



NACIONALNI KOMITET CIREC SRBIJA
CIREC LIAISON COMMITTEE OF SERBIA
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IZVEŠTAJ SA SAVETOVANJA CONFERENCE REPORT

VRNJAČKA BANJA 23 - 28. 09. 2012.



8. SAVETOVANJE O ELEKTRODISTRIBUTIVNIM MREŽAMA SRBIJE sa regionalnim učešćem
8. CONFERENCE ON ELECTRICITY DISTRIBUTION IN SERBIA with regional participation

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**VIII SAVETOVANJE O ELEKTRODISTRIBUTIVNIM MREŽAMA SRBIJE
sa regionalnim učešćem**

Srbija, Vrnjačka Banja, Hotel Zvezda
23 - 28. septembar 2012.

**VIII CONFERENCE ON ELECTRICITY DISTRIBUTION IN SERBIA
with regional participation**

*Serbia, Vrnjacka Banja, Zvezda Hotel
September 23 - 28, 2012*

**IZVEŠTAJ SA SAVETOVANJA
CONFERENCE REPORT**

Organizator:

Nacionalni komitet CIREĐ Srbija u saradnji sa nacionalnim komitetima CIREĐ Crne Gore i CIREĐ Rumunije i drugim komitetima, kompanijama i stručnjacima iz ostalih zemalja regiona

Organized by:

CIREĐ National Committee of Serbia in cooperation with CIREĐ committee of Montenegro and Romania and other committees, companies and experts from the region

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Organizator: Nacionalni komiteti CIREC Srbije u saradnji sa nacionalnim komitetima CIREC Crne Gore i CIREC Rumunije i drugim komitetima, kompanijama i stručnjacima iz ostalih zemalja regiona

Nacionalni komitet CIREC Srbije je profesionalna i stručna organizacija, posvećena razmeni znanja i iskustva u oblasti distribucije električne energije. Okuplja istaknute stručnjake iz elektroprivrednih organizacija, elektrotehničkih fakulteta i instituta, projektnih, izvođačkih i proizvodnih organizacija sa teritorije Srbije i regiona.

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Organized by: CIREC Liaison Committee of Serbia in cooperation with CIREC committees of Montenegro and Romania and other committees, companies and experts from the region

CIREC Liaison Committee of Serbia is the professional and expert organization; dedicated to the exchange of knowledge and expertise in the technical field of electricity distribution. It gathers professionals and experts from power distribution companies, electrical engineering faculties, institutes and others from Serbia and the region.

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Podrška: CIREC (Congrès International des Réseaux Electriques de Distribution) - Međunarodna konferencija za elektrodistribuciju, vodeći forum za susrete međunarodne elektrodistributivne zajednice.

Svrha CIREC-a je da radi na povećanju poslovne sposobnosti, veština i znanja onih koji učestvuju u aktivnostima CIREC-a. CIREC svake druge godine organizuje savetovanje i izložbu gde su postavljena najnovija dostignuća i najbolje prakse u tehnologiji i upravljanju tehničkom stranom elektrodistribucije. Između savetovanja CIREC organizuje posebne radne grupe na aktuelne teme koje su od ključnog značaja za elektrodistributivnu zajednicu.

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Supported by: CIREC (Congrès International des Réseaux Electriques de Distribution) - International Conference on Electricity Distribution, the leading forum for international electricity distribution community meets.

CIREC works for the purposes of increasing the business relevant competencies, skills and knowledge of those participating in CIREC's activities. CIREC offers a biennial conference and exhibition where developments and best practices in technology and management of the technical side of electricity distribution are presented. Between conferences CIREC may organize specific Working Groups on current subjects of key interest to the electricity distribution community.

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Ciljevi savetovanja

Zemlje regiona se nalaze na sličnom tehničkom nivou razvoja i prakse distribucije električne energije i sa sličnim problemima u eksploataciji i upravljanju distributivnim mrežama. Zemlje regiona se nalaze na različitim stепенima procesa restrukturiranja, deregulacije i privatizacije elektroprivrede ali pred istim ili sličnim izazovima otvaranja tržišta električne energije. Savetovanje treba da obezbedi razmenu znanja i iskustva o zajedničkim problemima razvoja tehnologije, reorganizacije i modernizacije distribucije električne energije u regionu.

Conference objectives

Countries in the region are at the similar technical level and practice in electricity distribution with similar problems in operation and management of distribution networks. They are at different levels of restructuring, deregulation and privatization process of electric power industries but face the same or similar challenges in opening of electricity markets. The Conference aims to enable regional exchange of experience and practice in operation, management, organization and modernization of electricity distribution

ORGANIZACIONI ODBOR / ORGANIZING COMMITTEE

Prof. dr Dragoslav JOVANOVIĆ
Goran RADOVANOVIĆ
Saša STEFANOVIĆ
Slobodan KUJOVIĆ
Marija ERDELJAN

Predsednik CIREC Srbija / Chairman of CIREC Committee of Serbia
Elektrodistribucija Beograd / Belgrade Power Distribution
Elektrosrbija Kraljevo / Elektrosrbija Kraljevo
Elektroprivreda Srbije / Serbia Power Distribution
Tehnički sekretar CIREC Srbija / Secretary of CIREC Serbia

UVODNA REČ / INTRODUCTORY WORD

VIII SAVETOVANJE O ELEKTRODISTRIBUTIVNIM MREŽAMA SRBIJE sa regionalnim učešćem koje se organizuje pod pokroviteljstvom CIREC - Međunarodne konferencije za elektrodistribuciju, održano je u Vrnjačkoj Banji od 23.09. do 28.09.2012. godine.



Savetovanje je kao i do sada bilo veoma dobro posećeno. Prema prvim podacima na skupu je prisustvovalo preko 700 učesnika, kako autora referata i predstavnika firmi koje su učestvovali u komercijalnoj izložbi, tako i onih zainteresovanih za izlaganja autora ili posetu izložbi. Broj komercijalnih učesnika ove godine dostigao je rekordni broj od čak 58 firmi sto je deset više u odnosu na dosadašnji rekord postignut 2010 godine. Takođe, sa preko 150 učesnika iz inostranstva, Savetovanje je još jednom potvrdilo svoj regionalni karakter. Najviše inostranih učesnika došlo je kao i uvek iz Bosne i Hercegovine - 57, potom iz Crne Gore - 43, iz Slovenije - 13, Hrvatske - 12, Austrije i Češke po 5, i mnogo drugih. Među čak 16 zemalja na skupu su prisustvovali i gosti iz Nemačke, Rumunije, Mađarske, Italije, Makedonije, Turske, Švedske, Španije, Danske i Francuske.

Prvog radnog dana 24.09.2012. je održan ove godine posebno zapažen i veoma posećen predseminar o Pametnim ili Naprednim mrežama sa temom Smart City.

Istog, prvog radnog dana održana je i skupština CIREC SRBIJA.

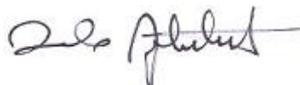
VIII CONFERENCE ON ELECTRICITY DISTRIBUTION IN SERBIA with regional participation, supported by CIREC, the International Conference on Electricity Distribution, was held in Vrnjaska Banja from 23rd – 28th September, 2012.

