



INTELEC EXECUTIVE COMMITTEE (IEC)

Extended IEC Meeting

INTELEC 2013
Conference Center Hamburg,
Hamburg, Germany

Thu-Fri, 17-18 October 2013

Agenda

1. Welcome & purpose

First Item:

Carry-over of [Item 4.2](#) from Annual Meeting

2. Presidents & BoD Reports

- President's 2013 report [BoD Prez Rep](#)
- BoD Report for 2013 [BoD Report](#)

Agenda

3. Special Reports

- Special seminar on preparing ICT power for extreme events [NewJersey](#)
- Mini-conference: 'telecommunications energy' [NL mini-conf](#)
- General discussions
 - Value of small, local focused seminars

Agenda *(cont.)*

4. Projects, initiatives & sub-committee reports

- Website (*AdminCom*) [project](#)
- C&BL Review (*CblCom*) [C&BL review](#)

Subcommittee reports

NomCom – *moved to Item 8 due to time constraints*

FinCom

StratCom



Items not presented

Agenda *(cont.)*

5. TT activity Reports

- TT7.2 HVDC [TT7.2 report](#)
- TT7.3 Resilient networks [7.3 future directions](#)

6. Other Reports

This section postponed due to time constraints

7. Future of INTELEC/TC7

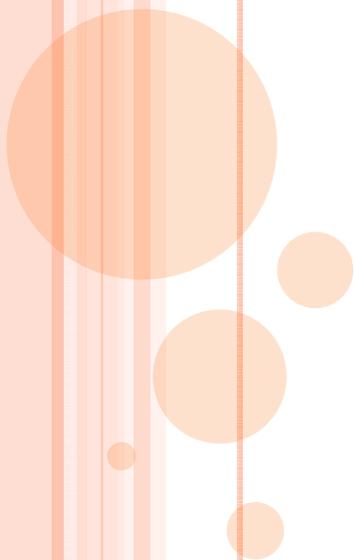
This section postponed due to time constraints

Agenda *(cont.)*

8. Other business

- Election Status (*NomCom Chair*)
- Expense claims for Hamburg
- Additional Vancouver expenses
- IEC meetings format

9. Close of meeting.



Status of 'Austin' proposal

1. Received late 2012, incomplete
2. Discussed at BoD Meeting #5 in Denver
 - CSC Chair to formally respond to proponents with request to submit revised Proposal
3. At BoD Meeting #6, policy adopted to set 30 Jun as cut-off date for receiving Proposals for consideration at next IEC meeting.

President's Report

2013 Presidents Report [2013 President's Report](#)

Overview messages

- Many new actions and initiatives
- INTELEC quite vulnerable
- Further dialogue need re PELS TC
- Thanks to all IEC members

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BoD Report

2013 BOD Report [2013 BoD report](#)

Governance

- 5-member BoD
- Email engagement & decision-making
- Formal BoD meetings & procedures
 - Agenda, Briefing Notes, Minutes, *etc.*
 - 6 BoD meeting to date (*2 in 2012, 4 in 2013*)

BoD Report *(cont.)*

Activities	Status		
	commenced	draft	completed
<i>Policy & Procedures</i>			
Assessment tool for INTELEC proposals		✓	
Assessment tool for Suozzi Fellowship			✓
BoD meetings procedures	✓		
E-mail communications policy			✓
Election procedures		✓	
Expense re-imburement procedure	✓		
Travel Assistance policy			✓
Ratification & approval process			✓
Strategic Vision Statement		✓	

BoD Report *(cont.)*

Activities	Status		
	commenced	draft	completed
Policy & Procedures - For PELS			
Energy Storage Award documentation			✓
Suozzi Fellowship documentation		✓ →	✓
Projects			
Review of C&BLs		✓ →	✓
Special Seminar			✓
Strategic Plan	✗		
Website re-build	✓		
Universal PCO	✓		

BoD Report *(cont.)*

Interaction with PELS

- Formal reporting Conducting TC meetings

Events	PELS meetings & reporting	TC7 TC meetings
APEX 2012	✓	✓
ECCE USA 2012	✓	✓
APEC 2013	✓	✓
ECCE-Down under 2013	✓	
ECCE USA 2013	✓	✓

BoD Report *(cont.)*

Priorities

- website
 - key information & document resource
- INTELEC Conferences
 - continue improvement strategies
- Special seminars
 - targeting new (influential) participants

Special Reports *(cont.)*

Special Seminar

New Jersey July, 2013

- Summary report [New Jersey Seminar](#)
- Report from IEC Treasurer [Seminar FinRep](#)

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Website Project

- Project rationale
 - George Tiemstra, Chair *AdminCom*
- Presentation of Proposals [website](#)
- Questions & answers, suggestions
- Next steps

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Presidents Report 2013

This is a summary statement of a wider perspective of IEC activities, and is not meant to be a re-iteration of the BoD Report.

This is the second year of my IEC Presidency. It is also the second year of operation under new arrangements of which there are two elements - first there are the structural changes made within the IEC itself, and second, the transition of INTELEC to a Technical Committee within PELS.

In relation to the first element, clearly there have been some transitional problems in moving to the current IEC structure. That said, I'd like to believe the key difficulties are largely behind us. It has taken a little time for the sub-committees to become embedded and functional. This is completely reasonable and expected, and it is clear that some are now gaining momentum and pursuing targeted projects. Case in point is the *AdminCom* sub-committee and the website project, and the more recently, the *StratCom* sub-committee Chair has released a draft Strategic Vision, which I believe will seed progressive actions to grow INTELEC. The evolution of the new IEC structure and specific assignment of roles to sub-committees has started to see the development and documentation of policy and practice. In building a robust organization for the future, it can only be seen as good to have 'a house in order'.

In relation to the second element, there has been a new time demand on the IEC in terms of activities PELS establishes for their Technical Committees. Historically, and practically, INTELEC is of a different size and shape to the current template carved out for PELS TCs. Reshaping INTELEC into a TC is expensive in terms of time and effort, and the benefit for INTELEC, at this stage, appears subtle, at best. This is not to question the intent of PELS to help and assist in delivering the aspirations of the IEC and the INTELEC community. It is more a question of design and purpose. In my view, there is room for much more thought and engagement between PELS and the IEC along these lines.

Any progress to date is only due to the effort of members, and it is for me to thank everyone for their contributions of time and expertise into the conduct of IEC business. In comparative terms, this year has seen a lot of new effort on a number of fronts. In a testament to individual belief in INTELEC, people have stepped-up. In particular, I make mention of those who pulled together to run the special seminar in New Jersey, of those who worked in the background as paper-abstract assessors for the INTELEC 2013 technical program, of those who endured as IEC assessors in a new selection process for awarding Suozzi Fellowship, and of those who come to my rescue and provide credible technical content at the TC meetings we stage at other PELS conferences. I also express my thanks to the other members of the Board of Directors for their time, effort and engagement. It is simply such a privilege, and delight, to work with the rich perspectives and independent thinking of such collective experience.

As a final comment, I see INTELEC vulnerable in these changing times. We have initiated efforts to re-assert INTELEC as an influential and relevant technical community. But there is still much to do. So the challenge is not to loose the hard-laboured 'head-of-steam' pushing us forward.

JMH, 15 Oct 2013

BoD Report 2013

Annual IEC Meeting, Hamburg 2013

As a matter of policy, it was proposed in Scottsdale that IEC Board of Directors (BoD) provide an ‘annual’ report to the IEC at an annual IEC meeting. The purpose of the Report is to provide a ‘status’ of matters, and summarize key activities handled in the preceding year.

This is the IEC BoD Report for 2013, covering the period since INTELEC 2012 in Scottsdale to now.

Governance

The C&BLs establishes the IEC BoD as an executive role in the operation and governance of the IEC, but only generally outlines functions. The BoD structure was new in early 2012, and came without an instruction booklet. It has been a prime objective of the inaugural BoD to commence preparation of processes and procedures to guide the conduct of IEC.

In March 2013, the IEC Board of Directors filled to a compliment of 5 members with the inclusion of IEC Treasurer and CSC Chair.

Since adopting the new C&BLs, the BoD has evolved a *modus operandi* being:-

- Matters of IEC business are handled on an on-going basis via email dialogue and any decision making, as needed.
- Periodically, a BoD Meeting is called and conducted, either by teleconference, or by face-to-face.
 - 6 ‘formal’ meetings to date (2 in 2012, 4 in 2014)
 - The current BoD had its first face-to-face meeting in Denver.
 - For meetings, an agenda is made, briefing notes prepared as pre-meeting reading material, and meeting notes taken.
 - Decisions are made on a majority basis
 - In due course, all BoD meeting material will be posted in an ‘IEC member only’ of the website.

Activities

The IEC and its sub-committees have commenced a number of activities in relation to establishing procedural documentation and projects developing IEC capacity. In due course, approved procedures and documentation and procedures will appear on the INTELEC website. It must be noted that the website is seen as a crucial and key IEC resource for the future, and as such the project to re-develop the existing website into a true ‘cloud’ tool is urgent.

The status of current initiatives and activities is summarized in the list below.

