full momentum yet, considering that subsidiaries for electricity distribution have enough problems with procurement of measuring devices.

Permanent reduction in number of unread electricity customers is another important measure from the Action plan for loss reduction. It is reduced to the level of 1.9 percent on a monthly level, which is in accordance with the Action plan.

Besides working in the field, subsidiaries for electricity distribution take certain measures from the range of internal organisation and improvement of internal processes in order to influence the loss reduction in that way too. In all subsidiaries for electricity distribution, relevant customers related data bases are formed, that are regularly updated by new data, and special attention is paid to the customers with power and reactive energy measuring. Introduction of modern information technologies into the existing operational processes within the frame of subsidiaries for electricity distribution affects elimination of human factor as a great potential risk. Through organisational changes in subsidiaries, which follow the corporatisation process of the entire system of EPS, with the aim to group certain activities, subsidiaries for electricity distribution make endeavours to improve management of all operations at the measuring point. It is maybe the most important thing from the point of view of loss reduction success.



Operation of Small Hydro Power Plants

Planning, preparation, construction and connection of small hydro power plants (SHPP) to distribution system (DS) represent one of the most dynamic events in electric power system of the Republic of Serbia. As known, the greatest number of locations of potential and already constructed SHPP is in the area of subsidiaries for electricity distribution Elektrosrbija and Jugoistok.

Unlike large power plants (over 100 MW), where the connection investments may amount to seven to eight percent maximum of the value of the whole plant, the connection investments in small plant may call in question viability of the investment in the small power plant. Furthermore, there are SHPP where connection investments exceed the investment in the plant. Due to these issues, the relevant Ministry in cooperation with the Electricity Distribution Department of EPS initiated a series of meetings with representatives of investors, distributors and local self-government with the aim to find an optimal solution. Namely, in certain municipalities (for instance, Priboj), total installed capacity of future SHPP exceeds several times the local consumption, and therefore it would be necessary to construct new 35/10 kV transforming stations (TS), 35 kV lines and even 110/35 kV TS.

SHPP connection to DS is determined by the Distribution Code. During 2013, changes of the rules were made referring to SHPP connection to DS, and/or to connection criteria, and those changes were adjusted with all five subsidiaries for electricity distribution. The changes were approved by the Energy Agency of the Republic of Serbia and they were officially adopted and published in the Official Gazette of April 2014.

Construction of transforming stations and electricity distribution network in 2014

Elektrovojvodina
Constructed 105 transforming stations at 20/0.4 kV and reconstructed two 110 kV TS;
Constructed 98.5 km of middle voltage network at 20 kV and 75 km of low voltage network;
Reconstructed 426 km of lines: • 65 km at 35 kV • 218 km at 20 kV • 29 km at 10 kV • 114 km at low level.

Elektrodistribucija Beograd
Overhauled plants in two TS at 110 kV (Mirijevo and Pionir) and replaced 10 kV switch in TS Filmski grad at 110 kV;
Overhauled 15 TS at 35 kV;
Reconstructed 4 overhead lines in the length of 14 km;
Replaced 22 cable sections in the length of around 39 km;
Reconstructed 284 TS at 10 kV;
Reconstruction of 16 overhead lines in the length of 128 km;
Replacement of wires and poles at the voltage level of 1 kV in the length of 88 km.

Applying the rules adopted in December 2009, over the past four years, it has been noticed that the criterion of permissible voltage changes during transition process of generator start-up/shut down, and/or criterion of maximum permitted capacity of generating unit at the plant, were too strict and inapplicable in Distribution System of the Republic of Serbia. Therefore, the criterion that was taken from the regulations of the western countries, through amendments was replaced by a new criterion that made connection to DS much easier.

It was noticed that some SHPP are decommissioned due to the voltage protection effect. Voltage oscillations on a daily basis and regulation of the capacity factor of the aggregates had, and still have in many SHPP, as a result an outage from the facility unit due to the voltage protection effects. Therefore, the amendments prescribed that all synchronous generating units must have an implemented voltage regulation instead of the capacity factor regulation and that the nominal capacity factor of synchronous generators must be 0.8, unless otherwise determined by distribution system operator.

These amendments were made, as it became clear during 2013 that the adoption of new rules in full would take a while due to the alignment of this by-law with the new Energy Law and the new Regulation of electricity delivery and supply conditions, which should be made after the adoption of the law. The modifications made easier and faster SHPP connection to DS and new technical requirements that must be met by power plants during operation were prescribed.

Elektrosrbija
Reconstructed 14 transforming stations at 110 kV and 61 middle voltage TS at 35 kV;
Constructed 83 TS at 10(20)/0.4 kV, ongoing works on 92 TS at 10(20)/0.4 kV;
Reconstructed 1,173 transforming stations at 10(20)/0.4 kV;
Reconstructed 39 km of lines at 35 kV;
Constructed 38.7 km of lines at 10(20) kV, ongoing works on 117.3 km of lines at 10(20) kV;
Reconstructed 710 km of lines 10(20) kV;
Constructed 38.7 km of lines at 10(20) kV, ongoing works on 117.3 km of lines on 10(20) kV;
Constructed 796.6 km of low voltage network;
Reconstructed 1,078.7 km of low voltage network.

Jugoistok
Constructed 28 transforming stations at 10/0.4 kV;
Constructed 17.4 km of low voltage network at 0.4 kV;
Constructed 17.5 km of middle voltage network at 10 kV and 17.4 km at 35 kV;
Overhauled several middle voltage TS.

Centar
Reconstructed TS at 35/10 kV and two TS at 10/0.4 kV;
Constructed 18 new TS at 10/0.4 kV;
Constructed 6 km of underground lines at 35 kV and 3 km at 10 kV;
Reconstructed and constructed 15 km of overhead lines at 10 kV and 62 km of overhead and underground lines at 1 kV;
Reconstructed 30 km of low voltage network.

DEVELOPMENT AND STRATEGIC PLANNING

The most important projects, studies and activities being in elaboration and related to the scientific research and preparation of investment and technical documentation in the PE EPS in the 2014:

- Study on limestone supply possibilities for the needs of FGD in the TPPs Kostolac, TPP Nikola Tesla and new thermal capacities;
- Investment-technical documentation for construction of Kostolac port for river limestone transport, from the quarry Jelenska stena near Golubac to TPP Kostolac B, equipment and removal of ash, gypsum, etc.;
- Investment-technical documentation for the construction of industrial railway from TPP Kostolac B to the existing railway network;
- Feasibility Study with Preliminary Design of reconstruction in order to extend the service life and increase the power of unit 3, with power of 305 MW in TPP Nikola Tesla A;

- Feasibility Study with Preliminary Design for the construction of unit B3, with power of 350 MW at location of TPP Kostolac B;
- Long-term mining of coal program in coal-bearing basins of EPS;
- Amendments to the Spatial Plan of the Kolubara lignite basin mining area;
- Elaborate on the coal and gravel reserves in the western part of the Kostolac coal bearing basin;
- Intelligent Networks in the PE EPS: Strategy and development of systems for remote monitoring and management of medium-voltage distribution network (SDU) in conditions of distributed generation significant presence;
- Waste Management Plan (2013-2022) in electrodistribution sector (for all five subsidiary companies);
- Development of investment-technical documentation for TPP Nikola Tesla A (A3-A6) FGD plant by process of wet limestone;
- Elaboration of project documentation for the construction of TPP Nikola Tesla B FGD plant;
- Feasibility Study with Preliminary Design for waste water purifying and treatment plant construction in TPP Nikola Tesla B;
- Valorisation of slag from thermal power plants;
- Feasibility Study with Preliminary Design for waste water purifying and treatment plant construction in TPP Kostolac B;
- Analysis of the EPS position at the regional electricity market of the South East Europe till the year 2030.

Development and Strategic Planning in Distribution

In the year 2014, activities on creating conditions for faster and sustainable development of the distribution sector in the future medium-term (ten-year) period has been continued. Activities were primarily focused on increasing the safety and reliability of the power system facilities. Reconstruction of the existing facilities, and building new ones, will reduce the number and duration of breakdowns, improve voltage conditions at customers, reduce technical and non-technical losses, as well as maintenance costs. Otherwise, in the distribution sector, to future DSO, is expected significant changes taking into account the full liberalization of the market and challenges that result from open electricity and power market.

Introduction of advanced networks, automation of MV network, smart grid, renewal and modernization of measuring equipment for management and control of consumption by introducing advanced smart metering measurement infrastructure - are the strategic objectives of the EPS in the distribution business. There are also activities on preparing the project implementation for taking over of measuring devices, measuring and distribution cubicles and household connections with existing customers, then activities on development of information systems and telecommunications networks and improvement of environmental protection by introducing energy-efficient equipment with lower own consumption and losses. One of the most important segments of the future development of the distribution system is adjustment of distribution facilities to operate under the conditions of the integration of distributed generation.

In order to achieve strategic goals, EPS continued cooperation with scientific research institutions, multinational companies and equipment and devices manufacturers. This cooperation was resulted in 2014 by contracting of several studies.

