

## Zoran Vujasinović

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Year of Birth: 1974  
Place of Birth: Knin, Croatia



### SUMMARY OF QUALIFICATIONS

**1999** Graduate Electrical Engineer (dipl. ing.)  
Faculty of Electrical Engineering, University of BELGRADE, SERBIA

### KEY QUALIFICATIONS

- ☞ Profound knowledge of European and SEE electricity market
- ☞ Load flow & static security analyses of transmission network / DACF
- ☞ Working on number of interconnection and electricity market studies
- ☞ Congestion management / NTC calculation and allocation / participation in coordinated flow-based auctions design for SEE and CEE regions
- ☞ Project leader for dry-run South-East European Technical Parameters Calculation software (PTDF/MF) software project
- ☞ Project leader for Technical Parameters Calculation software (PTDF/MF) for Central-East European Auctioning Office in Freising/Munich
- ☞ BETSEE project leader, software for regional Balance management in South-East Europe;

### SPECIAL SKILLS

- ☞ Languages
  - English (excellent)
- ☞ Professional software
  - PTI PSS/E (load flow, static security, inertia/governor response)
  - PSA, TPC Tool (load flow, network transfer capacities evaluation, PTDF/MF)
- ☞ Microsoft Office Applications (Word, Excel, Power point, Visio, Project)

## MEMBERSHIP

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- Corresponding Member of UCTE Project Group Albania (UCTE PG Albania)

## PROFESSIONAL EXPERIENCE

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<b>2009 – to date</b>	<i>Head of Consulting &amp; Electricity Market department</i> Electricity Coordinating Center Ltd.
<b>2007 – 2009</b>	<i>Senior consulting engineer</i> Electricity Coordinating Center Ltd.
<b>2001 – 2007</b>	<i>Research engineer</i> Electricity Coordinating Center Ltd.
<b>2000 – 2001</b>	<i>Dispatcher in regional control center</i> Electricity Coordinating Center Ltd.

## SELECTED REFERENCES

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### Projects in progress

#### **Technical parameters Calculation software for 2009/2010 SEE Dry-run of Coordinated flow-based Auctions**

*Project leader*

*for: KfW bank (Germany)*

The extension of Merlin/PSA softwares for Technical Parameters Calculation for dry-run of flow-based Coordinated Auctions in South-east Europe, covering the needs of SEE TSOs.

*Tasks performed by author: project coordination, algorithm and specification, testing and software presentation, training of users*

#### **2009 Study of the 400 kV OHL Serbia – Romania**

*Team member*

*for: MVV-decon (Germany)*

Feasibility study on connection Serbia and Romania with new 400 kV tie-line, which included following tasks: load flow analyses, security assessment, TTC calculation and cost-benefit analysis.

*Tasks performed by author: analysis of techno-economic aspects*

#### **CAO - Freising - IT system for coordinated flow based allocation and related services**

##### **EKC: Technical Parameters Calculation PTDF/MF**

*Project Leader*

*Project for CEE CAO Freising/Munich, Germany, in cooperation with Siemens and Riecado*

Technical Parameters Calculation software for flow-based Coordinated Auctions in Central-East Europe: validation and merging of network models, load flow, security analyses, calculation of PTDF factors and maximum Flow capacities, preparation of technical parameters as auction input for yearly, monthly and daily auctions.

*Tasks performed by author: project coordination, algorithm and specification, testing and software presentation, training of users*

#### **Generation surplus projections in Eastern Europe (EE) region and electricity market scenarios in the period 2008 – 2020, [Updated data and scenarios]**

*Project Leader*

*for: TERNA, Italy*

The objective of the study is to analyze different scenarios of generation surplus in SEE/EE region and features of electricity market development, as well as to analyze the transmission network evolution in the

period under analysis (2008-2020). This Study presents an Update of similar SEE Market Study performed in 2007, with extended time horizon (until 2020), scenarios (optimistic, besides pessimistic and realistic) and countries (Ukraine, Moldova, Hungary).

*Tasks performed by author: project coordination, data collection, surplus/deficit analyses, load flow.*

### **Prototype of Service platform for Regional Balancing Market Balance Energy Tool for South East Europe\_ (BETSEE), Upgrade project**

*Project Leader*

*for: SETSO SG, Energy Community Secretariat*

The objective of the BETSEE upgrade project is to improve the operability and user friendliness of the BETSEE prototype platform. Main features of BETSEE#2 are pre-calculated graphical results for all possible requests per TSO and enhanced time dimension with hourly resolution and flexible products.

*Tasks performed by author: project coordination, algorithm, testing and software presentation.*

### **Connection of the TPP Porto Romano to the EPS of Albania**

*Load Flow and NTC Analyses, UCTE Accession*

*for: RWE, Germany*

Technical Parameters Calculation software for flow-based Coordinated Auctions in Central-East Europe: The aim of the study is to examine the possibility of constructing the TPP Porto Romano, which is to be connected to the 400 kV transmission network of Albania, considering the state of 400, 220 and 110 kV network in future period in year 2016 and to provide the best possible solution for its connection, as well as to check the transfer possibilities of electric power from TPP Porto Romano to neighboring EPSs (Montenegro, Serbia, Macedonia, Greece, Italy) for different scenarios.

