Trans-Balkan Electricity Corridor (II): Grid Section in Serbia

Partners:
- Electricity Transmission System Operator in Serbia (JP EMS)
- Ministry of Mining and Energy, Serbia

EU contribution:
- €6.6 million (24%, out of which €5.6 million investment and €1 million technical assistance costs)

Estimated total investment:
- €28 million

Estimated KfW loan:
- €14.27 million

Beneficiary (national) contribution:
- €7.13 million

Energy

This project[1] contributes to the establishment of a Trans-Balkan Power Corridor that would connect the electricity transmission systems from Serbia, Montenegro, Bosnia and Herzegovina to Croatia, Hungary, Romania and Italy through either 400 kV overhead lines or submarine cable. A new 400 kV transmission line between Kraljevo and Kragujevac will be built and the substation in Kraljevo will be upgraded to 400 kV. These investments are needed because the existing transmission system is seriously out-dated and thus prone to system failures and high operational and maintenance costs.

The Kragujevac – Kraljevo section is on the list of Projects of Energy Community Interest, being located in one of the Energy Community Treaty Contracting Parties (Western Balkans countries, Moldova, and Ukraine). It will upgrade the electricity distribution system in Central and Western Serbia and interconnect it with systems in the neighbouring EU states.

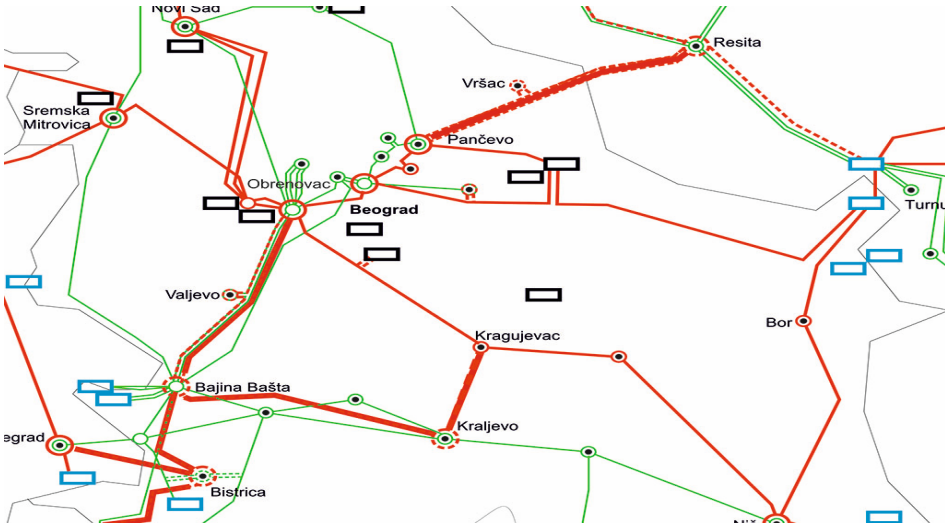
Low voltage transmission lines on the Kraguevac – Kraljevo route

Results:

- Secure and stable electricity supply to Central and Western Serbia and to the wider region by enabling interconnection with other transmission systems in the Western Balkans and the neighbouring EU states.
- Approximately 59.4 km of 400 kV overhead transmission line from Kragujevac to Kraljevo.
- Upgrade of the existing substation in Kraljevo (Kraljevo 3) to 400/220/110 kV.

View of existing 400 kV transmission lines in Kraguevac.

[1] Subject to a final decision by the budgetary authorities.



Existing and planned electricity transmission lines along the Trans-Balkan Corridor in Serbia.

Estimated Start Date:

- First half of 2016

Estimated End Date:

- End of 2018

Estimated Loan Repayment Period:

- 12 years

This project improves the security of the electricity supply for the one million residents of Zlatiborski, Moravički, Rasinski and Raški districts, who are now connected, via 220 kV lines, to the hydropower plant of Bajina Bašta and the 400/220/110 kV substation in Niš. Moreover, the new transmission line is expected to reduce EMS's network losses by approximately 7,000 MWh/year, equating to annual savings of around €380,000.

Other investments in the Serbian electricity transmission network are being considered to capitalize on or complement the new Kragujevac – Kraljevo section of the planned Trans-Balkan Corridor. These include building 400 kV transmission lines (with ancillary upgrades of substations, if appropriate) from Pančevo to Resita (Romania), from Kraljevo to Bajina Bašta, and from Bajina Bašta to Višegrad and then to the border with Montenegro and undersea to Italy. EMS also plans to build a 400 kV interconnection between Serbia and Hungary.

The feasibility study together with the preliminary designs for the project are now complete. The new development will have a low to moderate social and environmental impact since the new facilities will be built in close proximity to the existing transmission corridors.

Statutory planning and land expropriation issues should be resolved by October 2015 and the construction permit granted by the end of 2015. The upgraded substation and overhead transmission line are due to become operational by 2020.

Benefits

- Secure power supply in Western and Central Serbia for 1.05 million consumers (15% of the total population of Serbia) by eliminating overloads in the existing system and thus reducing outages.
- Reduction of transmission losses by approximately 7,000 MWh/year, i.e. savings of around €380,000/year.
- CO_2 emissions reduced by 5,832 tonnes/year.