Strategic Projects

Realization of three distribution projects that are declared as strategic is coordinated at the level of EPS. Implementation of these projects will be carried out over a longer period of time and in multiple organizational units (EA ED), and for their implementation are require significant financial resources. During the year 2014 were in preparation and started implementation of projects:

1. Project of remote reading and consumption control

The first phase:
Project EPS METERING, loans by EIB and EBRD
The second phase:
The project of planned measuring equipment takeover, MRO and connections with the existing customers and creation of conditions for the management and control of consumption by the advanced metering infrastructure (AMI) with a system for remotely reading data management (MDM);

2. Reconstruction, revitalization, expansion, modernization and automation of TS 110/x kV assumed by the PE Elektromreža Srbije;

3. Automation of medium voltage network by the introduction of remote control for power facilities and modern concepts (*smart grid)* for the automation of power facilities.

Other activities related to the development of the distribution system were carried out through the annual investment plans of power distribution companies.

Investments in Distribution

EPS investment plan for 2014 in the distribution sector activities were aimed at increasing the reliability and security of consumers, further development of the distribution network and increase of its efficiency. At the same time, it is also considered to create conditions to reduce losses, renewal and modernization of measuring equipment to manage and control consumption, as well as the implementation of projects for taking over of measuring devices, development of information systems and telecommunications network.

In the realization of the investment plan a substantial part of the activities was dedicated to the preparation of technical documentation and obtaining permits and related documents for the construction of new and rehabilitation of the existing power facilities, as well as the realization of these tasks. The main decelerating factors in it were resolving of property-legal relations and long lasting and complex tendering procedures.

In accordance with the present financial possibilities of EPS group, it is determined the amount of invested assets in the distribution sector. They are at the level and well below the cost of depreciation of fixed assets, providing maintenance of the existing system performances. However, it does not allow the necessary improvements, as well as development, and obligations arising from the application of new regulatory and business conditions related to obligations under international agreements. Therefore, the significant use of international loan resources appears as necessary.

Investments in Distribution

More than RSD **6.7** billion were invested by ED(s) subsidiaries for the realization of the investment plan, out of which:

RSD **864** million for the 110 kV network

RSD **275** million for the 35 kV network

RSD **3.4** billion for the reconstruction of the existing and construction of new facilities on the 20(10) kV level

RSD **1.38** billion for the replacement and planned measuring equipment takeover, the modernization of systems and ICT technology

Cooperation with Institutes and Universities

In order to continuously improve business operation, Electric Power Industry of Serbia gives great attention to the support of further development through cooperation with scientific and research institutions, universities, institutes and professional associations. This connection is achieved with two-way effect – both through the mutual scientific and expert cooperation for solving issues in production and technological development, and upgrading of professional knowledge and skills of employees and education of professionals Electric Power Industry of Serbia needs. Through monitoring and efforts to apply the world's best positive practice in technological and business development, by participation of its experts in the work of national and international professional organizations, Electric Power Industry of Serbia seeks to improve its business operation and to remain competitive on the market.

Development of EPS has been from the very beginnings inextricably linked to the cooperation with universities, high education, scientific and other institutions in the country (University of Belgrade, Novi Sad, Niš and Kragujevac, SASA, Nikola Tesla Institute, Mihajlo Pupin Institute, Union of Engineers and Technicians of Serbia, Society of Thermal Engineers of Serbia) as well as international professional associations (CIGRE, CIRED, EURELECTRIC, EUROCOAL).

During 2014, significant cooperation was achieved in the field of science through the preparation of a number of studies and research in the field of EPS business operation, as well as through the preparation of design, investment and technical and spatial and planning documentation.

EPS is trying to engage local manufacturers and to apply innovation of our science as much as possible. This provides multiple positive effects: the creation of added value through functional use of domestic intelligence, hiring of Serbian companies and job security for employees in Serbia.

ENVIRONMENTAL PROTECTION

Electric Power Industry of Serbia undertook a number of obligations and activities from the field of environmental protection by signing Treaty Establishing the Energy Community and by adopting relevant directives on the level of European Union. The goal is to harmonize the operation of all parts of the company (generation and distribution) with EU standards. PE EPS current projects in this field, as well as those being planned, represent significant part of activities related to accession of the Republic of Serbia to the EU.

Air Protection

In the field of environmental protection the most important projects and programs are still those related to the emission of air pollutants from thermal power plants, including sulfur oxides, nitrogen oxides and particulate matter, and carbon dioxide emissions.

Major projects related to facilities for reduction of emissions of sulfur oxides and particulate matter have been done so far. The project for desulphurization in TPP Nikola Tesla A is ongoing. It is being financed from the loan proceeds provided by JICA (Japan International Cooperation Agency) totaling in 28,252 billion yen. The main objective of the project is to reduce the mass concentration of sulfur dioxide at the exit of the plant to less than 200 mg/Nm^3. In the previous period consulting organization TEPSCO (Tokyo Electro Power System Co.) was selected, and together with the local consultant Energoprojekt-ENTEL they prepared the tender documents for the selection of a supplier of technology and equipment for the flue gas desulphurization plant for units A3-A6 at TENT A. Six companies/consortiums were pre-qualified, and in early 2014 invitation for the submission of bids was published. The evaluation procedure for the selection of contractors was not completed during 2014. Deadline for the completion of the entire project is the end of 2017. Thus the deadline defined by LCPD (Large Combustion Plant Directive) would be met, when the operation of PE EPS plants should be harmonized with the obligations arising from that directive.

Construction of the plant for flue gas desulphurization in units B1 and B2 of thermal power plant NikolaTesla B is another important air protection project. During 2014, preparation and adoption of investment and technical documentation for this project was completed, and key problem is the provision of financial resources. The idea is that, according to the project that we have at the moment with JICA, these funds are provided by the Japanese agency as well.

The construction of the plant for flue gas desulphurization to reduce sulfur oxide emissions below 200 mg/Nm^3 began on units B1 and B2 of thermal power plant Kostolac B during the 2014. The project is implemented under the first phase of the package Thermal Power Plant Kostolac B Projects, which is financed from the loan signed with the People's Republic of China. Deadline for completion is the end of 2015. Primary measures have been introduced in order to meet the requirement defined by IED (Industrial Emissions Directive), Industrial Directive for the emissions of nitrogen oxide below 200 mg/Nm^3, which is significantly stricter compared to our current Regulation on Limit Values of Pollutants in the Air and compared to LCPD. Accordingly, in the previous period primary measures were conducted for the first time in unit A5 in TENT A. During 2014, together with the company Hitachi the adjustment of boiler was done in order to optimize its operation and reduce emissions of nitrogen oxides.

In addition, as part of the general overhaul of unit A3 in TENT A the introduction of primary measures for the reduction of nitrogen oxide emissions below 200 mg/Nm^3 was performed. The introduction of primary measures to reduce nitrogen oxide emissions below 200 mg/Nm^3 was done during 2014 on the unit B1 in TPP Kostolac B, as part of the implementation of the first phase of the package project. The plan is to introduce primary measures for the reduction of emissions of nitrogen oxides in the remaining boilers, whereas the donor funds are preliminary provided from the IPA funds. Thus, the applicable Directive on Large Combustion Plants and Industrial Directive which will come into force after January 1, 2018 would be met in a single step. Regarding the reduction of emissions of particulate matter, in thermal power plants of PE EPS where boilers are burning coal, projects related to the reconstruction of electrostatic precipitators are being mostly implemented so far. Reconstructions of electrostatic precipitators were done in most thermal power plants, whereby the supplier of the equipment gave guarantees for the mass concentration of particulate matter that is less than 50 mg/Nm^3 or equal to this value. During 2014, the project for reconstruction of electrostatic precipitators in unit TENT A3 was implemented within the general overhaul, and from own financial resources. The reconstruction of electrostatic precipitators in unit B1 in TPP Kostolac B was done within the implementation of the Phase I of package project. The reconstruction of electrostatic precipitators in TPP Morava that will be financed from IPA 2012 donation is planned for 2015.

In the process of harmonization of legislation with the European Union, the Republic of Serbia is conducting twinning project - Establishment of a System for Monitoring, Reporting and Verification Necessary for the Successful Implementation of the EU Emissions Trading System including PE EPS. The goal is development of the necessary legislation and bases for establishing the necessary institutional organization to implement the Directive on Emissions Trading System of the European Union - EU ETS. In order to establish this system, a reliable and accurate system for monitoring, reporting and verification (MRV) of emissions of greenhouse gases must be established as well. This means that companies that fall under EU ETS are obliged to monitor their emissions and submit a report about it, while a third, independent body, verifies the report by checking their validity and accuracy. According to those verified reports on emissions a fee for the emission of greenhouse gases will be charged and in the case of PE EPS fee for carbon dioxide emissions.

The adoption of legislation related to EU ETS is expected in the second half of 2015 and its application from January 1, 2016. In order to effectively establish a MRV system in our company and successfully participate in EU ETS (over 80 percent of emissions covered by EU ETS belongs to EPS), PE EPS is in the process of defining the necessary actions and preparing for their implementation.

Water Protection

Projects related to the wastewater treatment in thermal power plants, and which are funded through IPA funds, are being implemented at TENT B, TENT A and TPP Kolubara B.

TENT B - The construction of a wastewater treatment plant for units B1, B2 and future unit B3.

