1. "Analysis of possibility of small hydro power plant "Bobovište" grid integration"

   Ordered by: Solaris Energy, Kladovo
   Project Manager: Maja Marković, MSc.
   Associates: Saša Minić, MSc.
   The subject of this report was to analyze the possibilities of HPP "Bobovište" grid integration and to define maximum power generation considering voltage change range at the connection point in the transient period and voltage criteria at steady-state in case of maximal and minimal network load. Impact analysis on the power distribution system functioning is performed for two different connection points considering HPP with two generation units.
   Size of Project: 10 pages
   Finished in: 2012.

2. "Study of long-term prospective 10 kV network development for the Prokuplje branch",

   Ordered by: Public Utility "Jugoistok", Niš
   Project Manager: Igor Belić, MSc.
   Associates: Nikola Šušnica, MSc.
   Nikola Georgijević, MSc.
   Saša Minić, MSc.
   Maja Marković, MSc.

   The objective of this study was development of prospective 10 kV network for the Prokuplje branch for the period 2012-2030. This 2400 $km^2$ wide area, in the south Serbia, has ~55670 electrical energy customers with 266.5 GWh annual consumption. The study includes analyses of energy consumption development for the period up to the year of 2012, as well as load and energy consumption forecast until the year of 2030. As preparation for study, all points in 10-110 kV network are tracked using GPS devices and transferred to GIS environment, based on previously digitalized georeferenced maps. Geographical data were also transferred for about 50% customers (their location and connection to supplying MV/LV substation). Detailed analyses of 110 kV, 35 kV and 10 kV networks present condition (including physical state of networks, load of elements, voltage conditions and losses) have been accomplished.

   Based on these analyses, results of load forecasting, techno-economical analyses and comparison of possible development variants, the most prosperous solution of distributive network further development in the considered area for the period up to the year of 2030 has been suggested.

   Size of Project: 454 pages
   Finished in: 2012.

3. "Analysis of photovoltaic system integration into low voltage grid"

   Ordered by: Public Utility "Elektroprivreda Srbije", Belgrade
   Project Manager: Maja Marković, MSc.
   Associates: Saša Minić, MSc.
   The subject of this report was to analyze photovoltaic systems integration into low voltage grid. Calculations for different network steady-states were performed and the effects of connection to voltage profile and losses have been analyzed.
   Four different connection points on low-voltage excerpt from the substation 10/0.4 kV have been analyzed. An insight into the functioning of the low-voltage network considering specified conditions, and the level of power injection to the network that may be submitted in terms of voltage profile and load level was rated.
   Size of Project: 22 pages
   Finished in: 2012.

4. "Calculation of subtransient and transient short-circuit currents at 15.75 kV busbar of auxiliary consumption in HPP "Đerdap 1" between inductor and transformer switch "

   Ordered by: Public Utility HPP "Đerdap", Kladovo
   Project Managers: Dragan Dabić, MSc., Branka Kostić, MSc.
   The subject of this report was calculation of subtransient and transient short-circuit currents at 15.75 kV busbar of auxiliary consumption in HPP "Đerdap 1" between inductor and switch of transformer. Calculations of the subtransient and transient currents in case of two and three phase short-circuit faults were performed for two different topologies.
   Size of Project: 8 pages
   Finished in: 2012.

5. "Development of the methodology and database for electric power and energy demand forecasting in planning investments in power distribution utilities in Serbia considering uncertainty in prices of electricity and other energy"

   Ordered by: Public Utility "Elektroprivreda Srbije", Belgrade
   Project Manager: Saša Minić, MSc.
   Associates: Slobodan Jovanović, PhD.
   Branislav Ćupić, MSc.
   Mr Milan Ivanović, MSc.
   Ana Šaranović, MSc.

   This study arose from desire and effort to modernize methods and software tools used in EPS (Serbian Power Utility) for power and energy forecasting, in order to increase their accuracy, and take into account the economic factors (fuel prices) that influence the load a lot now, and, especially, it will be the case in the future, when it is expected even greater influence of economic factors in EPS, as is the case in other international utilities. The main objective of this study was systematisation of established load forecast methodologies, witch are used in the major international power companies and their comparison with the current methodology used in EPS in order to make improvement. Especially, the spatial distribution of the load forecast and the impact of energy prices on energy development were pointed as aspects that should be considered when comparing international experience and local practice in energy forecasting for the purpose of planning the development of the distribution network.

   Size of Project: 81 pages
   Finished in: 2012.

6. "Feasibility study for relocation the existing 110/35 kV, 2×63 MVA "Crvena Zastava" to a new location"

   Ordered by: Public Utility "Centar", Kragujevac
   Project Manager: Gordana Radović, MSc.
   Associates: Nikola Šušnica, MSc.
   Igor Belić, MSc.
   Sanja Ivković, MSc.
   Saša Minić, MSc.