Activities	Status		
	commenced	draft	completed
Policy & Procedures			
Assessment tool for INTELEC proposals		✓	
Assessment tool for Suozzi Fellowship			✓
BoD meetings procedures	✓		
email communications policy			✓
Election procedures		✓	
Expense re-imburement procedure		✓	
Travel Assistance policy			✓
Ratification & approval process			✓
Strategic Vision Statement		✓	
For PELS			
Energy Storage Award documentation			✓
Suozzi Fellowship documentation		✓	→ ✓
Projects			
Review of C&BLs		✓	→ ✓
Special Seminar			✓
Strategic Plan	✗		
Website re-build	✓		
Universal PCO	✓		

Interaction with PELS

Compared to the historical record, the BoD and members the IEC have increasing contact and direct interaction with PELS activities, both in our capacity as a voting member of the PELS AdCom, and as a Technical Committee (TC). These are new or increased time demands on the IEC and the BoD and has involved:-

- Formal reporting (activities, initiatives, budget requests)
- Conducting a TC Meeting at PELS conferences other than INTELEC
 - Utilizing our TT activities as new content for TC meetings
- IEC members as liaison or participants in PELS sub-committees (e.g PELS Standards)

Events	PELS meetings & reporting	TC7 TC meetings
APEX 2012	✓	✓
ECCE USA 2012	✓	✓
APEC 2013	✓	✓
ECCE-Down under 2013	✓	
ECCE USA 2013	✓	✓

End of Report

John Hawkins

for, and on behalf of the,
IEC Board of Directors

17 October , 2013



Technical Thrust TT7.3. Activities

INTELEC EXECUTIVE COMMITTEE EXTENDED MEETING

Hamburg, Germany, Oct. 18, 2013

**1st Workshop on Preparing Information and
Communication Technologies Systems for an
Extreme Event**

**July 16 and 17, 2013—Hyatt Regency, New
Brunswick, NJ**



OBJECTIVES AND ORGANIZATION

- The purpose of this workshop was to provide a forum where solutions to achieve highly available power supply and a resilient infrastructure for Information and Communication Technology (ICT) systems during and after extreme events can be discussed, evaluated and promoted.
- Organizing Committee:
 - General Chair and Technical Program Chair: Alexis Kwasinski
 - Secretary and Logistics: Chris Seyer
 - Treasurer: Steve Natale
 - Marketing: Steve Vechy
 - Publicity: Dusty Becker



AGENDA

- Almost all workshop participants praised the presenters relevance and the combination of depth and breadth of the large variety of topics included in the agenda.
- Highlights:
 - Dr. Henning Schulzrinne (Chief Technology Officer, Federal Communications Commission)
 - Mr. Alex Tang (ASCE TCLEE and President of L&T Consultants)
 - Mr. Robert Desiato (Director, Network Disaster Recovery, AT&T Network Operations)
 - Mr. Charlie Romano (Director, Verizon Corporate Technology)
 - Ms. Kripa Krishman, (Google Inc., Disaster Recovery Program Manager)



AGENDA

- More Presenters:
 - Mr. Mike Hainzl (Business Continuity Manager, Ericsson Inc.)
 - Mr. Brian Steckler (Director, NPS Hastily Formed Networks (HFN), Naval Postgraduate School)
 - Dr. Alexander Pasik (Chief Information Officer, IEEE and Adjunct Associate Professor, Columbia University).
 - Mr. Shawn Mooney (Property Manager, 60 Hudson St. one of the largest ICT facilities in the world)
 - Mr. Scott Spink (Director of Business Development, ReliOn, Inc.), Mr. Jonathan Carpenter (Engineering Director, Alpha Technologies), Mr. Curtis Ashton (CenturyLink), Mr. Steve Martin (AT&T), Mr. Ernie Gallo (Telcordia), Dr. Alexis Kwasinski (Associate Professor, The University of Texas at Austin), Mr. Steve Zielke (Kohler Power Systems), Mr. Steve Philips (Cummins Power Generation)



TECHNICAL OUTCOME

- Very successful in getting key players together in order to have an open and candid, yet technical discussion:
 - FCC CTO
 - ATT and Verizon directors
- A packet with the presentations was made available to workshop participants

1st Workshop on Preparing Information and Communication Technologies Systems for an Extreme Event

July 16 and 17, 2013—Hyatt Regency, New Brunswick, NJ

Presentations Packet

IEEE Intellec IEEE POWER ELECTRONICS SOCIETY

We thank these patrons for their support of this Workshop

EMERSON Network & Power EnerSys Power Generation

KOHLER POWER SYSTEMS

This Workshop was sponsored by the IEEE Power Electronics Society. INTELEC is a Technical Committee of this IEEE Society.

IEEE Intellec IEEE POWER ELECTRONICS SOCIETY



AGENDA

- Topics selected to have both depth and breath
- July 16th:
 - Keynote
 - Disaster Prevention and Recovery
 - Network Performance during 9/11 and Sandy
 - Infrastructure Needs of Ad-Hoc Communications Networks
 - ICT Systems Assessment For Extreme Events
 - Management of a Large ICT Facility
 - ICT Systems Performance During Extreme Events



AGENDA

- July 17th:
 - Outside Plant, Wireless Sites, Cable TV
 - Developing and Deploying a Reasonable Business Continuity Plan
 - Best Practices and Regulations
 - Panel Discussion - The Value of the Human Factor
 - ICT Disaster Preparedness Through Simulations of Extreme Events
 - Generator Do's and Don'ts
 - Keep Your Batteries Alive Longer and Ready on Demand
 - Closing session



TECHNICAL HIGHLIGHTS

- Investment in Business Continuity-Disaster Recovery (and resilience) must be determined based on its return via quantifiable risk mitigation.
- What is important:
 - People
 - Preparedness
 - Power
 - Partnerships
- Definition of resilience involves chances of a loss of service.
- During an extreme event extended power outages should be expected because power grids are very fragile systems. Power is a main cause of ICT outages



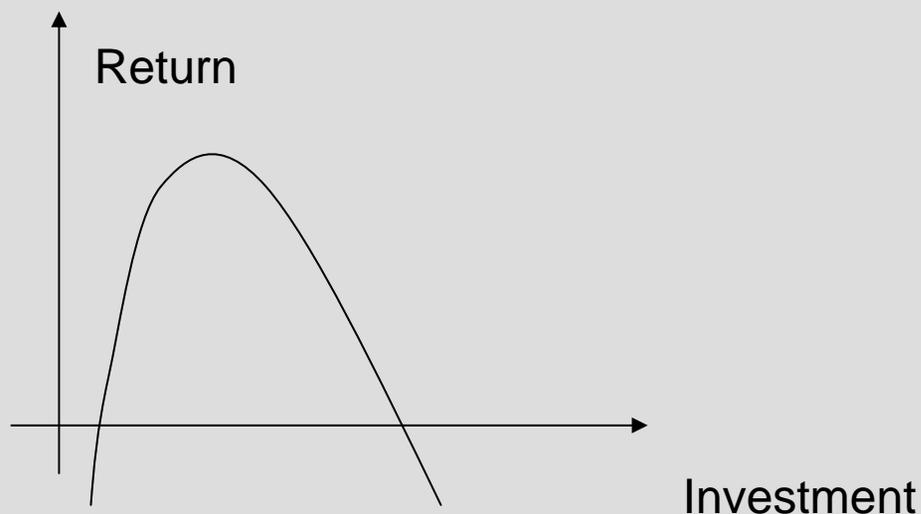
TECHNICAL HIGHLIGHTS

- Build resiliency, don't rely on response
- Have a baseline assessment of infrastructure before extreme event. It can help to identify vulnerabilities.
- Damage assessments are important in terms of situation awareness (usually, limited and fractioned information). They help to decide resources deployment. They also help in terms of planning and technology development.
- Account for differences in terms of impact, cost, and performance expectations for core vs. edge network elements
- Batteries are the “main and last line of defense.” It is critically important to operate and maintain batteries adequately.



TECHNICAL HIGHLIGHTS

- Investment profile (sometimes may need to plan for < 5 -nines):



- Microgrids may represent a good option for highly available power supply.
- Issues with photovoltaics: variable output and large footprint
- How to address lifeline dependencies: storage and diversity.



TECHNICAL HIGHLIGHTS

- Cooling is becoming even a more important challenge:
 - Higher load density
 - Availability of HVAC power supply in normal conditions is 4 nines (HVAC not backed up by batteries leading to site failure before battery discharge).
- Expect damage
- Balance mitigation measures and cost
- There is a need for agreement on service reduction level
- There is a need for definition of performance of different services
- Standards needs: wireless, CATV, and backup time



TECHNICAL HIGHLIGHTS

- Preparation is key:
 - do regular and continuous exercises.
 - Have fully trained technical personnel (some exclusively on power)
- Consider differences in human resources management during extreme events.
- Importance of adequate training to reduce restoration time. “There were a lot of nice people out there but no one had any idea what they were doing.”
- Take care of the family of the employees in the affected area.
- Aging of workforce/retirements are becoming a problem.
- Have a corporate culture that allows learning for errors (vs. penalizing)
- Build trust (although it takes time)



TECHNICAL HIGHLIGHTS

- Do maintenance (particularly gensets and batteries).
- Have contracts established before event (e.g. fuel delivery).
- Test generators with loads.
- Fuel shortages an issue during Sandy.
- “When preparing for a disaster, involve vendors/equip distributors.
- Security is very important. Theft and vandalism is always a problem.
- Do exercises:
 - After an exercise (and an actual event) do a post-mortem
 - An untested plan is not a plan



TECHNICAL HIGHLIGHTS

- Batteries in outdoor environments: consider reduced life/capacity due to high/low temperatures.
- Batteries could be over-discharged after a disaster (or may remain without being recharged for several days)
- Temperature compensation extends battery life and reduces the number of temperature runaway events.
- Limited number of temperature measurement channels in power plant controllers. Measuring all cells is very expensive. One per string is minimum (measure on the negative post).
- What kills batteries is float charging (or lack of thereof).
- Preventive maintenance for batteries after disaster: do ohmic test after recharge batteries.