Energoprojekt-Hidroinženjering prepared investment and technical documentation and Feasibility Study with the Preliminary Design for the construction of wastewater treatment plant at TENT B, and the Greek consultant Exergia prepared tender documents. The contract for supervision was concluded with the company Eptisa (Spain/Belgrade), and contractors are consortium Kralovopolska Rio from the Czech Republic and LAD Group from Serbia. The begining of construction works is expected in mid-April 2015, and the completion of the project in June 2016.

TENT A - The construction of wastewater treatment plant (includes construction of wastewater treatment plant for wastewater discharged from TENT A facilities and wastewater treatment for wastewater that will be discharged from the future flue gas desulphurization plant FGD).

Energoprojekt-Hidroinženjering prepared investment and technical documentation and Feasibility Study with the Preliminary Design for the construction of wastewater treatment plant at TENT A, and Interkontakt-Energo from Zemun and Greek Exergia prepared tender documents. The contract for supervision was concluded with COWI.

Contractors are consortium Esotech from Slovenia and Jedinstvo from Užice. Works on the preparation of project documentation began in July 2014, and the completion of all works is expected in July 2018.

TPP Kostolac B - The preparation for the project for the construction of wastewater treatment plant in this TPP is ongoing. This will be the first project that will be conducted under decentralized management process. Management will be undertaken by responsible persons from the Ministry of Finance and the Ministry of Mining and Energy. Energoprojekt-Hidroinženjering prepared investment and technical documentation and Feasibility Study with the Preliminary Design for the construction of wastewater treatment plant at TPP Kostolac B, for units B1, B2 and future unit B3 of 350 MW capacity, and Greek consultant Exergia prepared tender documents in 2014. Tender documentation for the selection of engineer and for works on the construction of a wastewater treatment plant in TPP Kostolac B is in the final phase of preparation.

During 2014 company Delta inženjering prepared two investment and technical documentation for TENT A - Feasibility Study with the Preliminary Design for collection and transport of atmospheric water from the concrete surfaces between the boiler and EP- excavator station of TENT A and Feasibility Study with the Preliminary Design for collection and separation of cooling water potentially for of technical cooling from powerhouse in TENT A.

Soil Protection

For the Replacement of Ash Slurry System TE Kostolac A Project (installation of new system for ash and slurry transport with supporting equipment) the contractor is consortium Clyde–Bergemann and Goša montaža. The estimated value of the project amounts to EUR 18.6 million and is financed from the loan of KfW bank

For the project of reconstruction of ash and slag transport and disposal system, including plaster, as well as expanding the existing landfill with remediation measures at TENT A, negotiations were held with KfW bank in order to provide the necessary funds.

Waste Management

Activities related to waste management are executed and its movement is controlled in all subsidiaries of Electric Power Industry of Serbia in accordance with legal obligations from the field of waste management.

Waste treatment

Treatment of RSV oil and equipment is a project that is implemented together with IPA-PE EPS and is named "Support to environmental protection in energy sector". It foresees solving issues of electrical devices filled with RSV oils. The first part is completed: "Actualization of the state– development of the inventory and possibility to destruct RSV by current local technologies". Implementation of the second part "Project- Substitution of RSV transformers by dry transformers, elimination of RSV equipment and waste and decontamination of RSV transformer" was initiated, by which total elimination of RSV from PE EPS will be executed.

Waste valorization

Studies that would show the possibility to use ash as a construction material in civil engineering and highway engineering, i.e. its application for the construction of infrastructure of rail and road traffic, as well as buildings and works are being prepared.

In the context of obtaining secondary energy raw material, additional or alternative fuel, by which the waste coal, waste fuel, waste absorbents, rubber, ion exchanger and other organic waste from production and technological processes would be used, the initiative arose and implementation of study examination is being realized for their further implementation.

Waste recycling

Testing possibility to recycle and reuse waste oils by current domestic technologies, generated in the subsidiaries of EPS, which aim at considering prevention of possible accidental situations is also current topic.

Integrated (IPPC) permit

In accordance with the law, requests for the issuance of integrated permit for 10 thermal energy facilities within Company TENT, TPPs-OCMs Kostolac, CHP Panonske, and MB Kolubara were submitted to the Ministry of Mining and Energy. During 2014 the part of necessary documentation was submitted, and deadlines to add document are extended.

Emission conditions defined by LCPD and IED Directives thermal power plants of EPS are still not able fully to meet. That primarily refers to the emissions of sulfur and nitrogen oxides that are technically, financially and in terms of time most demanding. Although individual members of Energy Community were left the possibility to avoid situation that as of January 1st, 2018 certain number of Units has to be decommissioned due to the non-fulfillment of the request for limit value of the emission of pollutants into air, water and land, that does not postpone the implementation of environmental protection measures. There is an option to implement all necessary measures, and not to jeopardize the stability of energy system due to decommissioning of certain number of thermal power facilities with installed capacity below 300 MWe.

Value of projects (in million euros)

40.2 - reconstruction or replacement of existing electrostatic precipitators at TENT A3, TPP Morava, TPP Kostolac B1 and B2

70 - primary measures for the reduction of emission of nitrogen oxides at TENT- Units A3, A4, A6, then B1 and B2, both Units of Kostolac B, TPP Kostolac A1 and A3, TPP Kolubara A5 and TPP Morava

426 – desulphurization at TENT Units A3- A6, TENT B1 and B2, TPP Kostolac B1 and B2

30 – waste water treatment at TENT A, TENT B and TPP Kostolac B (2013-2016)

58 – reconstruction of the system for ash and slag transport and disposal at ash disposal site at TENT A

6 – RSV oil and equipment treatment

In additional documents for all 10 thermal power facilities with the obligation to obtain IPPC permit the following is necessary to perform:

1. Comparing with the best available techniques, that has to be done also according to the horizontal BREF documents relevant for the activity operators perform;
2. Program of measures of harmonization of operation of subject facilities with the provisions of the Law on Integrated Pollution Prevention and Control;
3. Plan of measures for efficient energy use;
4. Modeling impacts of the emission of pollutants;
5. Plan of measures for environmental protection upon potential termination of operation and facility closing.

Electric Power Industry of Serbia does everything in order to fulfill the obligation undertaken in the field of environmental protection in the shortest, but realistic time period. All projects in the field of environmental protection are assessed and coordinated in cooperation with subsidiaries. One of the main preconditions is securing funds, for which the role of line Ministries and the Government of the Republic of Serbia is extremely important. Rough estimations indicate that adjustment to the EU standards in the field of environmental protection would cost the Republic of Serbia around EUR 10 billion by 2030, out of which around EUR 1.2 billion PE EPS.

INFORMATION – COMMUNICATIONS TECHNOLOGIES

Information and communication technology, modern IT solutions, improving the ICT infrastructure and telecommunications system of the company provide great support to implementation of changes on the road to successful and profitable Electric Power Industry of Serbia.

IT projects

SAP ERP systems began production operation for PE EPS and EPS Supply as the basis of a single information system of EPS group at the beginning of 2014. In addition to standard ERP modules (FI, CO, MM, LM, IM) for the purpose of consolidated reporting and other analytical and reporting needs BPC module that runs on the new SAP HANA platform based on in-memory technology (SAP BW on HANA) was implemented.

Based on the results of this project, Electric Power Industry of Serbia won the prestigious award on 11th December for excellence in tenth, jubilee competition SAPCEA Quality Awards in the category of HANA Innovation in 2014 related to the quality of implementation BPC software on HANA.

In the middle of the year the next project from EPS "SAP roadmap" - Implementation of SAP HCM system for managing the organization, personnel, training and payroll for all employees in the EPS group, with a deadline of implementation by the end of 2015.

In cooperation with Oracle consolidation of customer data within a single master customer base EPS group as the basis for the central billing system, reporting and support to operation of the system for customer relations was continued. Additionally, Oracle UCM platform for document management and collaboration, on the basis of which electronic records management of EPS Supply was implemented and the flow of incoming invoices in TPPs- OCMs Kostolac, has been expanded with new functionalities for monitoring of contracts and litigations.

At the end of the year two tenders for projects of strategic importance for the EPS group were published:

- EPS *Metering* system for management of smart meters network that is financed from the EBRD loan;
- Unique system for calculation and payment of electricity for EPS distribution system operator and supplier, based on architecture of the physical separation of data with the infrastructure for market communication.

IT Infrastructure

The most important and challenging endeavor in improving the ICT infrastructure in previous year was final implementation and establishment of a single data center of Electric Power Industry of Serbia in Kragujevac. We used the latest IT solutions and technologies that provide long-lasting lifetime of data center without the risk that the equipment becomes technically and technologically obsolete in a short time.

Single Data Center is equipped with the latest server system IBM Flex System, by renowned manufacturer IBM, which is a modern server platform that can be easily spread by subsequently adding the required number of servers. Another important feature of this system is the possibility of a simple remote control, which reduces the cost of system administration significantly.

IBM XIV Storage System of the latest generation was selected as the storage system whose main features are high speed, reliability and ease of use and administration. As proof of that Electric Power Industry of Serbia intends to equip data center with the

state of the art information technology, SAP HANA system was implemented, which is characterized by exceptional processing speed of large amounts of data.