According to the preliminary data, as always, the Conference was very well-attended. There were over 700 participants, including paper authors, representatives of the exhibiting companies, and also participants showing interest in both papers and the exhibition. A number of commercial participants reached a record number with 58 firms, ten more than the previous record realized in 2010. With over 150 foreign participants, the Conference confirmed its regional character. As within previous times, most of foreign participants came from Bosnia & Herzegovina (57) followed by Montenegro (43), Slovenia (13), Croatia (12), Austria and Czech Republic (5), and many others. Among 16 different countries the conference was also attended with experts from Germany, Romania, Hungary, Italy, Macedonia, Turkey, Sweden, Spain, Denmark and France.



The first day of the Conference, 24th September 2012, was marked by a prominent well-attended pre-seminar on Smart or Advanced Grids with Smart City as topic.

The same day the Assembly of CIREC SERBIA was also held.



Predsednik
CIREC SRBIJA
Dr Dragoslav JOVANOVIĆ

Chairman of the
CIREC Committee of Serbia
Dragoslav JOVANOVIĆ, PhD

SVEČANO OTVARANJE / OPENING CEREMONY

VIII savetovanje o elektrodistributivnim mrežama Srbije sa regionalnim učešćem otvoreno je na svečanoj ceremoniji u Hotelu Zvezda u Vrnjačkoj Banji 24. septembra 2012. godine u 19:00 časova. Ceremoniji otvaranja prisustvovalo je preko 500 ljudi.

Mr Mirjana FILIPOVIĆ, pomoćnica ministarke energetike, razvoja i zaštite životne sredine Republike Srbije, zvanično je otvorila VIII savetovanje.



Predsednik CIREC Srbija, dr **Dragoslav Jovanović** održao je kratak uvodni govor kojim je pozeleo dobrodošlicu svim učesnicima, sponzorima kao i mnogim gostima iz inostranstva.

Ove godine CIREC Savetovanje imalo je posebnu čast da ugosti godpodina **Herberta Haidvogla**, predsednika međunarodnog CIREC-a. U kratkom obraćanju gospodin Haidvogel pozdravio je rad Nacionalnog komiteta CIREC Srbije i učesnicima skupa pozeleo uspešan rad tokom Savetovanja i prijatan boravak.

Skup su pozdravili i:

Ioan Rosca, S.C. Electrica S.A., Rumunija

Velimir Strugar, CIREC Crne Gore

Aca Marković, Predsednik Upravnog odbora Elektroprivrede Srbije, generalnog pokrovitelja Savetovanja

Prema tradiciji na Svečanom otvaranju dodeljene su zahvalnice generalnom pokrovitelju savetovanja kao i zlatnim i velikim sponzorima, velikom donatoru i sponzoru kongresne tašne.

The VIII Conference on Electricity Distribution of Serbia with regional participation was opened at the official ceremony in the Hotel Zvezda in Vrnjaska Banja held on September 24, 2012 at 19h. More than 500 participants were present.

***Mirjana Filipovic, MSc.**, Deputy Minister of Energy, Development and Environmental Protection of the Republic of Serbia, has officially opened the VIII Conference.*

*President of CIREC Serbia, **Dragoslav Jovanovic, PhD** gave a short introductory speech welcoming all the participants, sponsors and many guests from abroad.*

*This year CIREC Conference in Serbia had a special honour to welcome **Mr Herbert Haidvogel**, president of the International CIREC. While briefly addressing the audience, Mr. Haidvogel welcomed the work of the Liaison Committee of CIREC Serbia and wished to all the participants a successful work during the Conference and an enjoyable stay.*



The introductory words were also given by:

***Ioan Rosca**, SC Electrica SA, Romania*

***Velimir Strugar**, CIREC Montenegro*

***Aca Markovic**, Chairman of the Electric Power Enterprise of Serbia board, the general endorser of the Conference*

Following the tradition of the CIREC conference gratitude was given to General Sponsor as well as to Golden, Great, and Conference Bag Sponsors and to Great Donor.

Zahvalnice su primili:

Generalni pokrovitelj Savetovanja:
Aca MARKOVIĆ, Elektroprivrede Srbije

Zlatni sponzor savetovanja i sponzor svečanog otvaranja:
Aleksandar ČOSIĆ, ABB Beograd

Zlatni sponzori Savetovanja:
Dirk ZIEMER, OMICRON, Austrija
Dejan MARKOVIĆ, SCHNEIDER ELECTRIC Beograd
Dušan MUŠKATIROVIĆ, SIEMENS Beograd

Veliki donator Savetovanja:
dr Dragoslav PERIĆ, ELEKTROMREŽA SRBIJE, Beograd

Gratitudes were given to:

General Endorser of the Conference:
Aca MARKOVIC, Power Industry of Serbia

Golden Sponsor and Opening Ceremony Sponsor:
Aleksandar COSIC, ABB, Belgrade

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Dejan MARKOVIĆ, SCHNEIDER ELECTRIC Belgrade
Dušan MUŠKATIROVIĆ, SIEMENS Blgrade

Great Donor:
Dragoslav PERIĆ, PhD, ELEKTROMREŽA SRBIJE



Veliki sponzori Savetovanja:
Gabriel CARSTOIU, AEM, Rumunija
Juergen HERRMANN, General Electric Energy
Marija JOVANOVIĆ, direktor EATON Electric, Srbija
Dušan TORBICA, direktor ELNOS BL, Republika Srpska
Milenko NIKOLIĆ, Institut MIHAJLO PUPIN - Automatika
Željko BOBAR, KOCOS, Austrija
Jovan VUJASINOVIĆ, Meter & Control, Srbija

Sponzor kongresne tašne i sponsor:
Goran ĐUKIĆ, direktor Saturn Electric

Zahvalnice za doprinos u razvoju elektrodistributivne delatnosti dobili su:

Slobodan PETROVIĆ, Privredna komora Srbije
Bogdan FUNDUK, Elektrodistribucija Beograd
Goran RADOVANOVIĆ, Elektrodistribucija Beograd

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Marija JOVANOVIĆ, EATON Electric, Serbia
Dušan TORBICA, ELNOS BL, Republic of Sprska
Milenko NIKOLIĆ, Institute MIHAJLO PUPIN - Automatika
Željko BOBAR, KOCOS, Austria
Jovan VUJASINOVIĆ, Meter & Control, Serbia

Conference bag sponsor and sponsor:
Goran ĐUKIĆ, Saturn Electric

Gratitude for the contribution within development of distribution area has been given to:

Slobodan PETROVIĆ, Serbian Chamber of Commerce
Bogdan FUNDUK, Power Distribution Company Belgrade
Goran RADOVANOVIĆ, Power Distribution Company Belgrade



ZAKLJUČCI STRUČNIH KOMISIJA / EXPERT COMMITTEES CONCLUSIONS



STK 1 - ELEKTRODISTRIBUTIVNA POSTROJENJA I VODOVI

Predsednik komisije: Prof. dr DRAGAN TASIĆ, Elektronski fakultet, Niš, Srbija

Radom komisije rukovodio je Prof.dr Dragan Tasić uz pomoć stručnih izvestilaca Ljiljane Funduk, Mr Miodraga Stojanovića i Vladimira Šiljkuta. Nakon razmatranja 16 radova Stručna komisija 1 donela je sledeće zaključke:

1. Potrebno je adekvatno sagledati predloge novih tehničkih rešenja i nove opreme, kako sa tehničke tako i sa ekonomske strane.
2. Neophodno je raditi na principima strategije zamene postojeće opreme novom, kao i na primeni novih tehničkih rešenja. Kod primene novih tehničkih rešenja opreme moraju se sagledati efekti zamene postojeće opreme novom, imajući u vidu mogućnosti njenog opterećivanja i životni vek iste.
3. Potrebno je podsticati primenu savremenih softverskih alata za projektovanje elektrodistributivnih postrojenja i vodova. Treba raditi na unificiranju grafičke baze podataka kod softvera za projektovanje u skladu sa standardima IEC-a.
4. Kod elektrodistributivnih postrojenja i vodova neophodno je analizirati efekte uticaja na životnu sredinu i preduzeti mere za smanjenje štetnih uticaja. Potrebno je povremeno kritički sagledati postojeću zakonsku regulativu u ovoj oblasti.
5. Sa pojavom novih tehničkih rešenja i opreme treba pokrenuti postupke za dopune postojećih ili izradu novih pravilnika.

EC 1 - DISTRIBUTION SUBSTATIONS AND POWER LINES

Chairman: Prof. Dr. Dragan TASIĆ, Faculty Electronic Engineering, Nis, Serbia

The Commission was conducted by Prof. Dragan Tasić, Ph.D., with the aid of Ljiljana Funduk, Miodrag Stojanović, M.Sc. and Vladimir Šiljkut. After giving consideration to 16 papers, the EC1 drew the following conclusions:

1. The proposed new technical solutions and new equipment need to be adequately realized, both from the technical as well as the economic aspect.
2. Efforts should be made regarding the strategic principles for replacing the existing equipment, as well as in implementing the new technical solutions. When implementing new technical solutions the effects of replacing the existing equipment by new one must be reviewed, bearing in mind the load carrying ability and life thereof.
3. Application of state of the art software tools for designing distribution substations and lines needs to be instigated. The graphic software design databases need to be made uniform in compliance with the IEC standards.
4. In the case of distribution substations and lines, the environmental impact needs to be analyzed and measures need to be taken to reduce the harmful effects. The current legal regulations in this area need to be periodically critically reviewed.
5. In parallel with new technical solutions and equipment, the procedures for amending the current Rule Books or producing new ones need to be instigated.

Najzapaženiji rad:

R-1.13

NIVOI NEJONIZUJUĆIH ZRAČENJA NADZEMNIH I KABLOVSKIH VODOVA 35 KV

M. GRBIĆ, A. PAVLOVIĆ, Elektrotehnički institut "Nikola Tesla", Beograd, Srbija
M. TAUŠANOVIĆ, V. ŠILJKUT, PD "Elektrodistribucija Beograd", Beograd, Srbija

The most prominent paper:

R-1.13

NON-IONIZING RADIATION LEVELS OF 35 KV OVERHEAD AND CABLE LINES

M. GRBIĆ, A. PAVLOVIĆ, ELECTRICAL ENGINEERING INSTITUTE "Nikola Tesla", Belgrade, Serbia
M. TAUŠANOVIĆ, V. ŠILJKUT, PD "Elektrodistribucija Beograd", Belgrade, Serbia

STK 2 - KVALITET ELEKTRIČNE ENERGIJE U ELEKTRODISTRIBUTIVNIM SISTEMIMA

Predsednik komisije: Prof. dr Vladimir KATIĆ, Fakultet tehničkih nauka, Novi Sad, Republika Srbija
Predsedavajući sesije: Mr Velimir Strugar, Elektroprivreda Crne Gore, FC Distribucija Podgorica, Crna Gora

U okviru Stručne komisije 2 - Kvalitet električne energije u elektrodistributivnim sistemima CIRED Srbije za VIII Savetovanje o elektrodistributivnim mrežama CIRED-a Srbije sa regionalnim učešćem predloženo je 8 preferencijalnih tema:

1. Tehnička regulativa o kvalitetu električne energije (standardizacija, tehnički propisi i postupci)
2. Merenje i monitoring kvaliteta električne energije (dijagnostičke metode, oprema, postupci i sl.)
3. Uticaj priključenja novih obnovljivih izvora i nelinearnih potrošača na kvalitet el. energije - viši harmonici, flikeri, nesimetrije, prostiranje, uslovi priključivanja, metode eliminisanja
4. Rad malih elektrana i drugih obnovljivih izvora električne energije i kvalitet električne energije
5. Poremećaji koji direktno ugrožavaju rad potrošača - propadi napona, kratki prekidi i drugi poremećaji u napajanju potrošača – uzroci, prostiranje, imunitet, eliminisanje
6. Prenaponi i zaštita od prenapona u distributivnim mrežama, elektromagnetna kompatibilnost
7. Poremećaji u uzemljenju i kvalitet električne energije
8. Uticaj prenapona na rad malih elektrana i drugih obnovljivih izvora električne energije

Nakon recenzije i diskusije na Stručnoj komisiji 10 radova su prihvaćeni kao referati. Sesija Stručne Komisije 2 je održana 25.09.2012. sa početkom u 9 sati i trajala je neprekidno do 11:40 sati. Sednicom je predsedavao Mr Velimir Strugar, po ovlašćenju predsednika Prof. Dr Vladimira Katića. Od ukupno 10 prihvaćenih referata 6 je izloženo prisutnoj publici. Referati R-2.02, R-2.04, R-2.05 i R-2.10 nisu prezentovani jer niko od autora ovih referata nije bio prisutan u Sali. Autori koji su bili prisutni su, nakon prezentacije i odgovora na pitanja recenzenata, tokom diskusije sa publikom dali odgovore na postavljena im pitanja. Referati koji su izloženi su pripadali preferencijalnim temama kako sledi: R-2.08...PT2, R-2.03...PT3, R-2.07...PT3, R-2.06...PT4, R-2.09...PT5, R-2.01...PT6.

Takođe, izvestioci sa sesije konstatuju da je rad:

R-2.09 - FLIKERI – PROBLEMI, UTICAJ I ANALIZA REZULTATA MERENJA

R. MILANKOV, PD Elektrovojvodina, Elektrodistribucija Zrenjanin, Pogon Kikinda, Srbija, J. ČARNIĆ, PD Elektrovojvodina, Uprava, Novi Sad, Srbija

bio jako uspešan, sa nešto manje intenzivnim odzivom publike, pa stoga predlaže da se i ovaj rad štampa u relevantnom domaćem časopisu.

EC 2 - POWER QUALITY IN DISTRIBUTION SYSTEMS

President: Prof. Vladimir KATIĆ, Ph.D.