Treasurer's Report
INTELEC® 1st Workshop
Preparing ICT Systems for Extreme Events
New Brunswick, NJ
July 16th – 17th, 2013
October 1, 2013

Introduction

As this was the first Workshop to be conducted under the auspices of INTELEC as a Technical Committee there was no prior basis or precedent on which to develop the structure for this Workshop. While “workshops” have been conducted at INTELEC conferences, these workshops did not have the scope and depth of the subject matter that was planned for this event. However, as is done for all INTELEC conferences, accepted financial and management practices were employed to insure good attendance and to minimize adverse effects.

The concept for this INTELEC Workshop came about late in 2010 but it was not until February of 2013 that funding for the Workshop from PELS was approved. To avoid conflicts with INTELEC Hamburg 2013 and other technical meetings being conducted throughout the year the Organizing Committee decided to conduct the workshop in July, recognizing that while it was not the most opportune time and that the time to do the development work was, at best, very short, there was little choice.

Although the Workshop subject matter is timely and of significant interest in the communications industry, expectations for attendance were set relatively low given that this Workshop was designed to be a local event and not national or international in nature. Registration fees had to be set at a reasonable level and in line with the expected attendance recognizing that for this first Workshop a surplus was not high on the list of expectations. Amenities for the attendees and presenters during the workshop were minimized to the extent possible but were provided in keeping with INTELEC conference standards.

Registration Statistics

Workshop registrants (all categories)	37
Reduced rate registrants (EB* Member)	12 (\$255)
Reduced rate registrants (EB non-Member)	10 (\$300)
Standard rate registrants (Member)	1* (\$300)
Standard rate registrants (non-Member)	2 (\$350)
Complimentary registrations	12 **
Total attendees from the registered group	36 (1 paid registrant did not attend)

* Three (3) Members were late in registering but were afforded the Early Bird (EB) rate.

** Members of the Organizing Committee who had no sponsors (2) were given complimentary registrations. Some invited presenters attended only to make their presentation or stayed for one day or less; seven (7) presenters requested complimentary registrations. Three (3) presenters requested and were given complimentary registrations and stayed for the entire duration of the Workshop or nearly so.

Observations

- 1) The number of requests for complimentary registrations from presenters, even though most had corporate affiliations, had a marked negative effect on the revenue stream.
- 2) Although all efforts were made to advertise the Workshop across interested groups within PELS, the IEEE and other organizations, the delay of one month to announce the Workshop to the *INTELEC community* is believed to have had a deleterious effect on the number of registrants.
- 3) The initial quote for A/V services as presented to the Organizing Committee was very low compared to the actual, final cost of the services.
- 4) While the Workshop did obtain financial support from industry, the final amount did not meet budget expectations.

Financial Results

There were two major components to the revenue stream: registrations and industry support. Given that this event was a Workshop there were no exhibits or exhibitors that would have contributed to the revenue stream. If another Workshop is conducted, its Organizing Committee may want to consider the inclusion of a small group of exhibits that are aligned with the theme of the Workshop. The revenue from the exhibits would, more than likely, offset the costs not compensated for by registrations.

On the expense side there were three major components: A/V services, Conference Management Services and food and beverage provided by the hotel. The approximate costs of the Conference Management services and the food and beverage service were for the most part known at the outset but the final cost of A/V services was a bit of a surprise. Although the meeting room and attendance was relatively small in comparison to some INTELEC conference sessions, the amount of A/V equipment and personnel required to conduct this Workshop in a professional manner was not insignificant.

Total Receipts:

PELS Seed Funding	\$15,000
Registrations	\$6,855
Industry Support	<u>\$2,500</u>
	\$24,355

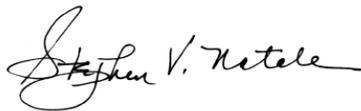
Total Outlays:

PELS Seed Funding	\$15,000
A/V Services	\$4,115
Management Services	\$4,521
Hotel F&B	\$6,194 (non-taxable, including service charge of 22%)
Miscellaneous	<u>\$1,180</u> (Program printing, etc.)
	\$31,010

Loss **-\$6,655**

Some Lessons Learned With Regard To A Workshop Event

- 1) When negotiating the hotel contract and/or Conference Management contract also obtain formal quotes from at least two and possibly three A/V firms. Don't underestimate the cost of and the requirement for a good A/V system.
- 2) Four months is marginal at best in terms of developing a mission statement, developing a website, acquiring qualified speakers, developing and publishing an agenda with biographies among other things. Even though this Workshop was a relatively small event and was very well received, more time is definitely required to perform all the necessary tasks.
- 3) Most importantly, more attention must be paid to early advertising of the Workshop. While e-mail blasts were sent to the mailing lists of Eltek, Enersys, Emerson and the PSMA, the e-mail blast to the INTELEC e-mail list about this Workshop was delayed for almost a month. In total, e-mail messages were sent to almost 9000 people in early May. There were also other problems with process issues in advertising the Workshop to the PELS and other IEEE societies.



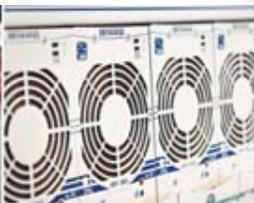
Stephen V. Natale
Treasurer
IEC

 STICHTING
INTELEC95

Telecommunications Energy Symposium 2014



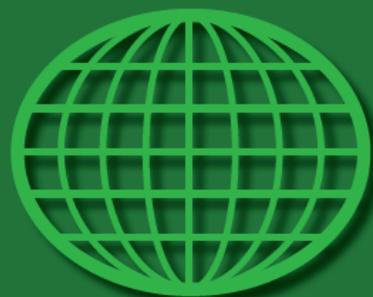
*Opmerkelijke ontwikkelingen
in de energievoorziening voor
de telecommunicatie*





- April 2013 first Telecommunications Energy Conference in the Netherlands
- Total 65 participants from NL
- 6 Sponsors and exhibitors
- Reporting sessions Intelec Scotsdale 2012
- New papers and presentations





Telecommunications Energy Symposium 2013

Stichting INTELEC95
Kerkstraat 3
2851 BT HAASTRECHT

Gasthuiskapel, Zaltbommel
18 April 2013



www.intelec95.org

www.intelec95.org





- 10:00 Opening en huishoudelijke mededelingen
- 10:15 3D integrated all-solid-state batteries • *Peter Notten - TU Eindhoven*
- 11:30 Innovatieve ontwikkeling stationaire batterijen • *Leendert Lam - Cofely Energy Solutions BV*
- 12:00 Power Management for Energy Harvesting • *Loreto Mateu - Fraunhofer IIS, Nuremberg*
- 14:00 Cloud computing vs Sustainability; de uitdaging • *George Tiemstra - Independent consultant*
- 14:30 HV DC as the Next Generation Telecom Power • *Supply Stan Valtchev - Tecnologia Universidade Nova de Lisboa*
- 15:15 Permanent magnet machines: Critical or crucial • *Johan Paulides - TU Eindhoven*
- 15:45 Waarom kiezen voor een dynamische in plaats van een statische • noodstroom voorziening? *Tjerk Hazeveld - Elinex Power Solutions*
- 16:15 Hybride Systemen • *Leendert Lam - Cofely Energy Solutions BV*
- 16:45 Green energy for on-road charging of electric vehicles • *Pavol Bauer - TU Delft*





Telecommunications Energy Symposium 2014



Thursday
10 April 2014
Gasthuiskapel
Zaltbommel
Netherlands





- Appreciation 2013 Event

	Average	High	Low
Overall	8,0	10	7,0
Technical Program	7,0	7,8	6,4
Party & Diner	8,5	10	7,0

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Administration Committee
Hamburg, 16 Oct. 2013

www.intelec.org

www.intelec.org

Intelec Website

www.intelec.org

www.intelec.org



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Administration Committee
Hamburg, 16 Oct. 2013

The goal : to rebuild the website

The motive : the present website is a mess and does not satisfy anymore

Approach:

- collect all demands & questions that have been raised over the years,
- draw up a 'set of requirements',
- the website was discussed with the BoD, the result were some 'restrictions',
- search for webdesigners, builders,
- study of the proposals, a closer look,
- as a result, the best options are brought to the IEC in Hamburg

Objectives:

- to meet today's standards,
- capable of meeting current demands,
- to use a simple but excellent Content Management System (CMS),
- simple enough for people without Website knowledge to be able manage the website themselves,
- all designs, graphics, etc should be technically uncomplicated,
- trouble free hosting must be possible,
- reliable performance on all operating systems and devices (i.e. Windows, Apple, etc.; PC, I-pad, Smartphone, etc.)