One of the important projects that accompanies the corporatization of Electric Power Industry of Serbia and establishment of the system of EPS group is the project that started with Microsoft and involves creation of private computer cloud, i.e. consolidation and centralization of IT infrastructure into a flexible unit that provides much greater opportunities for administration and monitoring. In the first phase of this project EPS, EPS Supply and Elektrosrbija were included, which will eventually be part of a unique domain, as well as its high availability unified exchange system for the exchange of electronic mail. It is envisaged to include other subsidiaries in the common domain in the later stages of this project in order to eventually have a unified IT infrastructure at the level of EPS group.

Due to the increased need for serious information system to support electricity trading, ISSE project was initiated in 2014 with the aim of more efficient and clearer management of electricity trading system. Infrastructure Sector has provided hardware and software support to this project by following the required high availability of resources. Workstations for traders of electricity were furnished according to the high hardware requirements, and server resources belong to the new generation of IBM products, i.e. Pure Flex systems.

Creating a corporate portal of EPS group is also one of the most important projects developed with the idea that internal portal becomes a place for uniform and simultaneous notification of all employees about important events related to EPS group, while at the same time it would be the entry point for accessing workspaces that certain groups of employees use to execute regular tasks and activities. Special modules for public procurement, human resources, strategy and investment monitoring, management and keeping strategic studies and projects, monitoring and improvement of energy efficiency, document management and sessions of the Supervisory and Executive Boards management are being developed within this project.

Single EPS Data Center

Guaranteed continuous operation of the Data Centre during **99,999** percent of the time (which is five minutes of down-time per year) is provided by the reliability and continuity in the work of equipment

Installation of **SAP HANA** system in the Data Center is the first installation of SAP HANA system in Serbia

New system for e-banking Halcom E-bank/Corporate that operates with the central database was implemented in the existing infrastructure in the end of 2014. This way, security and control were raised to a higher level (different privileges that are defined by authorizations of user's smart card), and also the work of employees who are engaged in payment transaction activities is much easier. They got a connection with all banks through a single application.

Some of the set goals that the Infrastructure Sector achieved over the past year include: protection of business data from external attacks, consolidated service of identification and authorization of system user, possibility of secure and controlled access to business information from any place at any time, electronic records of the presence at work, as well as significant reduction of the price of the necessary hardware using the platform for server virtualization (dynamic Data Center).

Telecommunication System of EPS

The telecommunication system of EPS consists of a network of fiber optic cables in the main and regional level, with the length of more than 5,000 kilometers, transmission network based on SDH technology and packet network based on IP/MPLS technology covering the entire territory of Serbia.

In the part of activities related to the development of infrastructure OPGW cable was constructed on the transmission line 110 kV between substations Jagodina 4 and Paraćin 1, as well as optical connections needed for connection of distribution company Paraćin, distribution company and distribution center Čačak, company EPS Supply was connected on the new location in Belgrade and several other power facilities. Optical resources were allocated to around 20 transmission lines in the aim of connecting substations 110/xkV with the competent management centers.

One of the forced activities was recovery and allocation of optical cables for the needs of subsidiaries and Public Enterprise Elektromreža Srbije, damaged during floods in May, June and September 2014: in TPP Kolubara A, on transmission lines of PE EMS between Kolubara, Aranđelovac and Mladenovac, Tamnava mines, in Belgrade, Neresnica and other locations. From floods in September in east Serbia part of optical infrastructure of EPS between HPP Đerdap 1, and HPP Đerdap 2,is used by Telekom Srbija.

Where conditions existed, resources of SDH transmission system were used for connection to telecommunication system of substations, branches, units like Leskovac and Surdulica, Vranje and Niš, Paraćin and Čačak with Kraljevo, with the aim of transmitting business and management data, video surveillance and IP telephone network and other services.

During 2014, all subsidiaries were connected to the unique Data Center of PE EPS which is located at Kragujevac, in Company Centar. Since in 2014 SAP ERP system was commissioned for PE EPS and Company EPS Supply, dislocation of Data Center, due to the speed of transmission of several hundred megabytes, did not influence in any manner on the efficient work of business information system in Belgrade. This was the case with all other applications and production and test environments used by subsidiaries, and whose hardware resources were in Kragujevac.

Combining own optical infrastructure and existing SDH node in SS Vranje and radio connection provided by Company Jugoistok, it was possible to connect company Vranje to Center in Company Niš, and also to exchange business data, SDU data transmission, while the part of dispatchers in branches of the Company Jugoistok was included in the system of IP telephone network of PE EPS /PE EMS. Similar activity of improving dispatcher IP telephone network connection was conducted also in Elektrosrbija.

During 2014, efficient exploitation of existing services (IP telephone network) and the use of new modern services like video conferences within EPS group (Telepresence system), WEB and audio conference system (WebEx) and other continued.

Telecommunication system of PE EPS that was built on trunk level is in the phase of intense connecting with the telecommunication networks of subsidiaries built on regional and local level. These network are wherever possible based on optical infrastructure, transmission SDH network and IP telephone network of PE EPS. Thus telecommunication system of EPS group remains the most developed private telecommunication system in Serbia in terms of scope and the most complex in terms of its required functionalities.

In order to remain such in the future, by the end of the year, the equipment for the implementation of the first phase of transport network in OTN/DWDM technology was procured, that shall be the basis for connecting more existing and future systems, and that shall provide large traffic capacities in the longer time period and high reliability with the small delays in transmission.

LEGAL AFFAIRS

Apart from intensive activities on legal harmonization of Articles of Association and general acts of Public Enterprise Electric Power Industry of Serbia with the Law on Public Enterprises activities on PE EPS reorganization continued in 2014 as well.

In accordance with the Law on Public Enterprises and the Decision on Harmonization of Business Operation of Public Enterprise for electricity generation, distribution and trading with the Law on Public Enterprises, Supervisory Board of PE EPS has adopted the Statute of Public Enterprise Electric Power Industry of Serbia that was approved by the Government of the Republic of Serbia in February 2014.

Right of PE EPS, as the control company, to manage subsidiaries based on invested capital has specially been defined in the procedure of harmonization of Articles of Association of subsidiaries with PE EPS Statue in order to achieve the best interests of EPS group. Articles of Association of subsidiaries make clear distinction between authorizations and competences in managing the subsidiaries and unified management of business functions aiming at management integration in order to increase business efficiency of EPS group.

Having in mind the obligations of the Republic to implement Third Energy Package (Directive 2009/72) and goals of the Republic of Serbia regarding liberalization of the electricity market and especially the obligation that distribution system operator that is a part of vertically integrated enterprise has to be independent in terms of legal form, organization and decision making from other activities that are not connected to electricity distribution, principles related to independence in performing electricity distribution have been complied with.

Performance of obligation of legal unbundling of electricity distribution subsidiaries by incorporation of subsidiary for supply of end customers with electricity EPS Supply has not ended the process of legal unbundling of existing electricity distribution subsidiaries has not been finalized.

Since the Government has in its documents foreseen one distribution system operator in the Republic, activities on analysis of the best way to continue reorganization of electricity distribution subsidiaries have been continued in order to incorporate one distribution system operator.

In order to strengthen PE EPS position at regional electricity market and electricity trading in an efficient manner along with profit maximization, subsidiary EPS Trading with seat in Ljubljana has been registered for electricity trading and it started operating in July 2014.

Framework for PE EPS Reorganization adopted by the Government in 2012 defines the basic concept and directions for reorganization of PE EPS an its subsidiares, primarily in order to perform obligations stipulated by the Energy Law in the part related to legal unbundling of the activities of electricity distribution that is performed in vertically integrated companies. Priority activities of the Republic of Serbia, as PE EPS founder, are corporatization – change of legal form and creating conditions for start of operation of EPS as joint stock company, strengthening integration between EPS and its subsidiaries into Group of companies and creating conditions for efficient management and control in subsidiaries and centralization of activities in an efficient way with profit maximization and cost reduction.

Having in mind the changes in legislation and the need to achieve program goals of the Government related to corporatization and privatization of public enterprises, and thereby PE EPS as well, and that in the previous period the issue of establishment of property rights of PE EPS and its subsidiaries has not been resolved and it is an important prerequisite for identification of assets, structure and value of capital and condition for successful corporatization, it was necessary that the Government harmonizes the adopted corporatization goals within EPS group in framework for reorganization with changed circumstances. Therefore the Government adopted the Program of Reorganization of Public Enterprise Electric Power Industry of Serbia in November 2014.

Reorganization Program of Public Enterprise Electric Power Industry of Serbia defines that the reorganizationshall be undertaken by:

1) Improvement in management within existing organizational structure;

2) implementation of status changes and organizational harmonization;

3) Implementation of initiated activities on establishment of property rights over real estate of PE EPS and its subsidiaries as the condition precedent for implementation of status change;

4) Change of legal form of public enterprise into joint stock company that shall round up the process of corporatization of Electric Power Industry of Serbia.

Since the first activity foreseen by the Reorganization program was related to improvement of management in existing organizational structure, preparation of amendments to the Statute of Electric Power Industry of Serbia and Articles of Association of the subsidiaries has started which led to organizational changes and improvement of corporate management with clearly divided competences of Supervisory Board, General Manager and Executive Board.

The most significant amendments are related to organization of management in subsidiaries and performance of activities within the competence of the Assembly of subsidiaries. Starting from the provisions of the law, coordinated activities within the best interest of EPS group related to determining the business policy, price policy, conditions for sale of products and services at the market were enabled. Changes were made related to representation of subsidiaries with mandatory counter-signature and determining the sequence of counter signatories in the event of absence of PE EPS General Manager, starting principle for centralization of public procurement was defined, competence for adoption of decision on price for sale of coal for industry and mass consumption, heat energy and technological steam has been changed so that these prices are determined by the Executive Board.