*Tasks performed by author: load flow, transmission capacity assessment, tertiary reserve analyses, analysis of UCTE accession process.*

### **2008 PSA\_maxFlow: Software for processing of technical data, (network models, PTDF matrices and transmission capacities), within the 2008 - DRY-RUN implementation of Coordinated Auctions in SEE region**

*Project Technical Manager*

*for: USAID and SEE TSOs*

Software for the automatic calculation of the PTDF factors and transmission capacities (TMF, AMF) for the 2008 dry-run implementation of the Coordinated flow-based Auctions in SEE region, by using the MaxFlow methodology.

*Tasks performed by author: Evaluation of Coordinated Auctions MaxFlow methodology; Developing the load-flow and PTDF/MF calculation tool; Training of the SEE TSOs experts.*

### **Implementation of auctioning for Transmission capacities allocation for Electric Power System of Macedonia**

*Project leader*

*for: MEPSO, Macedonia*

Consulting and software for MEPSO for the development of the market-based allocation method for its cross-border capacities (explicit ATC-based auctions), by drafting the needed documentation and providing the software for the processing of the auctions.

*Tasks performed by author: Evaluation of regional transmission capacity allocation methods; Development of the most suitable concept for the capacity allocation for Macedonia; Drafting of the documents (Allocation rules, applications, Contracts, Calendar); Algorithm of the allocation software Tcat (Transmission Capacity Allocation Tool – customized for MEPSO).*

### **Review of electricity supply, demand and transmission projections in South-east Europe in the period 2008-2020**

*Team member*

*for: CEZ, Czech Republic*

Objective of this study is to collect national inputs and the development plans for South East European countries, and to perform data analyses to get review in alternatives for power supply, demand forecast and transmission network adequacy in region, for time horizon 2008-2020. In the scope is to analyze the regional transmission system to identify the existing potential for electric power trade in the region and limiting factors.

Power systems analyzed: Albania, Bosnia-Herzegovina (BiH), Bulgaria, Croatia, Greece, Macedonia, Montenegro, Romania, Serbia, UNMIK.

*Tasks performed by author: project coordination, data collection, surplus/deficit analyses, load flow.*

#### **Feasibility Study: Synchronous Interconnection of the Power Systems of IPS/UPS with UCTE**

- WG 3: Power System Control

*Team member of Working Group 3*

*for: EU, CIS*

Feasibility study on connection of IPS/UPS systems (Russia, Ukraine, Moldova, Baltic states, Central Asia...) with UCTE main grid (continental Europe).

*Tasks performed by author: load flow analyses, required level of primary and secondary reserve, investigation of effect of control power flows on TRM values, congestion management.*

#### **Feasibility study for new under sea HVDC interconnection between Italy and Montenegro**

##### **Static security analyses**

*Team Member*

*for: TERNA, Italy*

Study on collecting national inputs and the development plans for building of regional transmission model for 2016, and then to perform analyses of technical feasibility for new under sea HVDC interconnection between Italy and Montenegro. The following design studies have been provided: data collection and analyses, load flow analyses (steady state, contingency...), voltage profile and stability analyses, maximum exchange capabilities, development plan evaluation.

*Tasks performed by author: data collection, load flow analyses*

#### **2007 Generation surplus projections in South-east Europe (SEE) region and electricity market scenarios in the period 2006 - 2016**

*Team member*

*for: TERNA Italy*

Analysis of different scenarios of generation surplus in SEE region and features of electricity market development. Study deals with analyses of SEE transmission network evolution in the period under analysis and an evaluation of the potential possibility for electricity trade with the Italian electricity market through Corridors of exchange+under sea cables, highlighting the most appropriate paths of import to Italy and potential barriers to trade and congestion location in SEE. Power systems analyzed: Albania, Bosnia-Herzegovina (BiH), Bulgaria, Croatia, Greece, Macedonia, Montenegro, Romania, Serbia, UNMIK.

*Tasks performed by author: project coordination, data collection, surplus/deficit analyses, load flow.*

#### **Connection of new (second) block in TPP Gacko to power system of Bosnia&Herzegovina**

*Team Member*

*for: CEZ, Czech Republic*

Study on connection of the new production unit in TPP Gacko.

*Tasks performed by author: Load flow studies, techno-economical aspects.*

#### **2006 Prototype for Service Platform for Regional Balancing Market (BETSEE)**

*Project leader*

*for: SEETEC Canada and SEE TSOs*

Design of the web-platform for the inter-TSO regional balancing mechanism.

*Tasks performed by author: project coordination, algorithm, testing and software presentation.*

#### **Technical Study for the synchronous parallel Operation of the Turkish Power System with UCTE**

*Team member*

*for: CFCU Turkey, UCTE*

Feasibility study on connection of Turkish power system with UCTE main grid.

*Tasks performed by author: load flow analyses, transfer capacities evaluation.*

#### **2004 Report of UCTE Executive Team "North-South Re-Synchronization", Load-flow analyses**

*Team member*

*for: UCTE Technical Committee*

Report on the feasibility and procedure of reconnection of 2nd UCTE synchronous zone with 1st UCTE synchronous zone, with proposing the sequence of interface lines for the reconnection.