Requirements:

- 01 – Appearance
- 02 – Using the website
- 03 – Structure of the website
- 04 – Navigation
- 05 – Maintenance
- 06 – Technique
- 07 – Email
- 09 – Back up
- 09 – Building, delivering and acceptance





BoD – restrictions:

- it should be an open-source and self-managing system,
- custom-built is too expensive and will only get Intelec into the trouble (the current website was custom-built with 'state-of-the-art' tools back in 1998),
- preference for a packaged solution (those are of a structured design of one type or another),
- it should be a fixed-price build package, rather than a pay-by-the-hour web programmer,
- not from a one-person-company but from a solid company that still will exist in the future so you can come back for changes, updates,
- all must be in the price, no extra's afterwards to complete the site.



Administration Committee
Hamburg, 16 Oct. 2013

Now to look for website designers, because

Who's to build the new website,
And how should it look?



Administration Committee
Hamburg, 16 Oct. 2013



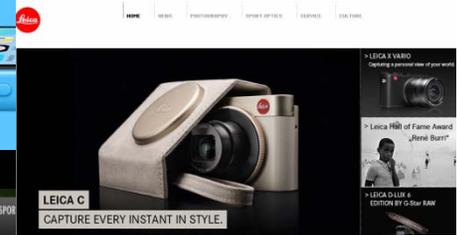
SHELL GLOBAL
Change Location

- Environment & Society
- Future of Energy
- Products & Services
- About Shell

- Motorists
- Business customers
- Jobs and Careers
- Investors
- Media
- Motorists fans
- Suppliers

Microsoft

- Shop
- Products
- Downloads
- Support



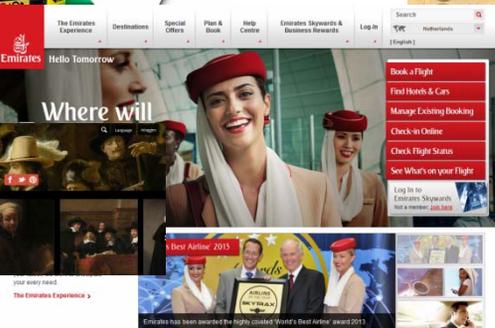
The Shell globa

Unlocking more
off Brazil



The world's full of websites

..... and website designers as well!



Rembrandt Harmensz. van Rijn

We looked for:

- International companies,
- Long time existence,
- Prize winners,
- No 'single-person-companies,
- communication in English.

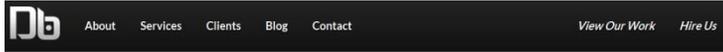


And this is what we found



Administration Committee
Hamburg, 16 Oct. 2013

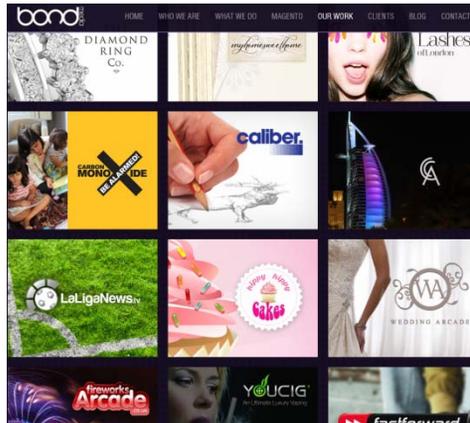
www.deepblue.com



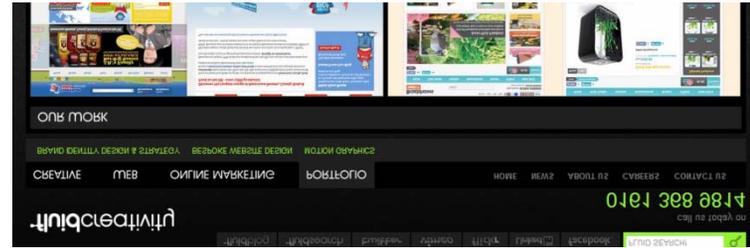
CLIENTS



<http://www.bondmedia.co.uk>



www.fluidcreativity.co.uk



www.studiodumbar.com



<http://www.kohactive.com>



www.davidfogle.com



And now to compare them!

Website proposals:

company	price		Size Company	Completeness of the offer	Difficult proposal many questions	Relevant customers		Conclusion
<u>DeepBlue</u> USA	\$ 8,850 + tax - 20 % discount	★★★★ ★★	★★★★ ★★			★★★★ ★★		
<u>Bondmedia</u> , UK	£ 4550 + £ 1500 + tax = \$ 9645	★★★★ ★★	★★★★ ★★			★★★★ ★	hosting possible	
<u>Kohactive</u> , USA	\$ 25,000 + tax	★★	★★★★ ★★			★★★★		
<u>Studiosumbar</u> , NL	€ 33.000 + tax = \$ 44.840	★	★★★★ ★★			★★★★ ★★		
<u>Fluidcreativity</u> , UK	£ 21,771 + tax = \$ 34990	★	★★★★ ★★			★★★★		
<u>David Fogle</u> , USA	\$ 9,000 + tax	★★★★ ★★	★			★		

- ★★★★★ = great, excellent
- ★★★★ = good, fine
- ★★★ = okay
- ★★ = insufficient
- ★ = bad



Administration Committee
Hamburg, 16 Oct. 2013

Conclusion:

DeepBlue and BondMedia seem the best options.

Now which one of those two?





International Communications Energy Systems

INTELEC Executive Committee(IEC)
Constitution and Bylaws

Issue IX, November 16, 2011

Revision suggestions from the IEC Constitution and Bylaws Committee
October 06, 2013

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Foreword

Since 1978, the major leadership body of INTELEC has been the Advisory Committee (ADCOM). Within the IEEE community, there are several Advisory Committees and “ADCOM” is spelled in various ways; for example IEEE PELS Advisory Committee is spelled “AdCom”. After considerable discussion, it was decided that the former INTELEC ADCOM would be named the “INTELEC Executive Committee” or ‘IEC’. The abbreviation “IEC” already exists as the International Electrotechnical Commission; however the CBL Committee decided to proceed with the abbreviation “IEC” to describe the “INTELEC Executive Committee”, which is the group that conducts all of the conferences, meetings, and other activities necessary to achieve the Scope and Mission Statement of INTELEC.

Even though the name “INTELEC” has identified the International Telecommunications Energy Conference since its inception, the word “communications” will be used throughout this document as INTELEC has expanded its field of influence to include all communications including Wireline and Wireless Systems, Data/Internet Systems, Video Systems, Satellite communications, Community Antennae Television (CATV), Voice Over Internet Protocol (VOIP) systems, Unified Communications, Wireless Internet Networks (Wi-Fi) Data Centers, Energy Storage, Smart Grid, *etc.*

Abbreviations used throughout this document

AdCom	IEEE PELS Advisory Committee
CBL	INTELEC Constitution and Bylaws
CMC	INTELEC Conference Management Committee
CSC	Conference Steering Committee (formerly the CEC)
IEEE	Institute of Electrical and Electronic Engineers
IEC	INTELEC Executive Committee (formerly INTELEC ADCOM)
INTELEC	International Communications Energy Systems (a PELS TC)
MOU	Memorandum of Understanding
NA	North America (USA&Canada)
PELS	Power Electronics Society of IEEE
ROW	Rest of the World (not in North America)
TC	Technical Committee of IEEE PELS
TSG	Technical Sub-Group or sub-committee of a PELS TC
TT	Technical Thrust—a sub-committee or sub-group of a PELS TC

CONSTITUTION

INTELEC[®] EXECUTIVE COMMITTEE

ARTICLE I

NAME, OBJECT, AND SCOPE

SECTION 1.1

1.1.1 This organization shall be known as International Communications Energy Systems, INTELEC Executive Committee (IEC). It is a Technical Committee (TC) of the Power Electronics Society (PELS) of the Institute of Electrical and Electronic Engineers (IEEE).

SECTION 1.2.

- 1.2.1 Its Object and Scope shall be scientific, literary and educational in character, including development of standards, best practices, or guides in the field of communications energy and related systems. The official language of INTELEC and INTELEC Conferences is English. The IEC shall strive to advance the theory and practice of communications energy and related systems, and to maintain a high professional standing among those practicing in this field.
- 1.2.2 The IEC shall also appoint such committees, liaison personnel, and Technical Thrusts (TT) as required to achieve this end. All of these efforts shall be in consonance with the Constitution and Bylaws of the PELS and the IEEE.

ARTICLE II

MISSION STATEMENT

SECTION 2.1

- 2.1.1. The primary field of interest of the IEC shall be: "Development and implementation of international conferences and other activities as required to treat all matters in which the dominant factors are the research, sustainability, fundamental development, design, application and management of communications energy and related systems. This includes consideration of materials and components used therein, standardization of definitions, nomenclature, symbols and operating characteristics and exchange of information by technical papers, conferences, workshops and demonstrations."
- 2.1.2 The field of interest may be enlarged, reduced or shifted as the need indicates provided that such revision shall be processed as an amendment to this Constitution - see Article VII.

ARTICLE III

ADMINISTRATION

SECTION 3.1 INTELEC Executive Committee (IEC)

3.1.1. The IEC shall consist of up to 20 elected, voting members plus ex-officio members with or without vote as specified in 2.1 of the Bylaws. All elected members are voting members and assume office the first of January of each year. In addition, the composition of the elected voting members of the IEC shall be up to 50% American and Canadian (U.S.A. or Canadian citizens or permanent residents of the U.S.A. or Canada), and the remainder from the rest of the world (ROW).