Supervisory Board has adopted Program of Status Change in Implementation of Program of Reorganization of Public Enterprise Electric Power Industry of Serbia at the end of 2014 that stipulated the activities, holders of the activities and deadlines for implementation of certain activities defined by the Program, in order to enable registration of status change by July 2015.

After implementation of status change, the following three legal entities would continue operating:

- Public Enterprise Electric Power Industry of Serbia, as parent company, that would by merger of existing seven subsidiaries for generation of electricity and production of coal perform the activity of generation of electricity, production of coal, wholesale electricity trading and electricity supply;

- One legal entity for performance of the activity of electricity distribution and distribution system management (DSO);
- Subsidiary EPS Supply that would continue performing the activity of supply of electricity including guaranteed supply as well.

Subsidiary EPS Trading shall continue its business operation in Ljubljana.

As the precedent and key activity for implementation of status change, by Reorganization Program of Public Enterprise Electric Power Industry of Serbia activity related to acquiring the property right over real estate used by PE EPS and its subsidiaries was determined, in accordance with the proposal for acquiring the property right over real estate submitted by PE EPS and subsidiaries to the Government.

In accordance with Reorganization Program of Public Enterprise Electric Power Industry of Serbia, change of legal form of PE EPS into joint stock company was approximately planned for July 2016.

After adoption of the Law on Public Property in 2011, that stipulates the right of public property over grids, the issue of ownership over electricity grids was defined by the new Energy Law, by establishing property right over distribution grid by distribution system operators (Elektrodistribucija Beograd in Belgrade, Elektrovojvodina in Novi Sad, Centar in Kragujevac, Jugoistok in Niš and Elektrosrbija in Kraljevo) as subsidiaries within PE EPS.

Since new Energy Law defines amended conditions and manner for performance of energy activities, new basic requirements for independence of distribution system operator were determined and accelerated dynamics of opening electricity market, the activities on assessment of conditions and manner of implementation in accordance with newly set principles have been increased and especially at electricity market for performance of public service of guaranteed electricity supply of households and small customers and performance of the activity of electricity distribution and distribution system management.

RENEWABLE ENERGY SOURCES AND ENERGY EFFICIENCY

Increasing the share of renewable energy sources in electricity generation is a strategic interest of Electric Power Industry of Serbia, which complies with strategic energy development documents of the Republic of Serbia.

This is also in line with the objectives of the European Union. With the clear intention to continue to have a significant impact in the energy sector in the region, PE EPS is committed to applying the latest technology in the field of renewable energy sources, efficiency increase and economically justifiable and sustainable energy development, primarily on the basis of water resources.

Priority activities for PE EPS, in this sense, are continued revitalization and modernization of the existing large and small hydro power plants, construction of new hydro power plants, but also development of wind farms and solar power plants. Significant share in energy generation is expected from the use of biomass.

The commitment of Electric Power Industry of Serbia is also to engage, to the appropriate extent, its resources for utilization of hydro potential of all watercourses where there are opportunities to construct hydro power plants, whether they are at the locations that are already owned by PE EPS or in their immediate vicinity. In addition to these locations, PE EPS plans the construction of small HPPs at the locations that are obtained in the competitions of competent ministry.

Energy efficiency is another important segment that is becoming more and more relevant and that is recognized as one of the priorities of the Sustainable Development Strategy of the Republic of Serbia. In Electric Power Industry of Serbia energy efficiency has already been recognized as an important element of energy policy and the company has taken significant actions in this regard. That is, in the first place, raising the energy efficiency of its capacities and creating conditions to make it a continuous process.

The study - Analysis of Potentials and Programs of Organized Monitoring and Improvement of Energy Efficiency in the Coal Production and Generation and Distribution of Electricity and Heat is being realized in PE EPS. The study is multidisciplinary and includes consideration of energy efficiency in all activities of PE EPS. After the completion of the study, the foundations will be set for the introduction of energy management systems (ISO 50001) at the level of the entire company and it will contribute to more efficient operation as well as timely fulfillment of obligations arising from the Law on the Efficient Use of Energy.

The stated activities will lead to:

- Increase of energy safety and diversification of resources;
- Increase of the safety of energy supply and its more efficient use;
- Increase of competition;
- Reduction of the negative environmental impact;
- Encouraging responsible behavior towards energy.

Hydro Power Plants

After completion of the revitalization of hydro power plants Bajina Bašta, Međuvršje and Ovčar Banja, the revitalization of HPP Đerdap 1 and HPP Zvornik started. Thus a new generation cycle of these power plants was enabled and their efficiency was increased.

The revitalization of HPP Bistrica, HPP Potpeć and Vlasinske HPP is planned, and the activities on the preparation of investment and technical documentation and assessment of the potential sources of financing are ongoing. The possibility for the installation of an additional aggregate in HPP Bajina Bašta and HPP Potpeć for the purpose of optimization of generation and increase of efficiency of power plants is being considered.

Certain preparatory activities were continued for the construction of generation capacities with the potential partners in the projects of Ibarske HPP, Moravske HPP and PSHPP Bistrica. The aim is to further increase electricity generation from renewable sources.

In order to provide better insight into the feasibility of the construction of new generation capacities from renewable sources, activities on the preparation of the necessary investment and technical documentation, Environmental Impact Assessment, spatial plans and activities for provision of opinions, approvals and permits have continued.

Within the project for the construction and reconstruction of small hydro power plants the tender for the reconstruction of eight SHPP was published, and the plan is to publish a tender for other SHPP as well.

Wind Energy

Pre-Feasibility Study with the Preliminary Design for the construction of wind farm in the area of Kostolac, with the installed capacity of 30 megawatts is completed. Further activities for the development of the project and construction of the wind farm are ongoing.

Solar Energy

The preparation of Feasibility Study with Conceptual Design for the construction of solar power plant in the area of Kostolac, with the capacity of up to five megawatts is completed, and further activities for the development of the project and construction of the solar power plant are ongoing.

HUMAN RESOURCES

Awaiting challenges of times to come

The upcoming status change and corporatization of Electric Power Industry of Serbia along with the electricity market liberalization represent the greatest challenge for the Human Resources Function in this company.

Two important projects started in 2014:

- Introduction of centralized SAP HR solution for human resources management in PE EPS and subsidiaries in order to improve business processes, increase productivity and efficiency in human resources scope and ensure more efficient change management. Fields of human resources being integrated in the unified information system are organizational management, staff administration, employees training, recruitment and selection of staff, time management and payroll and other income of employees. Project is comprised of five phases: project preparation, conceptual design, realization, production preparation – production and support. First two phases of the project were successfully completed in 2014 and third phase – realization started, with active participation and contribution of the large number of employees in Electric Power Industry of Serbia through work in work groups divided by fields (modules);
- Creating corporate internal portal of EPS Group with the aim of improving internal communication. Completion of project is expected until the end of February 2015.

Convinced that only by continuous, planned and meaningful investment into knowledge innovation and development of employees work efficiency could be increased and business operation improved, Human Resources continued with the activities for the implementation of its professional development programs in all parts of the company in 2014.

All forms of professional development including 8,605 employees are present. Almost RSD 75 million was invested in the improvement of knowledge and skills which represents 50 percent of total funds allocated for this purpose.

Catastrophic floods that hit Serbia and inflicted enormous damage to Electric Power Industry of Serbia in 2014, as well as the need to reduce all types of costs led to smaller realization of planned funds for professional development and more intensive use of inter-

nal resources in all parts of the company and growing orientation towards internal trainings that do not require significant funds. Most often those are regular periodical trainings in the field of health and safety at work, environmental protection and fire protection. Employees that have to be familiar with the prescribed measures and instructions for operating and maintaining devices and facilities as well as those who handle hazardous materials were also tested.

Integrated Quality Management System is the field for which many trainings are realized in Electric Power Industry of Serbia which shows the significance of this segment of business operation.

Language learning, mastering computer skills and their improvement, acquiring and renewal of licenses as well as the training in so called soft skills (teamwork, communication, leader skills etc.) are included. Besides attending trainings, employees still have the possibility for additional education and acquiring higher level of qualification if that is estimated to be in the interest of the company and that it would contribute to work quality.

Launching new projects requires monitoring and updating professional knowledge and one of the ways is participating in professional conferences in the country and abroad. Experts from Electric Power Industry of Serbia can go to professional conferences as participants and very often they present their own scientific and professional papers.

PROFESSIONAL DEVELOPMENT IN 2014

COMPANY/SUBSIDIARY	Number of employees	Realized funds
PE EPS	461	14,222,641.43
HPPs Đerdap	1,242	5,389,470.00
HPPs Drinsko-Limske	92	1,034,000.00
TPPs Nikola Tesla	550	4,723,755.16
MB Kolubara	3,397	8,720,959.81
Panonske CHPs	526	2,186,574.07
Elektrovojvodina	472	10,665,668.35
Elektrodistribucija Beograd	243	1,473,571.35
Elektrosrbija	745	8,882,177.11
Jugoistok	256	5,909,152.55
Centar	382	3,492,162.00
TPPs-OCMs Kostolac	195	7,229,434.05
EPS Supply	40	723,778.00
Renewable Sources	4	219,206.27
TOTAL	**8,605**	**74,872,550.15**

Health and Safety at Work

Electric Power Industry of Serbia spent more than RSD 790 million in order to create healthy and safe work conditions as well as to provide health care for its employees in 2014. It is almost RSD 300 million more than in 2013.