*Tasks performed by author: load flow analyses, voltage conditions, reconnection sequence. Reconnection successfully performed on 10th of October 2004, according to the proposed sequence.*

### **Technical and economical aspects of connection electric power systems between Serbia and Macedonia with new transmission line 400 kV Niš-(Leskovac-Vranje)-Skopje**

*Team member*

*for: EPS – Electric power utility of Serbia*

Feasibility study for construction of new 400 kV line Niš (Serbia) – Skopje (Macedonia), and two new 400/110 kV substations Leskovac and Vranje.

*Tasks performed by author: load forecast, load flow analyses, transfer capacities evaluation, technical and economical aspects.*

### **Audit of overcurrent protection relay settings on north-south transmission corridor (SEE)**

*Team member*

*for: HTSO- Hellenic Transmission System Operator*

Study for increase of reliability of the power transfers along north to south/South-east European transmission corridor, to increase stability and security of supply during the Olympic Games in Athens.

*Tasks performed by author: load flow analyses, transfer capacities evaluation.*

### **2003 Study for new 400 kV interconnection lines between FYROM - Serbia and Albania - Montenegro**

*Team member*

*for: European Commission, TREN Directorate General*

Feasibility study for building the two 400 kV lines Podgorica (Montenegro) – Elbasan (Albania) and Nis (Serbia)-Skopje (Macedonia).

*Tasks performed by author: load forecast, load flow analyses, transfer capacities evaluation.*

### **2009 - DACF procedure: Day Ahead Congestion Forecast**

**2001** *Team member (2001-2004), project leader (2005-)*

*for: EPS/EMS (2001-2005), ERS (2001-2004), EPCG/Prenos AD (2001-), ESM/MEPSO (2001-)*

Day Ahead Congestion Forecast procedure, for the needs of transmission systems in JIEL/SMM block.

*Tasks performed by author: Producing the day-ahead forecast models; producing the day-after snapshot models; models merging, load flow and contingency analyses; development of DACF application software; training of the TSO's experts concerning DACF procedure.*

## **PUBLICATIONS**

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### **Selected journal and conference papers:**

- 2009**      **Coordinated auctions of transmission capacity in the regions of Central-Eastern and South-Eastern Europe. Software project for Auctioning Office in Munich/Freising**  
Z. Vujasinović, S. Mijailović, N. Jović, M. Čokorilo, B. Ivanović  
CIGRE Srbija, CIGRE Crna Gora; 2009
- Mathematical model of Regional Balancing Market and principles of BETSEE 2.0 platform**  
T. Martinović, Z. Vujasinović, M. Apostolović  
CIGRE Srbija, CIGRE Crna Gora; 2009
- Analysis of the development of pgeneration, consumption and transmission in South-eastern Europe in period 2009-2020**  
N. Jović, Z. Vujasinović, M. Vuković T. Martinović,  
CIGRE Srbija, 2009
- 2007**      **Regional balancing market in South-east Europe and “BETSEE“ platform prototype**  
Z. Vujasinović, Lj. Knežević, N. Čorović

- YUKO CIGRE; 2007
- 2006**      **Reconnection of UCTE: New conditions for the exploitation**  
S.Mijailović, Z.Vujasinović, I. Cvijetić, S. Marković  
YUKO CIGRE; 2006
- “Dry-run” – test implementation of coordinated auctioning method in South-east European region during year 2006**  
Z.Vujasinović, S.Mijailović  
YUKO CIGRE 2006
- 2005**      **Coordinated auctions of transmission capacity on regional level**  
Z.Vujasinović, M. Apostolović, S.Mijailović  
YUKO CIGRE 2005
- Development of Congestion Management Procedures in South-east Europe**  
Z.Ž.Vujasinović, M.R.Apostolović, S.V.Mijailović  
Balkan Power Conference, 2005
- Conditions for the operation of Albanian power system within the joint UCTE network Load-flow analysis, voltage conditions and transfer capabilities,**  
Z.Vujasinović, M. Đorđević, A. Kurćubić  
Elektroprivreda, 2005
- 2004**      **Application of Congestion Management methods in South-east Europe**  
S.Mijailović, Z.Vujasinović, M. Apostolović  
Elektroprivreda, 2004
- Overview of present congestion management methods in Europe**  
S.Mijailović, Z.Vujasinović, M. Apostolović  
“Elektroprivreda”, 2004
- Development of the methods for Congestion Management in SEE Europe**  
Z.Vujasinović, S.Mijailović, M.Apostolović  
MAKO CIGRE, 2004
- Automatic Cross-Border Transmission Capacity Assessment in the Open Electricity Market Environment**  
D.P.Popović, Đ.M.Dobrijević, S.V.Mijailović, Z.Ž.Vujasinović  
CIGRE, Paris, France, 2004
- 2003**      **Modelling and analyses of transmission network of SEE Europe as the modules of the process of Congestion Management**  
Z. Vujasinović, N. Filipović  
YUKO CIGRE 2003