3.1.2. Members elected to the IEC must be members of the IEEE or a comparable professional society or institution, or must be working in the Communications Energy field, or must be of value to INTELEC as determined by the Board of Directors. Elected members of the IEC are elected to a four-year term and can serve a maximum of two consecutive four-year terms.

3.1.3. Officers of the IEC.

The IEC shall elect one of its elected members as President, another as Vice President, a third as Treasurer, and a fourth as Secretary. Each shall be elected for a two-year term. An officer may not serve in the same office position for more than two consecutive terms (see Appendix A). All terms commence on January 1 and expire on December 31.

3.1.4 After the President has completed his or her final term, he or she will be an ex-officio member of the IEC for two years with vote.

3.1.5. Board of Directors .

The Board of Directors of the IEC shall consist of the President, Vice President, Treasurer, and Secretary of the IEC plus the Chair of the Conference Steering Committee (CSC) and one Outside Director with vote. The Chair of the CSC and the Outside Director is elected by a simple majority vote of the IEC. The term of the Outside Director is 2 years with a maximum of 2 terms.

3.1.6. The Board of Directors may meet as needed either in person, or via electronic conference. Correspondence via electronic mail to plan the affairs and operation of the IEC is acceptable. Notes of these meetings shall be maintained by the Secretary or his or her designated representative and be available for review by any elected member of the IEC.

SECTION 3.2 Duties and Responsibilities of the Officers of the IEC and the Board of Directors.

3.2.1. The President shall preside at meetings of the IEC and the Board of Directors and have such other powers and perform such other duties as provided in the Bylaws, or as may be delegated to him or her by simple majority vote of the IEC. The President shall speak for the IEC on all matters not specifically delegated to others.

- 3.2.2. In addition to supervising and leading the IEC, other duties of the Board of Directors are: strategic planning, membership status, recommending location of future INTELEC Conferences (by country or region—not by specific city), approving future INTELEC Conference cities, long term financial health of the IEC, membership mixture (up to 50% North American plus the rest of the world - see 3.1.1) and making recommendations to the IEC for establishment or dissolution of Standing or Ad Hoc Committees, or Technical Thrusts. Except for the President and the Outside Director, each member of the Board of Directors based upon their background and talents will be appointed Chair of a Standing Committee (if there are sufficient Standing Committees) by the President. Standing Committees are defined in 6.1 of the Bylaws.
- 3.2.3. The Board of Directors shall develop and maintain operating policies for conducting IEC business.
- 3.2.4. An important duty of the Board of Directors is “Strategic Planning”. This is to define INTELEC’s short and long term goals and to make decisions on allocating its resources (capital and people) to pursue these goals. The Board of Directors shall develop a Strategic Plan that should be evaluated on a regular basis.
- 3.2.5. The Vice President and if needed, the Chair of the CSC in succession shall perform the duties of the President in the absence or incapacity of the President.
- 3.2.6. The Secretary or his or her designated representative will publish the meeting notes of every IEC meeting and will have available the meeting notes of every Board of Directors meeting.
- 3.2.7. The Treasurer is the chief financial officer of the IEC, and shall annually prepare budgets and reconcile INTELEC expenses versus the INTELEC budget (approved by PELS) as well as the amount owed INTELEC from the PELS reserves, if any, in a timely manner to meet the requirements of the INTELEC and IEEE PELS. The Treasurer of IEC will communicate with the PELS Treasurer as needed, and request that the PELS Treasurer annually announce the net amount due INTELEC at the PELS AdCom meeting.
- 3.2.8. Neither the IEC nor any officer or representative thereof shall have any authority to contract debts for, pledge the credit of, or in any way bind the IEEE or PELS, except in accordance with budgets previously approved. All members (voting and non-voting) of the IEC serve on a voluntary basis and do not receive compensation from INTELEC for their activities other than reimbursement for expenses that have been included in the approved INTELEC Budget.
- 3.2.9. The President of the IEC and the Chair of the Conference Steering Committee (CSC) shall fill the two ex-officio voting positions on the PELS AdCom that are provided by the PELS Bylaws for the Communications Energy Systems Technical Committee. At least one of these two individuals or their designated representative is expected to attend the

PELS AdCom Annual Meeting. The PELS Constitution requires that all voting members of PELS AdCom be members of IEEE/PELS.

SECTION 3.3 Committees of the IEC

- 3.3.1. The Board of Directors shall make recommendations to the IEC to establish Standing Committees as prescribed in the Bylaws, such as the Nominating Committee, the Constitution and Bylaws Committee, Finance Committee, etc. The IEC approves the recommendations by a simple majority vote. The IEC may also establish Ad Hoc subcommittees and/or TTs to develop specific areas of interest. The control of adding or dissolving any sub-committee (including TTs) is with the IEC. All appointments to committees and similar posts shall be for a term of two years unless the committee is dissolved earlier, or unless successors are appointed, or unless other specifically designated terms of office are established by the IEC. The maximum number of consecutive terms is limited to 2 (see Appendix A).
- 3.3.2. The President of the IEC shall be an ex-officio member with vote of all committees and subcommittees of the IEC, including the Technical Thrusts.
- 3.3.3. The President with the advice and consent of a simple majority of the elected members of the IEC shall appoint chairs of and give the charge to each committee, and subcommittees of the IEC including Technical Thrusts, with its responsibilities.
- 3.3.4. Except for the CSC, the chair of each committee appoints the members of the committee. They may be elected or appointed members of the IEC or from the outside industry or academia. All committee members must be approved by the Board of Directors. If possible, each elected voting member of the IEC should be appointed to a Standing Committee.

ARTICLE IV

NOMINATION AND ELECTION OF THE MEMBERS AND OFFICERS

SECTION 4.1 Nominations

- 4.1.1. The Nominating Committee shall prepare a ballot for the election of IEC members and a separate ballot for the Officers.
- 4.1.2. The makeup and procedures of the Nominating Committee shall be prescribed in 4.1, 4.2, 4.3, and 6.3 of the Bylaws.

SECTION 4.2 Elections

- 4.2.1. Election of the IEC members shall be made by the voting IEC members. The vote shall be cast by a mailed paper ballot, ~~or~~ by an electronically mailed ballot such as an e-mail message prepared by the Chair of the Nominating Committee, **by an electronic web based voting procedure conducted by the IEEE, or other methods approved by the IEC Board of Directors**. Each voting member shall cast all their allocated votes and the vote shall be sent to and counted by the Chair of the Nominating Committee, unless the Chair of the Nominating Committee is standing for election, in which case **the a temporary Chair taking over all the Chairs responsibilities with regard to this election is to be appointed (see section 6.3 of the Bylaws)**. In the event of a tie, the President shall break the tie.
- 4.2.2. Election of the officers **and Board of Director positions** of the IEC shall be made by the voting IEC members **whose terms do not expire in the first year of the officer's or Board Director's term. The vote shall be cast by a mailed paper ballot, or by an electronically mailed ballot such as an e-mail message prepared by the Chair of the Nominating Committee, by an electronic web based voting procedure conducted by the IEEE, or other methods approved by the IEC Board of Directors**.
- 4.2.3. Errors made in the election process of IEC members or IEC officers shall be corrected in a special meeting as determined in section 5.3 of the Constitution and if a revote or affirmation is required, all voting members shall be offered the opportunity to vote or affirm.

SECTION 4.3 Vacancies

- 4.3.1. In-term vacancies on the IEC shall be filled by appointments, for the unexpired terms, by the President unless the unexpired term is less than a year. The appointment shall be ratified by a simple majority vote of the IEC. If the unexpired term is less than a year, the vacancy will be filled at the next election.

ARTICLE V

MEETINGS, CONFERENCES, SYMPOSIA, AND CONVENTIONS

SECTION 5.1

- 5.1.1. The IEC may authorize meetings, conferences, symposia or conventions (*i.e.* technical meetings), provided any such technical meeting fulfils the financial sponsorship requirements as details in Section 6.2 of this Constitution. All efforts in relation to conducting a technical meeting shall be in consonance with the Constitution and Bylaws of the PELS and the IEEE. The IEC shall usually authorize one technical conference of international scope each year. Only this conference, the International Communications Energy Conference, may use the registered trademark "INTELEC[®]" in the title of the conference. It is intended that all INTELEC conferences shall be conducted under the

guidelines and procedures contained in these Constitution and Bylaws. In addition, a Telescon® Conference may be authorized by the IEC if approved by a simple majority of voting IEC members.

SECTION 5.2

5.2.1. Conferences or conventions of the IEC shall be open to all members of IEEE, affiliated societies, or other interested parties.

SECTION 5.3

5.3.1. The IEC shall hold at least one business meeting per year, usually at the time of the INTELEC Conference. Other special meetings of the IEC shall be held at the discretion of the President or at the request of at least three members of the IEC, with at least 15 days written or electronically mailed notice. These special meetings can be held to correct any errors that occur in conducting INTELEC business. No guests are allowed at official meetings without the approval of the Chair of the meeting.

SECTION 5.4 Quorum

5.4.1. Fifty (50) percent of the elected members of the IEC shall constitute a quorum. If a meeting must be held without a quorum, subsequent ratification via a simple majority vote of the IEC shall be required on all actions, as specified in 5.1 of the Bylaws.