Based on the recognized and defined risks, system applies a whole range of preventive measures and utmost attention is paid to the use of work equipment, tools and equipment for personal protection at work, training of employees for safe and healthy work and provision of adequate working environment. In addition to mandatory inspections and checks, special attention is paid to regular maintenance of working equipment. Even though the use of personal protective equipment is generally the last measure being used, the nature of jobs and work activities that our employees perform is such that the use of personal protective equipment is mandatory, regardless of all other measures being applied.

For the functioning of health and safety at work system it is necessary that the employees themselves are actively and adequately involved. Training for safe and healthy work is the most significant aspect when it comes to employees. Combined with informing and notifying, the goal is not just to introduce employees with risks and measures but also to improve employees' position in this field, primarily through development of awareness of its significance. Therefore, programs for training employees about safety and health at work are very often followed by additional education and trainings and around seven million dinars have been allocated for their realization.

Safety at Work

RSD **24** million was spent for preventive and periodical inspections and checks of work equipment and conditions of working environment, which is by about nine million dinars more than in 2013.

for the procurement of adequate personal protective equipment RSD **420.5** million was spent which is by about 233 million more than in 2013.

Health at work

RSD **160** million has been allocated for previous and periodical examinations of employees

RSD **82** million has been allocated for specialist and medical check-ups of employees

RSD **100** million has been allocated for rehabilitation, prevention and recreation

Monitoring the health condition of employees is the significant aspect of their care. It is performed through previous and periodical health examination of employees working at positions with increased risk. We have also provided health protection for those who do not work at positions with increased risk, i.e. for those employees for which we are not obliged according to regulations on health and safety at work. This health protection includes specialist (oncology and gynecology) examinations and regular medical check-ups. Based on recommendations of competent health institutions, we send employees with confirmed disease to rehabilitation, prevention of disability or recreation.

Relations with Trade Unions

Trade union organizations and employees expressed their solidarity and exceptional commitment to EPS group, by engaging in catastrophic floods that hit Serbia, Mine Basin Kolubara, mines and power plants in Kostolac and Obrenovac and distribution network in flooded areas. Consequences of this severe natural disaster were largely prevented or mitigated thanks to the selfless dedication and sacrifice of not only employees working in affected areas, but also those from other parts of the EPS group who selflessly came to help their colleagues.

According to the reform measures of the Government of the Republic of Serbia that are shaped and adopted for the following three-year period and that include austerity measures, trade union showed understanding by expressing expectation that the application of those measures will stop the trend of decrease in economic activity and start economic development of Serbia. With that aim amendments to Labour Law that make employment more flexible and Serbia more attractive for investment and opening of new positions are accepted. In that context, positive atmosphere for status and structural changes in EPS group has been created that will improve the efficiency of business system and increase competitiveness at open electricity market.

After new provisions of Labour Law became effective, Reorganization Program of PE EPS was adopted. That has created the conditions for the Government of the Republic of Serbia and Trade Union of Workers of Electric Power Industry of Serbia to conclude Separate Collective Agreement that is directly applied to all employees in EPS group. This agreement takes into account the interests of employees and the basic objectives of reorganization and transformation of EPS group, including the measures of financial consolidation. With such balanced interests and defined role of each entity in the change process legal grounds for that process to take place without conflict with employees and their trade union organizations has been created.

INTEGRATED MANAGEMENT SYSTEM

During 2014 significant step was made with the firm intention to establish process organization within EPS group. Using tools of the top management, which are implemented management systems, activities for harmonization of processes and procedures at the level of EPS group were initiated.

Successfully implemented tasks:

- Organization and revision of quality management system by the top management;
- Preparation, organization and participation in checking quality management system and successful recertification;
- Preparation and coordination of the IMS Board: preparation of arrangement of Board sessions and materials for sessions, reporting and monitoring implementation of activities according to accepted Minutes of sessions in cooperation with the members of the Board. Four executive sessions of the IMS Board were held and the first session of IMS Board in full;
- Active participation in the work of expert teams appointed by the General Manager of PE EPS on the following projects:
  - Analysis of the potential and program of organized monitoring and improvement of energy efficiency of EPS in coal production and electricity and heat energy generation and distribution and TPP Kolubara B,
  - Conduction of verification process for amended technical characteristics of power facilities and production units in subsidiaries for electricity generation.

After long time, during 2014, special attention was given to quality infrastructure activities. Requirements of technical regulation of the Republic of Serbia are successfully implemented in large projects for preparation of power entities construction. Conditions for systematic approach to quality infrastructure activities within PE EPS were created and thus systematic fulfillment of all requirements from the field of infrastructure: accreditation, metrology, standardization and harmonization assessment.

Some of the implemented activities:

- Work on preparation of the requirements of technical regulation of the Republic of Serbia for the project Morava PP – retrofit of 120 MW turbine";
- Work on the preparation of technical specifications for Third Party Inspection for the needs of equipment fabrication for the construction of TPP Kostolac B3 and extension of mine Drmno.

The need to regulate processes and activities that are ongoing between the Departments in PE EPS and subsidiaries is recognized. Therefore the harmonization of the documents of quality system management (QMS), environmental protection management (EMS) and operational health and safety (OH&S) was initiated.

The preparation of Terms of Reference "Adoption of Corporate Rules of Management System in PE EPS and Subsidiaries started", which will serve as a reference for all rulebooks of subsidiaries.

Quality workers actively participated in the project ARIS BPM/PPM for modeling, documenting and measuring process performance in PE EPS and subsidiaries and process mapping in EPS group.

During implementation of stated activities in 2014, and specially participating in internal checks of integrated management systems in EPS groups, IMS Sector in PE EPS was provided with large data base for connecting certain modules with subsidiaries.

High level of cooperation was achieved between sectors for IMS and subsidiaries within Electric Power Industry of Serbia thanks to regular exchange of experiences and information, including consideration of the problems which we come upon in everyday operation. Regular meetings were held not only in Belgrade but also in the seats of subsidiaries, and were used both for exchange of the best practice and for introduction to different topics, important for business operation of EPS groups. Harmonization and coordination of integrated management system improvement programs in EPS group also enabled integration of other management systems PE EPS selected.

Subsidiaries within Electric Power Industry of Serbia achieved significant level of quality management system integration, environmental protection and health and safety at work, by using IT support and applications which fulfill the needs of management system. Information security management system as well as energy management system which becomes an imperative in business operation since it provides rational energy management and lower costs of business operation were certified in some subsidiaries.

By conducting supervisory and recertification checks, prominent certification agencies confirmed stability and evident improvement of integrated management systems within EPS group also during 2014. Positive reviews and praises were sent to PE EPS and all subsidiaries. The effort of the company to implement standard requirements, as well as to make business moves uniformed and of recognizable form is recognized, thus reflecting the essence of unique, process-oriented company in the best possible manner.

Integrated Management Systems						
	QMS	EMS	OHSAS	ISMS	EnMS	Laboratory/ Control body
PE EPS	2008/TS 2011/TS 2014/TS	Ongoing project	Ongoing project			
Subsidiary	QMS	EMS	OHSAS	ISMS	EnMS	Laboratory/ Control body
HPPs Đerdap	2005/SGS 2014/SGS	2008/SGS 2014/SGS	2011/SGS 2014/SGS	2013/SGS	Project is planned in 2015	
HPPs Drinsko-Limske	2009/SGS 2012/SGS	2009/SGS 2012/SGS	2009/SGS 2012/SGS	2011/SGS 2014/SGS		
TPPs Nikola Tesla	2005/SGS 2011/SGS 2014/SGS	2008/SGS 2011/SGS 2014/SGS	2010/SGS 2013/SGS		Procedure of consultant adoption for Energy Management System ISO 500001 is ongoing	
MB Kolubara	2009/BV 2012/BV	2009/BV 2012/BV	2010/BV 2013/BV			2007/ATS Laboratory for testing coal and waste water 2011/ATS Center for testing coal and waste water - branch "Prerada" (physical and chemical testing of solid fuels and environmental samples and water sampling) 2012/ATS Laboratory Tamnava (physical and chemical testing of solid fuels and water) 2014/ATS Testing and Control Office Baroševac (electrical testing of electrical products, equipment and transformer oils (SRPS ISO/IEC 17025:2006) and control of electrical installations (SRPS ISO/IEC 17020:2012)
MB Kolubara Branch Kolubara Metal	2002/ISS 2004/TS 2007/TS 2010/TS 2013/TT	2012/TT	2012/TT			2009/ATS; 2014/ATS Laboratory Kolubara Metal - Defining center of gravity of mining devices; - Vibrodiagnostics; - Testing of springs for railways. Note: method accreditation is being prepared: materials testing and non-destructive testing of welded joints (ultrasound, magnetic flux; penetrants) *** - Certificates in the field of production of steel structures and welding jobs management: **EN ISO 3834-2** 2011/TT; 2014/TT **DIN 18800–7** 2004/SLV; 2007/SLV 2011/TT From Din 18800-7 to: **EN 1090-1** 2014/ TT **EN 1090-2** 2014/TT
TPPs-OCMs Kostolac	2006/SGS 2009/SGS 2012/SGS	2011/SGS 2014/SGS	2012/SGS		Ongoing project	Preparation for accreditation of laboratory for: -testing the quality of waste, surface and underground water -testing of ambient air quality according to ISO17025
Panonske CHPs	2002/SZS 2008/TS 2011/BV 2014/LRQA	2008/TS 2011/BV 2014/LRQA	2010/SGS 2011/BV 2014/LRQA		2014/LRQA	