   Subject of this study was selection of optimal location for new 110/X kV substation with current and future consumption area defined and specification of connection lines of high and medium voltage. Construction of new 110/35/20 kV substation should provide backup for 20 kV network in new car factory and basic supply for couple of new car spare parts factories near this location. Study provided precise definition of measurement points of couple of existing consumers and their power supply from new source. The formation of supply network for current customers and definition where and how to measure electricity have been made in this study.

   Size of Project: 71 pages
   Finished in: 2012.

7. "Construction of the actual operating characteristics of the generator (the new method for determining the Potier reactance)"

   Ordered by: Public Utility "Elektroprivreda Srbije", Belgrade
   Project Manager: Miloje Kostić, PhD.
   Associates: Nikola Georgijević, MSc.

   The objective of this study was to determine the actual operating characteristics of the generator by a new method for determining the Potier reactance. According to this method more accurate calculation and analysis of the excitation current and the power losses in the generator, depending on the reactive load, were implemented, and, also, the methodology to establish the upper level of allowable reactive power. The study contains the results of testing (in idle mode, short circuit mode with a nominal current, and reactive load experiment), calculations, proper analysis and suggestions.

   Size of Project: 117 pages
   Finished in: 2012.

8. "Report of implementation level of Energy Sector Development Strategy of the Republic of Serbia until 2015th and substrate for the development of new strategies in the field of production, distribution and supply of thermal energy, clean energy and renewable energy sources and environmental protection in the energy sector, including climate changes and Climate-Energy Package of EU (Lot 2)"

   Ordered by: Ministry of Energy, Development and Environmental Protection of Republic of Serbia
   Project Manager: Prof. Aleksandar Jovović, PhD.
   Associates: Saša Minić, MSc.
   Prof Dragoslava Stojiljković, PhD.
   Mr Mirjana Stamenić, MSc.
   Nikola Tanasić, MSc.
   Tomislav Simonović, MSc.
   Miloje Kostić, PhD.
   Sandra Lučić, dipl. jur.
   Radmila Vukadinović, dipl. ecc.

   In this report, according to the terms of reference analysis of the potential and utilization of renewable energy were presented. It also contains review and analysis of regulations related to renewable energy sources which are grouped according to their origin and regulation area, analysis of commitments and actions that are taken by Serbia as result of bilateral and multilateral agreements and membership in international organizations, report of systematization of data that needs to be part of the IMIS database and, it the end, basic directions of further development of renewable energy with special emphasis on the possibility of (in)efficiency of nuclear power use in Serbia.

   Size of Project: 123 pages
   Finished in: 2012.

9. "Analysis of possibility of small hydro power plant "Sastav reka" grid integration"

   Ordered by: CEEFOR, Belgrade
   Project Manager: Saša Minić, MSc.
   Associates: Sanja Ivković, MSc.

   The subject of this report was to analyze the possibilities and define maximum power generation of HPP "Sastav reka" for grid integration from the perspective of voltage change range at the connection point in the transient period and voltage criteria at stationary state in case of maximal and minimal network load. Analysis of impact on the power distribution system functioning have been made for one connection point with two generation units operation with respected impact of other exixting and future surrounding HPPs.

   Size of Project: 16 pages
   Finished in: 2012.

10. "Optimal operation of HPP Novakovići connected to distribution network (parameters of voltage control and protection adjustment) and possibility of connection to distribution network for HPP Zapeće"

    Ordered by: Interenergo d.o.o., Ljubljana
    Project Manager: Saša Minić, MSc.
    Associates: Maja Marković, MSc.
    Jelena Perić, MSc.
    Sanja Ivković, MSc.

    Subject of this study is analysis of necessary regulation and relay protections systems settings in order to optimize operation of HPP Novakovići connected to distribution network, and analysis of the possibility of connection of HPP Zapeće on the river Ugar to distribution network considering new circumstances after connection of HPP Novakovići. Analysis of the distribution network was at first made for case without HPP "Novakovići" in order to reflect the limits of voltage at corresponding 110/X kV substation, which was the result of load level and distribution network conditions. Two states of the distribution network have been analized from the point of loading (minimum and maximum), with variations in terms of engagement nearbay HPP "Divič" (maximum and minimum generation) and variations of voltage at medium-voltage busbar of corresponding 110/X kV substation.

    Numerous analyses of the functioning of the distribution network have been made with maximum engaged HPP "Novakovići" given the constraints of the PQ diagram of each generator.

    Size of Project: 57 pages
    Finished in: 2012.

11. "Load analysis of 35/10 kV substation "Varvarin" and possibility of customer "Sparow" grid integration"

    Ordered by: Public Utility "Elektrosrbija", Kraljevo, Kruševac branch

    Project Manager: Maja Marković, MSc.

    The subject of this report was analysis of load level of 35/10 kV substation "Varvarin" and 35 kV connecting lines after grid integration of customer "Sparow". The report contains load levels data of considered network elements, losses and voltages for three working modes.

    Size of Project: 2 pages

    Finished in: 2012.