Faculty of Technical Sciences, Novi Sad, Republic of Serbia
Chairman of the Session: Velimir Strugar, M.Sc.
Elektroprivreda Crne Gore, FC Distribucija Podgorica, Montenegro

Within the framework of Expert Committee C 2 – Power quality in distribution systems CIRED Serbia for the 8th Conference on Electricity Distribution in Serbia, with regional participation, 8 preferential subjects were proposed:

1. Technical regulations on power quality (standardization, technical regulations and procedures)
2. Measuring and monitoring of power quality (diagnostic methods, equipment, procedures and similar)
3. The influence of the connection of new renewable and non-linear consumers on power quality, energy – higher harmonics, flickers, dissymetry, propagation, terms of connection, methods of elimination
4. Operation of small power plants and other renewable sources of power generation and power quality
5. Disorders directly endangering the consumers' work – voltage dips, short interruptions and other disturbances in power supply to consumers – the causes, extent, immunity, elimination
6. Overvoltages and overvoltage protection in distribution networks, electromagnetic compatibility
7. Disturbances in the grounding and power quality
8. Impact of surge on the operation of small power plants and other renewable sources of electricity

After the review and discussion at the Expert Commission 10 works were accepted as papers. The Session of EC 2 was held on 25th Sep 2012, beginning at 9.00 a.m. and ending at 11:40 a.m. with no breaks. The Session was chaired by Velimir Strugar, M.Sc. authorised by Prof. Vladimir Katić, Ph.D. Out of a total of 10 accepted papers, 6 were presented to the audience. Papers R-2.02, R-2.04, R-2.05 and R-2.10 were not presented, as none of the authors were present in the meeting room. After the presentation and after answering the reviewers' questions, the authors present answered the questions asked during the discussion with the audience. The presented papers belonged to the preferential subjects as follows: R-2.08...PT2, R-2.03...PT3, R-2.07...PT3, R-2.06...PT4, R-2.09...PT5, R-2.01...PT6.

The reporter at the session also noted that the paper:

R-2.09 - FLICKERS – ISSUES, IMPACT AND MEASURING RESULTS

R. MILANKOV, PD Elektrovojvodina, Elektrodistribucija Zrenjanin, Kikinda Plant, Serbia, J. ČARNIĆ, CE Elektrovojvodina, Head Office, Novi Sad, Serbia

was very successful, but slightly less intensively attended by the audience, and he therefore proposed that both papers be published in a relevant local journal.

Predlog novih preferencijalnih tema:

Stručni izvestioci su konstatovali da bi lista preferencijalnih tema trebala donekle da bude izmenjena u odnosu na postojeću. Konačan izgled spiska preferencijalnih tema je kako sledi:

1. Tehnička regulativa o kvalitetu električne energije (standardizacija, tehnički propisi i postupci)
2. Merenje i monitoring kvaliteta električne energije (dijagnostičke metode, oprema, postupci i sl.)
3. Uticaj priključenja i rad malih elektrana i novih obnovljivih izvora i nelinearnih potrošača na kvalitet el. energije - viši harmonici, flikeri, nesimetrije, prostiranje, uslovi priključivanja, metode eliminisanja
4. Poremećaji koji direktno ugrožavaju rad potrošača - propadi napona, kratki prekidi i drugi poremećaji u napajanju potrošača – uzroci, prostiranje, imunitet, eliminisanje
5. Prenaponi i zaštita od prenapona u distributivnim mrežama, elektromagnetna kompatibilnost
6. Poremećaji u uzemljenju i kvalitet električne energije
7. Kvalitet isporuke električne energije (kvantifikatori pouzdanosti)

Proposed new preferential subjects:

The expert reporters noted that the list of preferential subjects need to be changed to some extent, compared to the current one. The final layout of the list of preferential subjects is as follows:

1. *Technical regulations on power quality (standardization, technical regulations and procedures)*
2. *Measuring and monitoring of power quality (diagnostic methods, equipment, procedures and similar)*
3. *The influence of the connection and operation of new renewable and non-linear consumers on power quality – higher harmonics, flickers, dissymetry, propagation, terms of connection, methods of elimination*
4. *Disorders directly endangering the consumers' work – voltage dips, short interruptions and other disturbances in power supply to consumers – the causes, extent, immunity, elimination*
5. *Overvoltages and overvoltage protection in distribution networks, electromagnetic compatibility*
6. *Disturbances in the grounding and power quality*
7. *The quality of power supply (reliability quantifiers).*

Najzapaženiji rad:

R-2.07

NAPONSKE PRILIKE U JEDNOSTRANO NAPAJANOJ DISTRIBUTIVNOJ MREŽI SA DISTRIBUISANIM GENERATOROM

V. BEČIROVIĆ, Elektrotehnički fakultet u Sarajevu, M. HASANIĆ, Komisija za koncesije Federacije BiH, Sarajevo, B. NIKOLIĆ, S. HANJALIĆ, Elektrotehnički fakultet u Sarajevu, Bosna i Hercegovina



The most prominent paper:

R-2.07

VOLTAGE CONDITIONS IN THE DIRECTLY SUPPLIED DISTRIBUTION NETWORK WITH DISTRIBUTED GENERATOR

V. BEČIROVIĆ, Faculty of Electrical Engineering in Sarajevo, M. HASANIĆ, Concession Commission of the Federation of B&H, Sarajevo, B. NIKOLIĆ, S. HANJALIĆ, Faculty of Electrical Engineering in Sarajevo, Bosnia & Herzegovina

STK 3 - EKSPLOATACIJA DISTRIBUTIVNIH MREŽA

Predsednik komisije: dipl. ing. Žarko Mićin,
Elektrovojvodina, Novi Sad

Radom komisije su rukovodili predsednik Žarko Mićin i stručni izvestioci Aleksandra Popovac-Damljanović, Elektrodistribucija Beograd i Dragan Cvetinov, Elektrovojvodina Novi Sad. Nakon razmatranja 15 radova, doneti su sledeći zaključci:

Elektrodistributivne mreže, u cilju neprekidne isporuke kvalitetne električne energije, moraju:

1. biti planski, blagovremeno i adekvatno održavane, sa naglaskom na preventivno održavanje energetskih transformatora
2. zadovoljiti potrebu povećanja propusne moći u cilju njenog boljeg iskorišćenja
3. biti stalno nadzirane i omogućiti lako i brzo otklanjanje kvarova i ponovo uspostavljanje napajanja konzuma
4. koristiti nove tehnologije u oblasti dijagnostike stanja, monitoringa i održavanja.

Najzapaženiji rad:

R-3.14

GODIŠNJI TROŠKOVI ELEKTRODISTRIBUTIVNE MREŽE KAO MERA EFIKASNOSTI DISTRIBUTIVNOG PREDUZEĆA

S. MAKSIMOVIĆ, V. ŠILJKUT, PD Elektrodistribucija Beograd, Serbia



The most prominent paper:

R-3.14

ANNUAL COST OF ELECTRICAL POWER DISTRIBUTION GRID AS UTILITY EFFICIENCY MEASURE

S. MAKSIMOVIĆ, V. ŠILJKUT, PD Elektrodistribucija Beograd, Serbia

EC 3 – OPERATION AND MAINTENANCE OF DISTRIBUTION SYSTEMS

President: Žarko Mićin, B.Sc.E.Eng., Elektrovojvodina, Novi Sad

The commission's work was conducted by president Žarko Mićin and expert reporters Aleksandra Popovac-Damljanović, Elektrodistribucija Beograd and Dragan Cvetinov, Elektrovojvodina Novi Sad. After giving consideration to 15 papers, it was concluded:

For the purpose of continuous supply of high-quality electricity supply, the electricity distribution networks must:

1. *be timely and adequately maintained and on schedule, with emphasis on preventive maintenance of power transformers*
2. *meet the need to increase the permeability for the purpose of higher efficiency*
3. *be permanently supervised to enable easy and fast fault prevention and restore supply to consumers*
4. *use new technologies in the area of diagnostics, monitoring and maintenance.*

STK 4 - ZAŠTITA I UPRAVLJANJE ELEKTRODISTRIBUTIVNIM MREŽAMA

Predsednik komisije: mr Dušan Vukotić, PD
„Elektrodistribucija Beograd“ d.o.o. Beograd

U okviru STK-4 prezentovano je 24 rada od ukupno 28, koji su bili uvršteni u ovogodišnji program Savetovanja.