Subsidiary	QMS	EMS	OHSAS	ISMS	EnMS	Laboratory/ Control body
Elektrovojvodina	1998/QS/ SZSSGS/TR 2013/Ct	2013/Ct	2013/Ct	Ongoing project		2014/ATS Accredited control body for meters according to SRPS ISO/IEC 17020:2012
Elektrodistribucija Beograd	2001/QS/SZS 2011/QMS/Ct 2014/QMS/Ct	2010/Ct 2013/Ct	2012/Ct	2012/Ct		2012/ATS Accredited control body for meters according to SRPS ISO/IEC 17020, according to new standard SRPS ISO/IEC 17020:2012 obtained a new certification on 10.12.204.
Elektrosrbija	2006/TS 2012/SGS	2007/TS,SGS 2011/SGS 2014/Ct	2009/TS,SGS 2012/SGS			2013/ATS Accredited control body for meters according to SRPS ISO/IEC 17020.
Jugoistok	2005/TS 2010/SGS 2013/Ct	2010/SGS 2013/Ct	2010/SGS 2013/Ct			2012/ATS Accredited control body for meters according to SRPS ISO/IEC 17020. In November 2013, the authorization on certification of electricity meters was obtained. Unique registration number OM 068 In 2014 control body was accredited according to the standard SRPS ISO/IEC 17020-2012
ED Centar	2001/QS/SZS 2008/TS 2011/SGS 2014/SGS	2008/TS 2011/SGS 2014/SGS	2008/TS 2011/SGS 2014/SGS			2012/ATS Accredited control body for meters according to SRPS ISO/IEC 17020.

Legend:

QS	Quality System
QMS	Quality Management System, ISO 9001
EMS	Environment Management System, ISO 14001
OHSAS	Occupational Health and Safety Management System, BS OHSAS 18001
IMS	Integrated Management System
ISMS	Information Security Management Systems, ISO 27001
EnMS	Energy Management System ISO 50001

EN ISO 3834-2 – General requirements for quality management for welding works

DIN 18800-7; Klasse E; due to issuance of new standard transfer to: EN 1090-1; EN 1090-2; EXC 4; The ability of the company for designing, production, corrosion protection and installation of steel structures of the highest class of performance (class 4) ; including factory control system

*** - Certificates in the field of production of steel structures and welding jobs management

Certified Bodies:

ISS	Institute for Standardization of Serbia
SGS	Societe Generale de Surveillance
TS	TUV SUD
Ct	Certop
BV	Bureau Veritas
TR	TUV Rheinland
ATS	Accreditation Body of Serbia
TT	TÜV Thüringen
LRQA	Lloyd's Register
SLV	München

PUBLIC RELATIONS

Natural disasters, which where rotating one after another in 2014, significantly influenced on dynamics and the way of relations with the public in Electric Power Industry of Serbia. In a couple of days, May's floods and extreme precipitations made OCM Tamnava-West Field completely inoperable, stopped or reduced generation in several thermal units, opened spillways on certain thermal power plants, cut-off distribution network and switched off many substations. For the first time, employees in EPS met with extreme working conditions of production capacities, and the company management set as a priority protection of people and equipment.

At the end of July, high precipitations influenced on TPPs-OCMs Kostolac, which had more damage than in May. It was similar with HPPs Đerdap at the end of September, when the high precipitations jeopardized generation of power plants, especially HPP Đerdap 2.

On these conditions, assignment was to quickly and accurately inform the general public, the citizens of Serbia, all electricity customers, the competent State Authorities, as well as employees on everything what was happening in EPS.

Public Relations Division of EPS had continuous, day and night communication with all leading media in Serbia. In May, visits of the subsidiaries that had the greatest damages were organized and the management of EPS informed on-site the audience about the consequences of floods and all efforts were made by EPS that all customers have secure power supply.

Reorganization and corporatization of Electric Power Industry of Serbia was one of the most communicable topics in the media. Press conferences were organized or management members with Aleksandar Obradović on forehead participated on the various conferences, round tables and trade fairs where they spoke about the undertaken activities in connection with the corporatization of the company, as well as on the importance of reforms for the future of EPS.

The liberalization of the electricity market in Serbia, which had started firstly on the high voltage on 1st January 2013, continued on the second phase at the beginning of 2014. Public Relations Division was assigned to inform the customers on the medium voltage that they could choose their supplier, but also that EPS still was the most reliable supplier, with the most competitive prices.

By performing all these tasks, singles as well as those in critical situations, Public Relations Division implemented planned and continuous communications to all target groups – with internal (company management, employees, trade union), as well as external (Government of Republic of Serbia, Ministry

of Energy, Energy Agency of the Republic of Serbia, political and professional public, customers of power energy, media, consumers associations, business partners).

The most important communication channel in informing of public was media. During 2014, 10,472 announcements in media were about EPS. 9,254 announcements of them were neutral, so the share of informative content was 88 percent. There were 753 affirmative announcements (seven percent) and 465 negative announcements (five percent). The highest number of announcements was recorded in January, then in May and in November, at the end.

In the overall review of media reports, the highest numbers are reports on the consequences of meteorological disasters (843), electricity prices (623), EPS reorganization (614) and privatization (546 reports). The most important topic of affirmative texts was the protection of power substations form floods. Otherwise, the highest number of announcements was broadcasted in electronic media (7,026), while 3,445 announcements were in the press. 1,528 reports were broadcasted on TV media, which lasted for about 146 hours.

Official stands of company's management about the most important topics were presented in company's magazine "kWh", with a monthly circulation of 10,000 copies. The tradition that the important topics covered in magazine are transmitted by external media has continued. Prominent economic analysts, university professors, representatives of international power associations and wide professional public gave their opinion on reforms in electric power sector, market liberalization, as well as evaluation of EPS business.

"E-info" is an electronic internal newsletter by which was announced almost 400 information from all subsidiaries and branches of EPS in 2014. Certainly, the importance of this type of communication has been priceless for all employees in EPS, but also for the general public, especially in the days of natural disasters. Information was updated daily on a web presentation of EPS, as an important channel of communication.

Public Relations Division had an educational program through whole Serbia on a rational consumption of power energy. Participants of program could, through an interesting quiz game, to check their knowledge and to win interesting prizes.

And in 2014, EPS has participated in all important national and international energy trade fairs, and for successful appearance at the International Fair Energy 2014, the company was awarded with a diploma of the Association of Serbian Market Communication.

TABLES

Balance Sheet as of 31.12.2014.

Item		EDP	Balance as of			Index	
			12/31/2014	Plan 31.12.2014.	12/31/2013		
1		2	3	4	5	3/4	3/5
	ASSETS					RSD 000	
A	**FIXED ASSETS** (002+003+004+009)	001	**941,552,713**	**973,060,538**	**944,443,606**	**97**	**100**
I	UNPAID REGISTERED CAPITAL	002	0	0	0	0	0
II	GOODWILL	003	0	0	0	0	0
III	INTANGIBLE INVESTMENTS	004	4,222,887	3,535,703	3,185,541	119	133
IV	PROPERTY, PLANT, EQUIPMENT AND BIOLOGICAL ASSETS (006+007+008)	005	933,220,098	962,831,823	933,390,867	97	100
1.	Property, plant and equipment	006	932,375,380	962,120,602	932,628,771	97	100
2.	Investement properties	007	451,727	406,783	457,658	111	99
3.	Biological assets	008	392,991	304,438	304,438	129	129
V	LONG-TERM FINANCIAL INVESTMENTS (010+011)	009	4,109,728	6,693,012	7,867,198	61	52
1.	Investments in capital	010	1,478,550	1,357,909	1,239,099	109	119
2.	Other long-term financial investments	011	2,631,178	5,335,103	6,628,099	49	40
B	**CURRENT ASSETS** (013+014+015)	012	**110,249,070**	**139,432,752**	**151,168,457**	**79**	**73**
I	INVENTORIES	013	27,033,763	27,212,860	25,449,257	99	106
II	FIXES ASSETS AVAILABLE FOR SALE AND ASSETS OF DIS-COUNTING OPERATIONS	014	0	111	0	0	0
III	SHORT-TERM RECEIVABLES, INVESTMENTS AND CASH (016+017+018+019+020)	015	83,215,307	112,219,781	125,719,200	74	66
1.	Receivables	016	45,714,877	96,041,898	82,553,305	48	55
2.	Receivables on account of prepaid income tax	017	1,586,110	59,898	0	2,648	0
3.	Short-term financial investments	018	1,637,121	5,235,352	6,835,844	31	24
4.	Cash equivalents and cash	019	31,181,332	9,680,711	35,524,097	322	88
5.	Value-added tax, accruals and prepaid expanses	020	3,095,867	1,201,922	805,954	258	384
IV	DEFFERED TAX ASSETS	021	0	0	0	0	0
C	**OPERATING ASSETS** (001+012+021)	022	**1,051,801,783**	**1,112,493,290**	**1,095,612,063**	**95**	**96**
D	**LOSS EXEEDING THE VALUE OF EQUITY**	023	**0**	**0**	**0**	**0**	**0**
E	**TOTAL ASSETS** (022+023)	024	**1,051,801,783**	**1,112,493,290**	**1,095,612,063**	**95**	**96**
F	**OFF-BALANCE SHEET ASSETS**	025	**181,726,567**	**48,586,494**	**155,817,713**	**374**	**117**