SECTION 5.5 Voting

5.5.1 All voting members shall have an equal vote. A simple majority vote of those voting members of the IEC attending a meeting shall be necessary for the approval of actions except as otherwise provided in this constitution. **If a participant in a meeting or recipient of a ballot decides not to vote this is considered as a non-vote (neither a yes or a no). The person is counted as part of a quorum, but the “non-vote” can never be part of a majority.**

5.5.2 As the discussion leading up to a decision is an important part of the decision process, proxies are not allowed for IEC voting. For elections and other votes where a time window of days or more is allowed for voting there is no need as everybody will have time to respond. For voting at meetings people unable to attend can vote via telecommunications or similar, provided they also take part in the discussion leading up to the voting.

5.5.3 Write-ins are not allowed for IEC ballots. To assure the ballot correctly reflects all nominees supported by voting IEC members the Nominating Committee is to first distribute a preliminary ballot, followed by a two week window to add nominees. Thereafter the definitive ballot is distributed and the voting starts.

SECTION 5.6

- 5.6.1 Business of the IEC may be handled in person, by correspondence, telephone, facsimile, electronic conference or electronic mail where, in the opinion of the President, matters requiring action can be adequately handled in that manner.

SECTION 5.7

- 5.7.1. The Board of Directors shall meet at least two times per year. Meetings can be in person, by correspondence, telephone, facsimile, electronic conference or electronic mail.

ARTICLE VI

FINANCIAL

SECTION 6.1

Operational funding for IEC activities in conducting INTELEC business is by way of appropriation from PELS.

- 6.1.1. The Treasurer of the IEC shall maintain an operating fund as permitted for the Communications Energy Systems TC by the PELS Bylaws. The Treasurer shall be responsible for the preparation of the annual INTELEC Budget for approval by PELS. The budget will include conference advances and support for conferences approved by the IEC, and operating expenses for IEC activities including special issues of the *Transactions on Power Electronics*. The Treasurer shall make a financial report at each Board of Directors meeting and each IEC Annual meeting. The Treasurer of the IEC may assist the Treasurer of each INTELEC Conference.
- 6.1.2. The Treasurer shall maintain and manage a means to readily access funds that are to be used in a discretionary and contingency basis by INTELEC for incidental and operating expenses (for example, a IEEE-PELS authorized credit card).

SECTION 6.2 Financial sponsorship (Conference underwriting).

The primary source of income to fund the operation and objectives of INTELEC is the surplus generated from conferences authorized by the IEC.

- 6.2.1. All INTELEC conferences shall be underwritten (financially sponsored) in part or fully by PELS. The IEC may allow and authorize other non-profit technical organizations or societies to co-underwrite (financially co-sponsor) with PELS, but only to such a degree that the level of PELS financial sponsorship shall not be less than 50% of the total level of financial sponsorship, and subject to the other organisations satisfying PELS co-sponsorship eligibility requirements, or any other requirements imposed by the IEC at the time.
- 6.2.2. All conferences authorized by the IEC shall be budgeted for a surplus (e.g. 20% surplus)

- 6.2.3. Any surplus will be distributed between financial co-sponsors in the same proportion as the level of underwriting. 50% of any surplus due to PELS from any conference authorized by the IEC shall accrue to the 'INTELEC account' held by PELS.

ARTICLE VII

AMENDMENTS TO THE CONSTITUTION OR BYLAWS

SECTION 7.1 Amendments

- 7.1.1. Amendments to the Constitution or Bylaws may be adopted by a 2/3 majority of the voting IEC members. Notice of the proposed amendment shall be sent to each voting member of the IEC at least 30 days prior to a meeting of the Committee. An amendment may be adopted by a 2/3 majority of the voting members of the IEC. Responses must be received by the date of the meeting.

The vote shall be cast by a ballot distributed and collected at the meeting, or cast by a mailed paper ballot or electronically mailed ballot such as an e-mail message. A combination of vote-collecting processes may be employed.

- 7.1.2. An amendment adopted by the IEC shall be submitted to the IEEE PELS AdCom for approval by a 2/3 majority of the voting members of PELS AdCom. After such approval, the amendment shall become effective in 30 days.

BYLAWS

INTELEC[®] EXECUTIVE COMMITTEE

1.1 NATURE OF THE BYLAWS. These Bylaws are intended to provide general, and in some cases explicit, instructions on the conduct of the affairs of the IEC. Amendments to these Bylaws may be made by the means and procedures described in Article VII of the IEC Constitution. Decisions on procedures made and voted by the IEC as reported in its minutes or meeting notes are binding as written and approved. Only the most important and time independent procedures shall be incorporated in the Bylaws.

2.1 EX-OFFICIO MEMBERS. The immediate Past President of the IEC shall be an ex-officio member with vote for two years after his or her term of office, if not already an elected member of the IEC (his or her elected term on the IEC has not expired). The immediate past Chairs of the Nominating Committee and the Conference Steering Committee shall be ex-officio members without vote for two years if they are not already elected members of the IEC (his or her elected term on the IEC has not expired). The President of PELS or the Vice President of the PELS Meetings Committee will be ex-officio members with vote.

The President of the IEC may appoint other ex-officio members without vote, on an as needed basis. A simple majority vote of the voting members of the IEC is required to approve these appointees. The term for those appointed under this provision shall be a maximum of two years, and a maximum of 2 terms shall apply. Any ex-officio member appointed under this provision shall have knowledge and influence that will benefit the growth of INTELEC. For example, those who qualify to be ex-officio members without vote could be potential new IEC members who will run for election at a later date and/or persons with useful past experience in the affairs of the IEC.

3.1 REMOVAL OF MEMBERS.

3.2. Absences. Elected and ex-officio members of the IEC who miss two consecutive meetings, teleconferences, or votes or who otherwise become inactive shall be dropped from membership in the absence of an acceptable written explanation to the President. Vacancies thus created may be filled at the discretion of the President with a simple majority vote of the IEC or through the normal election process.

3.3. Removal for Cause. Any IEC member may be removed for cause by a 2/3 vote of the IEC. The IEC member being considered for removal shall retain his or her position as a member of IEC with full voting privileges until such time as he or she has been formally notified of his or her removal. A member being considered for removal shall be advised of the action and given an opportunity to state his or her position to the IEC and the President of PELS. After vote of the IEC and approval of the President of PELS, formal notification to the IEC member of his or her removal shall be by letter signed by the PELS President and mailed by registered mail. Copies shall be sent to the members of IEC and the President of the IEC.

4.1 NOMINATION OF MEMBERS OF THE IEC. Basic provisions for election are included in Article IV of the IEC Constitution. Members ~~and officers~~ of the IEC shall be elected from a slate of nominees prepared by the Nominating Committee with considerations given to the qualifications and country of residence of the nominees. The Nominating Committee, whose operations are covered in 6.3 of the Bylaws, shall be formed on or before January 15 of each year. ~~Nominees can nominate themselves or be nominated by voting IEC members or the Nominating Committee. In order to be put on the ballot a nominee has to accept the nomination. The ballot shall contain a one page c.v. with photo for each person on the ballot.~~ Election of IEC members ~~for terms beginning the following year~~ shall be completed by May 1. ~~Elections of officers shall be completed before December 1.~~ All terms commence on January 1 and expire on December 31.

4.2 ELECTION OF THE MEMBERS OF THE IEC. Members of the IEC currently in office, except for those whose terms expire in the current year, shall elect nominees to fill vacancies to occur on the succeeding January 1. ~~The vote shall be cast by a mailed paper ballot or by an electronically mailed ballot such as an e-mail message.~~ The election shall be conducted by the Chair of the Nominating Committee unless the Chair of the Nominating Committee is standing for election, in which case ~~the a temporary~~ Chair of the Nominating Committee shall ~~appoint an alternate voting member of the Nominating Committee to conduct the election~~ ~~be appointed (see section 6.3 of these Bylaws).~~ A simple majority of votes returned shall elect members.

4.3 NOMINATION AND ELECTION OF OFFICERS AND BOARD OF DIRECTOR POSITIONS OF THE IEC. Following the election of the incoming IEC members, the Nominating Committee shall submit nominations for any vacancies for President, Vice President, Treasurer, ~~and~~ Secretary, ~~and any remaining Board of Director positions~~ to all who will be voting IEC members in the succeeding year. Nominees shall be elected members of the IEC, ~~with exception of nominations for the position of Outside Director. Nominees for these positions can nominate themselves or be nominated by voting IEC members or the Nominating Committee. In order to be put on the ballot a nominee has to accept the nomination. The number of candidates on the ballot shall be no less than one and a half times the number of vacant positions. The election of officers and Board of Director positions shall be completed before December 1.~~ The Nominating Committee Chair shall conduct the election and shall vote and if there is a tie, his or her vote breaks the tie. ~~In case the Chair of the Nominating Committee is standing for election a temporary Chair taking over all the Chairs responsibilities with regard to this election is to be appointed (see section 6.3 of these Bylaws).~~ ~~The vote shall be cast by a mailed paper ballot or by an electronically mailed ballot.~~ A simple majority vote of the returned ballots shall elect the officers ~~and Board of Director positions.~~ Candidates for ~~a given office any specific position~~ cannot vote for anyone running for that ~~office position~~, but can vote for candidates for other ~~offices positions.~~ ~~All terms commence on January 1 and expire on December 31.~~

4.4 IN-TERM VACANCIES. Filling of vacancies among members of the IEC is by appointment as specified in the Constitution, Article IV, Section 4.3. If an Officer leaves a vacancy, the Nominating Committee shall within two months conduct an election as per the procedures of 4.3.