Nakon prezentacije radova doneseni su sledeći zaključci po pitanju više tema iz oblasti zaštite i upravljanja u elektrodistributivnim mrežama:

1. U okviru centara upravljanja realizovani su savremeni informacioni podsistemi za daljinski nadzor i upravljanje nad srednjenaponskom elektrodistributivnom mrežom, koji su integrisani sa postojećim podsistemima za daljinski nadzor i upravljanje nad visokonaponskim elektroenergetskim objektima. Predmetni podsistemi za daljinski nadzor i upravljanje srednjenaponskom elektrodistributivnom mrežom, preko posebnog telekomunikacionog radio-podsistema, omogućili da se izvrši integracija postojeće ugrađene opreme za automatizaciju u okviru srednjenaponske elektrodistributivne mreže, ali i trasirali put ka daljoj integraciji opreme koja će se u narednom periodu intenzivno ugrađivati, sa ciljem da u značajnoj meri poveća stepen automatizacije srednjenaponske elektrodistributivne mreže.
2. Savremene mikroprocesorske zaštite omogućavaju širok spektar zaštitnih funkcija koje su već našle primenu u praksi, ali za potrebe njihovog daljeg usavršavanja i optimalnog korišćenja, neophodno je voditi detaljne statistike prorade i delovanja zaštite, budući da ovi uređaji kroz odgovarajuće aplikacije to i omogućavaju.
3. Pri realizaciji rekonstrukcija postojećih sistema zaštite i upravljanja, ali i izgradnje novih elektroenergetskih objekata, potrebno je više pažnje posvetiti realizaciji rešenja sopstvene potrošnje, u cilju postizanja tipskih rešenja kroz tehničke preporuke, koja bi omogućila visok stepen pouzdanosti i sigurnosti pomoćnih napona za potrebe zaštite i upravljanja.
4. Na Savetovanju su prezentovana iskustva na automatizaciji srednjenaponske elektrodistributivne mreže, koja nedvosmisleno ukazuju na potrebnu koordinaciju sa delovanjem zaštitnih funkcija u okviru napojnih transformatorskih stanica, ali i sa drugom opremom za automatizacijom koja je ugrađena u okviru srednjenaponske elektrodistributivne mreže.
5. Evidentan je trend digitalizacije telekomunikacionih veza za potrebe daljinskog nadzora i upravljanja nad elektroenergetskim objektima, ali i za potrebe efikasnog vođenja ekipa na terenu. Digitalizacijom postojećih telekomunikacionih pravaca u značajnoj meri su smanjeni dosadašnji operativni troškovi, ali ono što je najvažnije, postignut je visok stepen pouzdanost kroz omogućavanje redundantnih telekomunikacionih puteva.

EC 4 - PROTECTION AND CONTROL OF ELECTRICITY DISTRIBUTION SYSTEMS

President: Dušan Vukotić, M.Sc., PD Elektrodistribucija
Beograd“ d.o.o. Beograd

In EC -4, 24 papers were presented out of 28 papers included in this year's Conference program.

After presenting the papers, the following conclusions were made in respect of several topics in the area of protection and control of electricity distribution systems:

1. In the control centers, the state of the art supervisory control information subsystems were realized for the medium-voltage electricity distribution network, integrated with the current remote supervisory control subsystems for high-voltage power plants. The above remote supervisory control subsystems for the medium-voltage electricity distribution network, via a special telecommunication radio-subsystem, would enable integration of the existing built-in automation equipment within the medium-voltage electricity distribution network, and would mark out a route towards further integration of equipment to be intensively installed in the forthcoming period, with a purpose of significantly increasing the rate of automation of the medium-voltage electricity distribution network.
2. The state of the art microprocessor protection provides a wide range of protection functions which have already been applied in practice, but for the purpose of their further improvement and optimal use, detailed records need to be kept on the functioning and effects of protection, since this is feasible with such devices through corresponding applications.
3. Reconstruction of the current protection and control system, and construction of new power plants requires greater commitment to the implementation of own demand, in order to find typical solutions, based on technical recommendations, providing a high rate of reliability and security in respect of auxiliary voltages for the purpose of protection and control.
4. At the Conference, experience in the area of medium-voltage electricity distribution network automation was also presented, unambiguously indicating a need for coordination with the effect of protection functions at supply substations, but also with other equipment with automation built-in the medium-voltage electricity distribution network.
5. A digitalization trend is evident in the area of telecommuting for the purpose of remote supervisory control of power plants, as well as for the purpose of efficient field inspection by the work force. By digitalization of the current telecommunication routes, the former operating costs have been significantly reduced, but the most important thing of all is that a high rate of reliability has been achieved by enabling redundant telecommunication routes.

6. Konstatovano je da je digitalizacija telekomunikacionih veza donela sa sobom i problem postizanja potrebnog nivoa bezbednosti realizovanih procesnih informacionih mreže u okviru elektroenergetskih objekata, kao i celokupnog informacionog podsistema za daljinski nadzor i upravljanje u okviru jednog elektroprivrednog preduzeća.
6. *It was concluded that digitalization of telecommunications has also brought along the issue of achieving the required level of security in respect of the implemented processing information networks at power plants, as well as the entire remote supervisory control information subsystem within a power company.*

Najzapaženiji rad:

R-4.19

ANALIZA RADA TEHNIKE ZEMLJOSPOJNOG PREKIDAČA I PREDLOZI ZA UNAPREĐENJE FUNKCIONISANJA

B. MITROVIĆ, PD „Elektrovojvodina“ d.o.o. Novi Sad, ogranak ED „Ruma“, Srbija



The most prominent paper:

R-4.19

ANALYSIS OF GROUNDING SWITCH TECHNIQUE AND PROPOSALS FOR PROMOTION OF ITS FUNCTIONING

B. MITROVIĆ, PD „Elektrovojvodina“ d.o.o. Novi Sad, Branch-office ED “Ruma”, Serbia

STK 5 - DEREGULACIJA, TRŽIŠTE I EFIKASNO KORIŠĆENJE ELEKTRIČNE ENERGIJE

EC 5 – DEREGULATION, OPEN MARKET AND UTILIZATION OF ELECTRICITY



TEMA 1 - RESTRUKTURIRANJE, DEREGULACIJA I TRŽIŠTE ELEKTRIČNE ENERGIJE

Stručni izvestilac - dr Nenad Katić, Fakultet Tehničkih Nauka, Novi Sad, Srbija

1. Zakonska deregulacija elektroprivreda u regionu je većinom izvršena, restrukturiranje je u završnoj fazi, dok tržište električne energije još nije uspostavljeno. U skladu sa istraživanjima i preporukama Energetske Zajednice, očekuje se uspostavljanje efikasnog regionalnog tržišta električne energije.
2. U cilju efikasnijeg poslovanja elektrodistributivnih kompanija, značajna su istraživanja na uspostavljanju kvalitetnih modela za ocenu efikasnosti.
3. Izgradnja malih elektrana na obnovljive izvore energije je u punom zamahu u Evropskoj Uniji, sa ciljem dostizanja 20% učešća u potrošnji električne energije kako je preporučeno direktivama Evropske Unije. U našem regionu su izvršena odgovarajuća istraživanja i zakonske-administrativne pripreme, tako da se u narednom periodu očekuje intenzivnija izgradnja malih elektrana na obnovljive izvore energije.