Item		EDP	Balance as of			Index	
			12/31/2014	Plan 31.12.2014.	12/31/2013		
1		2	3	4	5	3/4	3/5
	EQUITY AND LIABILITIES					RSD 000	
A	**EQUITY** (102+103+104+105+106-107+108-109+110)	101	**784,036,644**	**761,907,895**	**799,316,798**	**103**	**98**
I	FIXED CAPITAL	102	360,011,201	360,178,042	360,010,128	100	100
II	UNPAID REGISTERED CAPITAL	103	0	0	0	0	0
III	RESERVES	104	0	0	0	0	0
IV	REVALUATION RESERVES	105	548,708,082	552,886,521	554,439,448	99	99
V	UNREALISED GAINS ON SECURITIES	106	36,463	20,235	20,235	180	180
VI	UNREALISED LOSSES ON SECURITIES	107	584,143	730,355	730,355	80	80
VII	UNDISTRIBUTED PROFIT	108	0	166,712	0	0	0
VIII	LOSS	109	124,134,959	150,613,260	114,422,658	82	108
IX	TREASURY SHARES	110	0	0	0	0	0
B	**LONG-TERM PROVISIONS AND LIABILITIES** (112+113+116)	111	**179,651,466**	**257,212,564**	**205,912,222**	**70**	**87**
I	LONG-TERM PROVISIONS	112	15,102,057	17,028,511	14,381,681	89	105
II	LONG-TERM LIABILITIES (114+115)	113	77,907,168	112,130,176	68,480,151	69	114
1.	Long-term loans	114	77,376,940	109,967,929	66,101,130	70	117
2.	Other long-term liabilities	115	530,228	2,162,247	2,379,021	25	22
III	**SHORT-TERM LIABILITIES** (117+118+119+120+121+122)	116	86,642,241	128,053,878	123,050,390	68	70
1.	Short-term financial liabilities	117	29,018,403	27,085,457	25,155,055	107	115
2.	Liabilities on account of assets available for sale and assets of discounting operations	118	0	0	0	0	0
3.	Operating liabilities	119	26,632,486	68,685,759	59,435,962	39	45
4.	Other short-term liabilities	120	5,913,736	5,137,547	5,097,611	115	116
5.	Liabilities on account of vat and other public revenues,accruals and deferred income	121	25,080,926	27,145,115	30,009,753	92	84
6.	Liabilities on account of income tax	122	-3,310	0	3,352,009	0	0
C	**DEFFERED TAX LIABILITIES**	123	**88,113,673**	**93,372,831**	**90,383,043**	**94**	**97**
D	**TOTAL EQUITY AND LIABILITIES** (101+111+123)	124	**1,051,801,783**	**1,112,493,290**	**1,095,612,063**	**95**	**96**
E	**OFF-BALANCE SHEET ASSETS**	125	**181,726,567**	**48,586,494**	**155,817,713**	**374**	**117**

Consolidated Income Statement of PE EPS and Subsidiaries

ELEMENTS		ACTUAL I-XII 2014	PLAN I-XII 2014	ACTUAL I-XII 2013	Index	
1	2	3	4	5	(3/4)	(3/5)
I	**OPERATING REVENUE**	**217,389,173**	**218,778,534**	**219,816,089**	**99**	**99**
II	**OPERATING EXPENDITURE**	**193,375,494**	**227,314,396**	**186,810,181**	**85**	**104**
1.	Electricity procurement	32,479,232	32,583,383	29,345,579	100	111
2.	Material and fuel costs	9,349,329	18,997,817	11,558,809	49	81
3.	Maintenance	19,559,202	36,634,563	16,192,887	53	121
4.	Depreciation	38,774,716	37,937,140	37,354,085	102	104
5.	Employee costs	55,655,336	57,621,425	53,870,995	97	103
6.	Insurance	2,319,572	2,371,133	2,380,362	98	97
7.	Statutory obligations	3,841,234	3,730,766	5,048,915	103	76
8.	Liabilities towards the state	10,805,590	10,450,693	13,749,804	103	79
9.	Scientific research	420,359	810,124	587,057	52	72
10.	Other operating expenditure	20,170,924	26,177,353	16,721,688	77	121
I-II	**Operating profit/loss**	**24,013,679**	**-8,535,862**	**33,005,908**	**0**	**73**
III	**FINANCIAL REVENUE**	**15,726,997**	**12,820,459**	**16,754,412**	**123**	**94**
IV	**FINANCIAL EXPENDITURE**	**14,424,237**	**10,117,259**	**7,438,737**	**143**	**194**
III-IV	**Financial profit/loss**	**1,302,760**	**2,703,200**	**9,315,675**	**48**	**14**
V	**OTHER REVENUE**	**5,967,777**	**4,056,249**	**7,865,243**	**147**	**76**
VI	**OTHER EXPENDITURE**	**40,559,336**	**35,734,224**	**26,788,874**	**114**	**151**
V-VI	**Other profit/loss**	**-34,591,559**	**-31,677,975**	**-18,923,631**	**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)**	**239,083,947**	**235,655,242**	**244,435,744**	**101**	**98**
B	**TOTAL EXPENDITURES (II+IV+VI+VIII)**	**248,359,067**	**273,165,879**	**221,037,792**	**91**	**112**
A-B	**Total profit / loss**	**-9,275,120**	**-37,510,637**	**23,397,952**	**0**	**-40**
	Tax Expenditures	-2,914,267	0	-4,835,008	0	0
	Deffered Tax Revenues/Expenditure	2,269,355	0	1,191,841	0	190
	NET TOTAL PROFIT/LOSS	**-9,920,032**	**-37,510,637**	**19,754,785**	**0**	**-50**

PE EPS Business Indicators

		I-XII 2014.	I-XII 2013.	Index
1	2	3	4	(3/4)
1	Number of employees at the end of period	36,381	36,038	101
2	Total revenues, mil RSD	239,084	244,436	98
3	Total expenditures, mil RSD	248,359	221,038	112
4	Operating revenues, mil RSD	217,389	219,816	99
5	Operating expenditures, mil RSD	193,375	186,810	104
6	Net loss current year, mil RSD	-9,275	0	0
7	Net profit current year, mil RSD	0	23,398	0
8	Accumulated loss, mil RSD	124,135	114,423	108
9	Total fixed assets, mil RSD	941,553	944,444	100
10	Capital, mil RSD	360,011	360,010	100
11	Capital and reserves, mil RSD	784,037	799,317	98
12	Total liabilities, mil RSD.	179,651	205,912	87
13	Long-term foreign currency liabilities, mil RSD	73,068	53,885	136
14	Total net current fund, mil RSD	23,607	28,118	84
15	Share of total long-term funds in total assets (assets),%	89.5	86.2	104
16	Share of inventories in current assets,%	24.5	16.8	146
17	Share of receivables, investments, VAT and accruals in current assets,%	45.8	59.7	77
18	Share of total equity and revaluation reserves in total liabilities,%	74.5	73.0	102
19	Share of total short-term liabilities in total liabilities,%	48.2	59.8	81
20	Share of total liabilities in equity,%	22.9	25.8	89
21	Ratio of account payables to receivables,%	50.0	15.6	321
22	Ratio of account payables to short-term receivables without TV fee,%	50.0	31.8	157
23	Ratio of account payables to receivables from sale (customers),%	14.3	9.4	152
24	General liquidity ratio	1.27	1.23	104
25	Reduced liquidity ratio	0.96	1.02	94
26	Account payables, days	98	61	161
27	Account receivables, days	278	236	118
28	Share of long-term liabilities in foreign currency in total long-term liabilities, %	40.7	26.2	155
29	Turnover ratio of total current assets	1.97	1.45	136
30	Turnover ratio of account receivables	1.31	1.55	85
31	Turnover ratio of account payables	3.71	5.98	62
32	Share of operating income in total income,%	90.9	89.9	101
33	Share of operating income in total expenditures,%	77.9	84.5	92
34	Total revenues / total expenditures ratio,%	96.3	110.6	87
35	Operating revenues /Operating expenditures ratio,%	1.12	1.18	96
36	Net income / (loss) margin,%	-3.9	0.0	0
37	Net income / (income) margin,%	0.0	9.6	0
38	Accumulated loss to total revenue ratio,%	51.9	46.8	111
39	Accumulated loss to capital ratio,%	15.8	14.3	111
40	Loss per employee, 000 RSD	-254.9	0.0	0
41	Gross profit per employee, 000 RSD	0.0	649.3	0

IMPRESSUM

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