5.1 IEC OPERATIONS. The President and Officers shall conduct the business of the IEC. As provided by the Constitution, Article V, Section 5.4, the quorum shall be fifty (50) percent of the elected members. Each elected member and ex-officio member with vote shall have one vote. The President (or whoever is presiding at the meeting) shall vote only in the event of a tie. Except where otherwise provided in the Constitution or Bylaws, business shall be transacted on the basis of a simple majority of those voting members of the IEC attending the meeting or by attendance via teleconference or by other electronic means.

5.2 MEETING AGENDA. No IEC meetings shall be held for the purpose of transacting business unless each member shall have been sent notice of the time and place of such meeting 15 days prior to the scheduled date of the meeting. To assist the IEC in performing its duties, each member should provide the Secretary with a current email address. If less than a quorum attend a duly called meeting, tentative actions may be taken that shall become effective upon subsequent ratification, either at a meeting, electronic mail, or by mail by a sufficient number of members as to constitute a quorum. Meeting notes of such meetings shall be mailed by the Secretary to each Committee member who shall register his or her disagreement of the meeting notes within 10 days.

5.3 ROBERT'S RULES OF ORDER (LATEST REVISION) shall govern conduct of IEC meetings on all matters not otherwise specified in these Bylaws or the Constitution. A condensed version of Robert's Rules of Order can be found on the INTELEC Documents portion of the INTELEC website (www.intelec.org).

5.4 DUTIES OF THE IEC. It is intended to retain as much flexibility in the operations of the IEC as possible. Therefore, with the exception of a few minimum requirements, the provisions of this section are intended to serve as general guidelines without being binding in detail. It is the responsibility of all members to continue in service until their successors have the opportunity to be briefed, receive the official files appropriate to their offices, and in other respects take office.

Transfer of IEC records and files should always be confirmed in writing, and with copies to the other members of the IEC. Files and records of the IEC should only be transmitted by password protected electronic mail, in person or by traceable mail. Each member shall work for a smooth transition to their successor. Records and files should be maintained in a backed up, secure electronic medium with remote electronic access to the extent possible and practical.

6.1 STANDING COMMITTEES There are certain administrative tasks in connection with IEC activities that are of a perpetual nature. They are normally delegated to members of the IEC, constituted into Standing Committees. Since these tasks involve information gathering and coordinating certain IEC operations, the input from these committees is widely useful. In order to identify these sources of information, they are listed below as Standing Committees with short descriptions of their responsibilities. Except for the President, each IEC officer shall be appointed the Chair of at least one Standing Committee (if there are sufficient Standing Committees) by the President. The other Standing Committee Chairs are appointed by the President. Members of each Standing Committee are appointed by the Standing Committee Chairs. Chairs and members of all Standing Committees are approved by a simple majority vote

of the IEC. The term of office for all Standing Committees is two years, and the maximum number of consecutive terms is limited to 2 (see Appendix A).

6.2 ROSTER OF STANDING COMMITTEES Standing Committees may be added or deleted by a simple majority vote of the IEC as the need arises. The following description of tasks is in outline form.

6.3 NOMINATING COMMITTEE The Nominating Committee is required to assemble a slate of nominees to fill vacancies on the IEC and present a slate of members and officers for election by the voting IEC members. It may be called upon by the IEC to provide other slates of nominees if they are required and not otherwise provided for in the Bylaws. The Nominating Committee shall also conduct the elections for which it prepares ballots. The Nominating Committee shall be formed each year before January 15. There shall be at least two members other than the Chair. **The Chair of the Nominating Committee cannot stand for election in any election conducted by the Committee. In case the Chair of the Nominating Committee wishes to stand for election a temporary Chair is to be appointed for the duration of the election in question. The temporary Chair can be appointed by the Chair if the appointee is already a member of the Nominating Committee and all committee members are in agreement. If this is not the case the temporary Chair is appointed by the IEC President.**

6.4 CONSTITUTION AND BYLAWS COMMITTEE. The Constitution and Bylaws Committee shall act as consultant to the IEC on provisions and limitations of the IEC Constitution and Bylaws. It shall examine IEC decisions for those of sufficient general import to be included in the Bylaws. It shall make recommendations to the IEC for changes in the Constitution and Bylaws, and execute them when called upon.

If there should be a conflict between the provisions of the IEC Constitution and Bylaws and those of the PELS or the IEEE, the Constitution and Bylaws of the PELS or the IEEE shall take precedence.

6.5 COMMUNICATIONS AND PUBLICITY COMMITTEE. This committee is responsible for communications and publicity, including the website, www.intelec.org. Each conference has its own publicity chair, which is part of the Conference Management Committee (CMC) and is responsible for communications and publicity for the conference.

7.1 CONFERENCE STEERING COMMITTEE (CSC)

All INTELEC conferences are supervised by the CSC. The CSC reports to the IEC. The purpose of the CSC is to perform, on the behalf of the IEC, the functions of coordination, evaluation, long-range planning and supervision appropriate to each of the conferences authorized by the IEC. In addition, the CSC provides financial oversight of all INTELEC conferences. In view of the fact that the IEC may participate in several conferences, each in a different role, the functions of the CSC depend upon the specific conference. For any conference, however, the CSC represents the IEC and shall take certain minimum precautions with regard to technical content of the conference, the integrity and legal status of the conference and its financial sponsors, IEC representation on CMC conference committees, receipt of conference reports, and dissemination of information. In addition, the CSC shall provide an evaluation of each INTELEC Conference

to the IEC and the Meetings Committee of PELS. This evaluation shall include attendance, financial, technical performance and other items to evaluate and improve conferences.

7.2 CSC Membership. The CSC membership shall consist of:

- A. A Chair, elected by a simple majority vote of the IEC. The Chair is also a member of the Board of Directors. The term of the Chair is 2 years, and maximum of 2 consecutive terms apply.
- B. The most recent INTELEC CMC Chair. This person will serve as the secretary of the CSC. The term is for one year only.
- C. The most recent past chair of the CSC.
- D. One member at large appointed by the Chair of the Meetings Committee of the IEEE PELS. If the PELS Meetings Committee Chair has not filled this position, the CSC Chair shall make the appointment from elected members of the IEC. The appointment must be approved by a simple majority vote of the IEC.
- E. The Treasurer of the IEC.

7.2.1. Terms of Office: Except where the terms are limited by their position (e.g. past chair of a conference), all members shall serve two calendar years with a maximum of one term. (see Appendix A).

7.2.2. Vacancies: The Chair of the CSC shall fill all vacancies by appointment with IEC approval by a simple majority vote except as noted below:

- A. If the Chair of CSC is unable to serve his or her term, the President of the IEC shall appoint a new Chair to fill the unexpired term. This person shall be confirmed by a simple majority vote of the IEC
- B. If the recent INTELEC CMC Chair cannot serve, another past INTELEC CMC Chair will be selected by the CSC Chair.

7.3 CSC Responsibilities.

7.3.1. IEC Representative:

The CSC shall represent the IEC in financial negotiations and commitments with co-sponsors of INTELEC conferences, and oversee compliance with IEEE/PELS requirements in relation to financial sponsorship and the distribution of any surplus.

7.3.2 Conference Guidelines:

The CSC shall provide, review and maintain guidelines and practices in relation to the duties and responsibilities of positions within the Conference Management Committee (CMC). The guidelines shall reflect IEC policy, which may change from time to time.

The guidelines shall be consistent with the IEEE Conference Organization Manual and shall be posted on the password protected portion of the INTELEC website.

7.3.3 Oversight role:

The CSC shall oversee and ensure that the planning for a given conference is generally consistent with current IEC policy, directions and any requirements placed on the conference by the IEC at time of approval. The CSC will provide general consultation and guidance to the General Chairs, officers and committees of each conference. The CSC Chair shall also assist the IEC Treasurer in preparing the annual INTELEC Budget.

7.4 CSC Operations

The CSC shall meet at least once a year to make or confirm major conference appointments, formulate advance plans and to receive reports and budgets from CMC Chairs. The CSC may conduct business meetings, in person, or by electronic media at the option of the CSC Chair. Action at a face-to-face meeting shall be by a majority vote of the voting members attending provided that a quorum of 50% of the voting members is present. In a mail meeting, all voting members shall be contacted and a simple majority of the entire CSC is required for action. Meeting notes of all CSC meetings shall be kept by the CSC Secretary or his or her designated representative. They shall be sent to all voting members of CSC, to the President, Vice President, Treasurer, and Secretary of the IEC, and to the Chair of the Meetings Committee of PELS. The Chair of the CSC may authorize other distribution as needed.