TEMA 2 - EFIKASNO KORIŠĆENJE ELEKTRIČNE ENERGIJE

Stručni izvestilac - dr Željko Popović, PD Elektrovojvodina, Srbija

1. Neophodno je analizirati uticaj malih elektrana, odnosno distributivnih generatora (DG), na rad SN i NN mreža u normalnim i u havarijskim uslovima (npr. uticaj na naponske prilike i gubitke u mreži, upravljanje kvarovima u mreži u prisustvu DG, planiranje distributivnih mreža sa DG) za različite vrste DG i različite nivoe njihovog prisustva (broja) u distributivnoj mreži.
2. Potrebno je razvijati metode i alate za detekciju neovlašćene potrošnje u niskonaponskoj mreži koji bi se mogli koristiti za mikrolokalizaciju neovlašćene potrošnje na pojedinačnim NN izvodima/delovima NN izvoda.

SUBJECT 1 – RESTRUCTURING, DEREGULATION AND ELECTRICITY MARKET

Expert reporter - Nenad Katić, Ph.D., Faculty of Technical Sciences, Novi Sad, Serbia

1. Legal deregulation of regional power companies has been mostly completed, restructuring is in final phase, while the electricity market still isn't established. In compliance with research and recommendations of the Energy Community, establishment of an efficient regional electricity market is expected.
2. For the purpose of improved efficiency in the business operations of electricity distribution companies, important research has been done in order to establish high quality models of efficiency assessment.
3. Construction of small power plants using renewable energy sources is in full swing in the European Union, the goal being to achieve a share of 20% in electricity demand, as recommended in the EU directives. Corresponding research and legal and administrative preparations have been done in our region, and therefore more intensive construction of small power plants using renewable energy sources can be expected to take place in the forthcoming period.

SUBJECT 2 – EFFICIENT USE OF ELECTRICAL ENERGY

Expert reporter - Željko Popović, Ph.D., PD Elektrovojvodina, Serbia

1. It is necessary to analyze the impact of small power plants and distribution generators (DG), on the operation of MV and LV networks under normal and emergency conditions (e.g. impact on voltage conditions and losses in the network, network fault management in the presence of DG, distribution network planning with DG) for different types of DG and different levels of their presence (number) in the distribution network.
2. It is necessary to develop methods and tools for detection of unauthorized consumption in the low-voltage network which could be used for microlocalization of unauthorized consumption in single LV connections/parts of LV connections.

TEMA 3 – MERNI UREĐAJI, OBRAČUN ELEKTRIČNE ENERGIJE, POSLOVNI INFORMACIONI SISTEMI

Stručni izvestilac - mr Branislav Radović, PD
Elektrovojvodina, Srbija

1. Dosledno i sistematski sprovesti strategiju na smanjenju netehničkih gubitaka, pri čemu beskompromisno sprovesti sva raspoloživa tehnička i pravna sredstva na sprečavanju neovlašćene potrošnje. Povećati efikasnost kontrole merenja, razviti kriterijume za prioritet izmeštanja mernog mesta, posebno sprovođenje i praćenje pravnih postupaka prema izvršiocima neovlašćenog korišćenja električne energije, predlagati izmene i dopune propisa koja sankcionišu neovlašćenu potrošnju.
2. Nastaviti osavremenjavanje i implementaciju merne infrastrukture u skladu sa konceptom naprednih distributivnih sistema i u skladu sa usvojenim dokumentom „Funkcionalni zahtevi i tehničke karakteristike AMI/MDM sistema“. Dati podsticaj organizovanom vođenju pilot-projektata iz oblasti naprednih mreža radi sticanja neophodnih iskustava u ovom polju poslovanja elektrodistributivnih kompanija koji će omogućiti studijski pristup i podloge za validne tehnoekonomske analize.
3. Razvoj poslovnog informacionog sistema koncipirati da omogući i podrži poslovne procese u skladu sa zahtevima razdvajanja elektroenergetskih delatnosti i otvaranja tržišta električne energije. Poslovni informacioni sistem mora da obuhvati sve poslovne procese i funkcionalnosti koje su potrebne za efikasno i efektivno obavljanje poslova operatora distributivnog sistema, javnog snabdevača i snabdevača električnom energijom.
4. Primenjivati savremene tehnologije u razvoju naprednih servisa i novih kanala komunikacija sa kupcima električne energije kao što su: servisi jednosmerne i dvosmerne SMS komunikacije, komunikacije putem emala, platimo servis i drugo.

SUBJECT 3 – MEASURING INSTRUMENTS, ELECTRICITY BILLING, BUSINESS INFORMATION SYSTEMS

Expert reporter - Branislav Radović, M.Sc., PD
Elektrovojvodina, Serbia

1. Consistently and systematically enforce the strategy of reducing non-technical losses, thereby uncompromisingly enforcing all available technical and legal instruments in preventing unauthorized consumption. Increase the measuring control efficiency, develop the criteria for relocation of measuring point, particularly in respect of enforcement and monitoring of legal procedures against the perpetrators of unauthorized electricity consumption, propose amendments and changes of regulations sanctioning unauthorized consumption.
2. Proceed with the updating and implementation of measuring infrastructure in compliance with the concept of advanced distribution systems and in compliance with the adopted document "Functional requirements and technical properties of AMI/MDM systems". Give incentives to organized management of pilot projects in the area of advanced networks for the purpose of acquiring necessary experience in this field of the electricity distribution companies' business which will enable research and provide data for valid technical and economic analysis.
3. Make a concept of the business information system envisaging such development which would enable and support business processes in compliance with the unbundling of the electric power activities and opening of the electricity market. The business information system must include all business processes and functionalities required for efficient and effective performance of the jobs of the distribution system operator, public supplier and electricity supplier.
4. Apply the state of the art technology in developing advanced services and new communication channels with the electricity customers such as: one-way or two-way SMS communication service, e-mail communication, payment of services provided and other.

Najzapaženiji rad:

R-5.16

MODERNE TEHNOLOGIJE VETROGENERATORA

V. KATIĆ, B.DUMNIĆ, D.MILIČEVIĆ, S.GRABIĆ, N.KATIĆ, Fakultet Tehničkih nauka Novi Sad, Srbija

The most prominent paper:

R-5.16

MODERN WIND TURBINE TECHNOLOGIES

V. KATIĆ, B.DUMNIĆ, D.MILIČEVIĆ, S.GRABIĆ, N.KATIĆ, Faculty of Technical Sciences Novi Sad, Srbija

STK 6 – PLANIRANJE I RAZVOJ DISTRIBUTIVNIH MREŽA

Predsednik komisije: dr Aleksandar Janjić, Elektronski fakultet, Niš, Srbija

Radom komisije rukovodio je dr Aleksandar Janjić uz pomoć stručnog izvestioca dr Saše Đekića. Nakon razmatranja 29 radova Stručna komisija 6 donela je sledeće zaključke:

1. Sve preferencijalne teme bile su zastupljene u radovima, svim aspektima planiranja i razvoja mreža pristupljeno je na adekvatan način.
2. Pri planiranju razvoja primenjeni su i novi, dosada neobrađivani pristupi koji se odnose na tehnike optimizacije (simulirano kaljenje), novi modeli (distribuirani izvori i transformatori) ili su savremene tehnike, poput neuronskih mreža i genetskih algoritama primenjene na oblasti elektrodistributivne delatnosti kao što su rekonfiguracija i prognoza potrošnje.
3. Uvedena je i nova kategorija procene rizika u planiranju na sistematski i celovit način.
4. Potrebno je nastaviti sa primenom i uvođenjem geografskih informacionih sistema, kao neophodnim alatom za planiranje.
5. Posebnu pažnju treba pokloniti analizi uticaja priključivanja distribuirane proizvodnje, sa aspekta gubitaka i tokova snaga u distributivnoj mreži, a što nije obuhvaćeno proverom ustaljenih tehničkih kriterijuma.

Najzapaženiji rad:

R-6.17

MODELOVANJE TRANSFORMATORA I DISTRIBUIRANIH IZVORA U PRORAČUNU NESIMETRIČNIH TOKOVA SNAGA DISTRIBUTIVNIH MREŽA

J. RADOSAVLJEVIĆ, M. JEVTIĆ, D. KLIMENTA, Fakultet tehničkih nauka Kosovska Mitrovica, Srbija

The most prominent paper:

R-6.17

MODELLING OF TRANSFORMERS AND DISTRIBUTED ENERGY SOURCES IN THE DISYMMETRICAL LOAD FLOW OF DISTRIBUTION NETWORKS

J. RADOSAVLJEVIĆ, M. JEVTIĆ, D. KLIMENTA, Faculty of Technical Sciences Kosovska Mitrovica, Srbija

EC 6 – PLANNING AND DEVELOPMENT OF DISTRIBUTION NETWORKS

President of Commission: Aleksandar Janjić, Ph.D., Faculty of Electronic Engineering, Niš, Serbia

The commission's work was conducted by Aleksandar Janjić, Ph.D. with the aid of the expert reporter Saša Đekić, Ph.D. After giving considerations to 29 papers, Expert Commission 6 made the following conclusions:

1. All preferential subjects were presented in the papers. All aspects of planning and development were considered adequately.
2. In the development planning new, so far unprocessed aspects referring to optimization techniques (simulated annealing), new models (distributed sources and transformers) were applied, or the state of the art techniques, such as neuron networks and genetic algorithms were applied in the area of electricity distribution such as reconfiguration and demand forecast.
3. A new category of risk assessment in systematic and comprehensive planning was also introduced.
4. It is necessary to proceed with the implementation and introduction of geographic information systems, as a required planning tool.
5. Special attention should be dedicated to analyzing the impacts of distributed generation, from the aspect of losses and power flows in the distributed network, which was not included in the checkup of established technical criteria.

PRATEĆI PROGRAM SAVETOVANJA / OTHER CONFERENCE ACTIVITIES

Predseminar / Pre-seminar: Smart City

Moderator / Coordinator: Prof. dr Dragoslav JOVANOVIĆ



Predseminar sponzorisan od strane danske firme Kamstrup je održan 24. septembra, u trajanju od 12:00 do 14:00 časova u Kongresnoj Sali 1

Pre-seminar sponsored by Danish firm Kamstrup was held on September 24, from 12:00-14:00, in Hall 1

Teme o kojima se diskutovalo bile su / *Topics discussed were as follows:*

Tema 1 / *Topic 1:* **M. Lutovac: Smart Grid, u kom pravcu se kreće distribucija u EPS-u / Smart Grid, Electric Power Industry of Serbia Distribution Direction**

Tema 2 / *Topic 2:* **A. Janjić: Smart city, iskustva u svetu / Smart city, world experiences**

Tema 3 / *Topic 3:* **Smart city Novi Sad**

Tema 4 / *Topic 4:* **Smart city Beograd / Smart city Belgrade**

Tema 5 / *Topic 5:* **J. Aleksić, Schneider Electric, Telvent DMS: Smart city, roadmap**

Tema 6 / *Topic 6:* **Kamstrup: Vizija Kamstrup-a za pametno merenje kao osnov za pametne mreže / Kamstrup's visions for Smart Metering as the foundation for the Smart Grid**

Okrugli sto / Round table I: OBNOVLJIVI IZVORI / RENEWABLE SOURCES

Moderator / Coordinator: M. Lutovac, Elektroprivreda Srbije

Tema 1 / *Topic 1:* **A. Vlačić: Direktive i obaveze legislative / Directives and obligations of legislature**

Tema 2 / *Topic 2:* **S. Minić: Dosadašnja iskustva i problemi priključenja obnovljivih izvora na distributivnu mrežu / Previous experiences and problems in connecting renewable sources to distribution network**

Tema 3 / *Topic 3:* **R. Nedić: Dodatni zahtevi zaštite distributivne mreže sa integrisanim obnovljivim izvorima / Additional requirements of distribution networks protection with integrated renewable sources**

Okrugli sto je održan u utorak 25. septembra u 17:15 časova u sali 1 hotela ZVEZDA

The round table took place on Tuesday, September 25 at 17:15 h in the hall 1 at the ZVEZDA hotel.

Okrugli sto / Round table II: PROBLEMATIKA GUBITAKA / PROBLEMATICS OF LOSSES

Moderator / Coordinator: R. Stanić, Elektroprivreda Srbije

Tema 1 / *Topic 1:* **R. Stanić: Problem gubitaka u EPS-u / Problem of losses in Power Distribution of Serbia**

Tema 2 / *Topic 2:* **D. Savčić, Z. Todorović, D. Milićević, S. Zarić, Elektrodoboj: Iskustva distribucije u Doboju na smanjenju gubitaka / Elektrodoboj: Distribution experiences in Doboj to reduce losses**

Okrugli sto se održao u sredu 26. septembra u 17:30 časova u sali 1 hotela ZVEZDA.

The round table took place on Wednesday, September 26 at 17:30 h in the hall 1 at the ZVEZDA hotel

POSLOVNE PREZENTACIJE / BUSINESS PRESENTATIONS

Utorak / Tuesday, 25.09.2012

Siemens

- _ Novi način zaštite u sredjenaponskim nadzemnim mrežama - FuseSaver. / New principle of protection in medium-voltage overhead networks - FuseSaver
- _ Nova generacija mikroprocesorskih zaštitnih releja - Siprotec 5 / New generation of multifunction protection relays - Siprotec 5
- _ Novi tip niskonaponskih razvodnih postrojenja - Sivacon S4 i S8 / New type of low-voltage switchgears - Sivacon S4 and S8

Digit

Implementacija sistema za obračun električne energije EDIS V3 u Elektroprivredi Crne Gore / Implementation of EDIS V3 power billing system within Power Enterprise of Montenegro

ABB

Serijske releja IED650 / IED650 relay series

Eaton Electric

Pouzdana, efikasna i ekološki prihvatljiva rešenja za distribuciju električne energije na niskom i srednjem naponu oslonjena na domaću proizvodnju i svetski kvalitet / *Reliable, efficient and environmentally friendly solutions for energy distribution for low and medium voltage based on domestic production and world quality*

Sreda / Wednesday, 26.09.2012

Meter&Control

Brojilom do interoperabilnosti / *Meter to interoperability*

Elnos BL

Povećanje energetske efikasnosti implementacijom pametnih BIOSCO trafo stanica u okviru SMART GRID-a / *Increasing energy efficiency by implementing smart BIOSCO transformer stations within SMART GRID*

Schneider Electric

SmartCity - rešenje za pametan grad / *SmartCity solution*

KoCoS

Testiranje prekidača u dinamičkom vremenu i obostranim uzemljenjem / *Dynamic timing on HV circuit breakers, including both side earthing*

Weidmann

"Integrirane usluge za Transformatore, Elektro-energetske sisteme i Mreže" i "Mogućnosti i trendovi Trafo monitoringa tj praćenja Transformatora" / *"Integrated services for Transformers, Power systems & Networks" and "Opportunities & Trends of Transformer Monitoring"*

Prozone IT Solutions

Studija slučaja unapređenja poslovanja uvođenjem softverskih rešenja iz oblasti upravljanja dokumentima i poslovnim procesima koje su sprovedene u prethodnom periodu u elektrodistribucijama / *Case study of business improvement by introducing software solutions for document management and business processes that have been conducted in the past period within power distributions*

Četvrtak / Thursday, 27.09.2012

GE Energy

Vodeća tehnološka rešenja za dostavljanje, menadžment, konverziju i optimizaciju električne energije / *Leading technology solutions for the delivery, management, conversion and optimization of electrical power*

Telegroup

NICE Situator - napredno rešenje za dispečerske centre u Elektroprivredi / *NICE Situator - advanced solution for dispatching centers for Electric Power Industries*

Iritel

Savremeno rešenje pomoćnog napajanja za trafostanice TS 35/10kV / *Modern solution of Auxiliary Power Supply for TS 35/10kV Substations*

IZLOŽBA OPREME I USLUGA / EXHIBITION OF EQUIPMENT AND SERVICES

Tokom Savetovanja, organizovana je i izložba opreme, usluga i novih tehnologija iz oblasti elektrodistribucije na kojoj su učestvovale mnoge strane i domaće kompanije.

During the Conference, an exhibition of equipment, services and new technologies from the field of electricity distribution was organized, in which many foreign and local company took part.

ABB	ELNOS BL	INSTITUT MIHAJLO PUPIN	SATURN ELECTRIC
AEM ROMANIA	ELTEC EXPORT-IMPORT	IRITEL	SCHNEIDER-ELECTRIC
AMIGA	ENEL	KALDERA COMPANY	SIEMENS
AVALON PARTNERS	ENEL PS	KOCOS TECHNOLOGY	SIGMATEH
DIGIT	ETI B	LOGO	SNE ENERGY
EATON ELECTRIC	FEMAN	MARTI KOMERC	SOMBOELEKTRO
Elektroinštitut Milan Vidmar	FEROMAX	METER&CONTROL	SRC SOFT
ELEKTRO-KOIL	FMT – Fabrika mernih transformatora	MIKROELEKTRONIKA	TECTRA ZAGREB
ELEKTROMONTAŽA	GE ENERGY	NHBG ŽIKS HARD	TELVENT DMS
ELEKTROMREŽA SRBIJE	GEACHEM	NIDAS	TIM COP
Elektroprivreda Crne Gore	GROSS	NOARK Electric Europe	VESIMPEX
Elektroprivreda Srbije	GSS - Global Substation Solutions	OMICRON	
Elektrotehnički Institut DEC		P.E.C.S.	
ELINGZO		RASINA	



DRUŠTVENI PROGRAM / SOCIAL PROGRAM

Svečano otvaranje / *Opening Ceremony*

Ove godine imali smo priliku da čujemo muzički program u izvedbi izuzetne umetnice, čuvara nacionalne muzičke baštine, gospođe Biljane Krstić. Svečano otvaranje konferencije ulepšala je uz pratnju sjajnog muzičkog ansambla pod nazivom Bistrik.

This year we had the opportunity to listen to great musical program performed by an extraordinary artist, the guardian of national musical legacy, Mrs. Biljana Krstić, accompanied by an excellent musical ensemble named Bistrik.



Koktel dobrodošlice održan nakon ceremonije otvaranja je bio prilika za srdačne susrete starih kolega i prilika za upoznavanje novih učesnika savetovanja CIREĐ Srbija.

A welcome cocktail following the opening ceremony was an opportunity for cordial encounters of old colleagues and an opportunity for meeting new participants of CIREĐ Serbia.



Siemens večer / *Siemens Dinner*

Siemens je ovoga puta organizovao svoje već tradicionalno večer u prelepom Japanskom vrtu, iznad šetališta, uz točeno pivo i bavorske kobasice kao i odličan muzički program.

Siemens organized, once again, an exceptional evening with tapped beer and sausages from Bavaria served followed with a musical program, this time held in Japanese garden, a beautiful location just above the promenade in Vrnjaska Banja.



Zajednička večera / Dinner Ceremony

Nakon četiri radna dana za sve učesnike kao i organizatore svečana večera bila je prilika za opuštanje i druženje sa starim i novim prijateljima.

After four day working program a dinner ceremony was an opportunity for relaxation and bonding with some old and new friends.



Svečano zatvaranje / The Official Closing

Svečano zatvaranje je proteklo u znaku sumiranja zaključaka sa savetovanja i tada su dodeljene diplome autorima najboljih radova u svakoj sesiji.

The Official Closing was marked by a summary of the conclusions from the Conference and presentation of Diplomas to the authors of the best papers in each Session.



Podrška: **CIRE** (Congrès International des Réseaux Electriques de Distribution) - Međunarodna konferencija za elektrodistribuciju, vodeći forum za susrete međunarodne elektrodistributivne zajednice

Svrha CIRE-a je da radi na povećanju poslovne sposobnosti, veština i znanja onih koji učestvuju u aktivnostima CIRE-a. CIRE svake druge godine organizuje konferenciju i izložbu gde su postavljena najnovija dostignuća i najbolje prakse u tehnologiji i upravljanju tehničkom stranom elektrodistribucije. Između konferencija CIRE organizuje posebne radne grupe na aktuelne teme koje su od ključnog značaja za elektrodistributivnu zajednicu.

Sledeća međunarodna CIRE konferencija održaće se od **10-13. juna 2013. godine u Stockholmu.**
www.cired2013.org



Supported by: **CIRE** - International Conference on Electricity Distribution, which is the leading forum where the international electricity distribution community meets

CIRE works for the purposes of increasing the business relevant competencies, skills and knowledge of those participating in CIRE's activities. CIRE offers a biennial conference and exhibition where developments and best practices in technology and management of the technical side of electricity distribution are presented. Between conferences CIRE may organize specific Working Groups on current subjects of key interest to the electricity distribution community.

Next international CIRE Conference will be held from **June 10 - 13, 2013 in Stockholm.**
www.cired2013.org

www.cired.net