Appendix A – Terms of Service Matrix

POSITION	ELECTED OR APPOINTED	SECTION (C=Const., BL=Bylaws)	Years of Term	Max. no. of successive Terms
PRESIDENT	ELECTED	3.1.3C	2	2
VP	ELECTED	3.1.3C	2	2
TREASURER	ELECTED	3.1.3C	2	2
SECRETARY	ELECTED	3.1.3C	2	2
CHAIR OF CSC	ELECTED	6.6.3.1(a)BL/3.1.5C	2	2
IEC MEMBERS	ELECTED	3.1.2C	4	2
Outside BOD Director	ELECTED	3.1.5C	2	2
Ex-Officio with Vote	APPOINTED	2.1BL	2	2
Ex-Officio w/o Vote	APPOINTED	2.1BL	2	2
Stand. Comm. Chair	APPOINTED	6.1BL	2	2
Stand. Comm. Mem.	APPOINTED & APPROVED BY THE BOD.	3.3.1C/3.3.4C/6.1BL	2	2
CSC Members	APPOINTED/APPROVED	3.3.4C/6.6.3.3BL	2 (1 for past CMC chair)	1
TT Chair	APPOINTED/APPROVED	3.3.1C	2	2
TT Member	APPOINTED/APPROVED	3.3.1C	2	2

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Activities of international standard

IEC SMB/SG4

(LVDC distribution systems up to 1500 V)

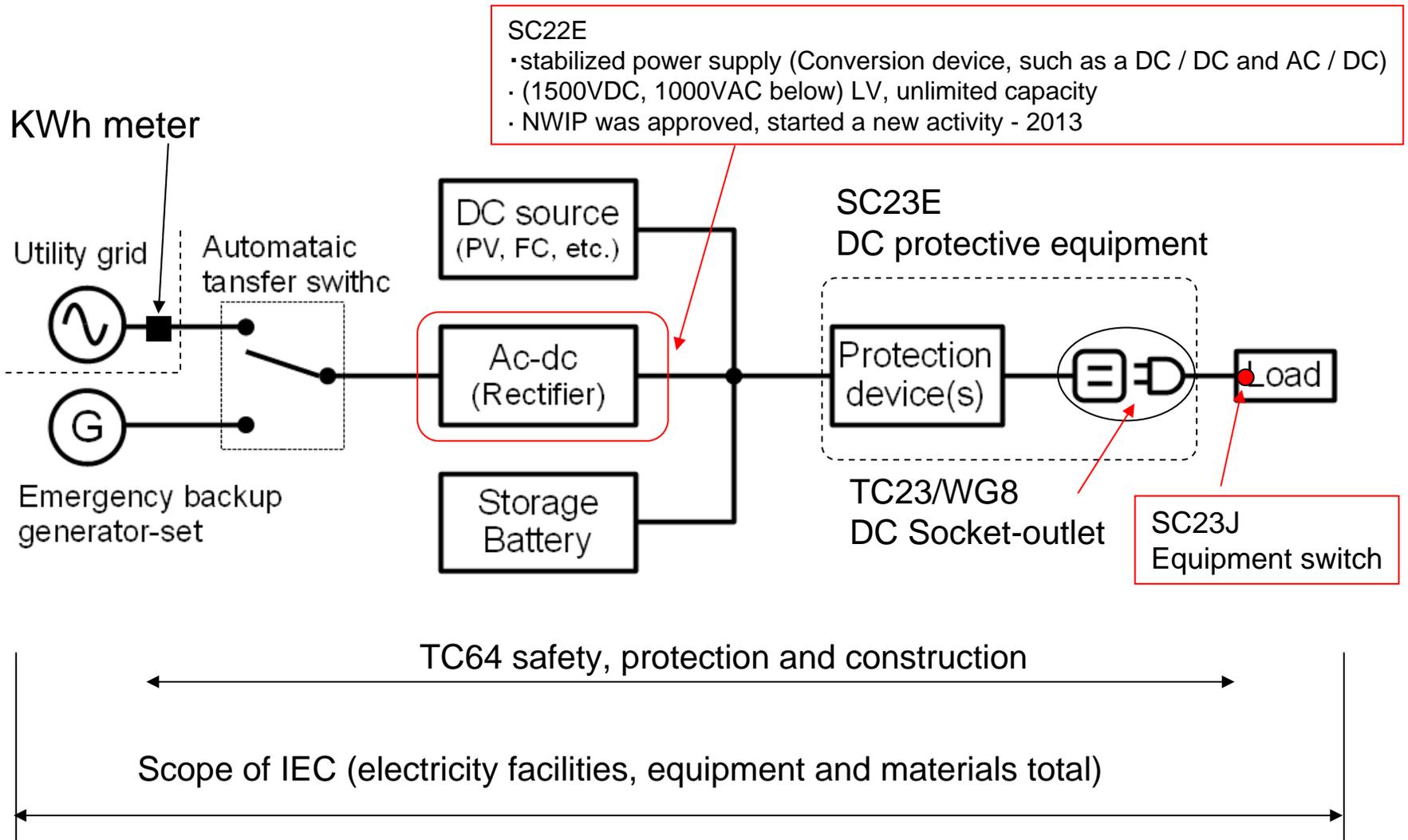
Summary of activities

- Suggested by SENC, started the SG4 from December 2009.
- The range of study the DC power distribution systems up to 1500V.
(In the IEC, low-voltage DC is defined as up to 1500V)
- Convenor: Wim De Kesel Mr. (Belgium)
- Members: 14 countries
United Kingdom, Sweden, France, Germany, Italy, Spain, Denmark, Netherlands, Switzerland, Norway, China, South Korea, the United States and Japan (K. Hirose)

History of the SG4

No of meeting	Date	City	The main conference content
1	2009/12/17	Kista (SE)	Checking the contents for discussion
2	2010/1/28-29	Kista (SE)	Discussion of scope of the SG4 meeting
3	2010/4/26	Tokyo (JP)	Because of Iceland volcano eruption, exchange of information with a few members as ad-hoc meeting
4	2010/9/6-9	Washington DC (US)	Modification of title, confirmation of liaison
5	2011/2/8-9	Frankfurt (GE)	A study of the WS held to collect information
WS	2011/9/29-30	Dresden (GE)	Discussion of market deployment by (Workshop) WS of two days
6	2011/11/30-12/1	Paris (FR)	Confirmation of marketability, priorities determined under consideration
7	2012/4/18-19	Washington DC (US)	prioritize data center and communications facilities for 400VDC
8	2012/10/29-30	Berlin (GE)	Short circuit conditions of the DC power distribution, organization of inrush current conditions
9	2013/4/18-19	Washington DC (US)	Discussion of the voltage ranges for the 400 VDC distribution systems

Today's activities in the IEC



Future activities of the SG4

- Future work
 - Identify issues and implementation of the case study
 - Currently considered top priority) data center / telecommunications facility
 - DC micro grid
 - General building and housing
 - Roadmap
 - Collection / analysis of case studies and market needs
 - White Paper issued
- Challenge
 - activity proposals, such as a small number of Ad-hoc
 - strengthening cooperation other standards bodies, society, and industry
 - cooperation further related TC, with the SC

Related trends in other IEC

- **ITU-T**

- The International Telecommunication Union Telecommunication Standardization Sector, ITU-T L.1200: Specification of DC power feeding system interface
Issued 29 dated May 24, 2010

- **ETSI EN 300 132-3-1 V2.1.1 (2012-02)** Issued

- Environmental Engineering (EE);
Power supply interface at the input to telecommunications and datacom (ICT) equipment; Part 3: Operated by rectified current source, alternating current source or direct current source up to 400 V; Sub-part 1: Direct current source up to 400 V

- **IEEE (PELS) Power Electronics Society**

Technical committees (TCs) and technical thrusts (TTs)

- TC 1. Power & Control Core Technologies
- TC 2. Power Conversion Systems and Components
- TC 3. Motor Drives and Actuators
- TC 4. Vehicle and Transportation Systems
- TC 5. Sustainable Energy Systems
- TC 6. High Performance and Emerging Technologies
- TC 7. Communication Energy Systems
 - Scope: Telecom Power Systems, Energy Storage, etc.
 - TT 7.1 INTELEC: International Telecommunications Energy Conference)
 - TT 7.2 HVDC: 400 VDC
 - TT 7.3 Disaster recovery resilience



Technical Thrust TT7.3. Activities

INTELEC EXECUTIVE COMMITTEE EXTENDED MEETING

Hamburg, Germany, Oct. 18, 2013

Future Directions



GOALS FOR THIS (BRIEF) TALK

- Explore future activities for TT 7.3
- Build on recent activities to help INTELEC grow
- Context:
 - Disasters will keep on happening
 - Power-related issues are one of the most important causes of ICT outages during disasters
 - It has been widely accepted that communications are an essential service during disasters.



PRESENT CONDITIONS

- Both power grids and communication/data networks are quickly evolving into more distributed systems and more integrated with each other.
- Low power grids set a considerable low availability floor for ICT systems.
- Electrons are not the only problem.... Cooling is also an issue.
- After every big disaster with a considerable impact on ICT networks regulators push for changes in communication networks power practices but attempts to force implementation of these practices is often resisted.
- The need for network enhancements need to be balanced with performance objectives, risk (impact*cost), and cost.



WORKSHOPS

- Build on 2013 New Jersey Workshop successes:
 - Act as a forum where to get regulators, network operators, equipment manufacturers and academia together.
- Expand it to international locations (e.g. 2013 German floods)
- Scope: power or ICT infrastructure (e.g. including cooling)?
- Partner with IEEE to attract audience not necessarily 100 % in ICT power but that is interested in the topic
- Presentations and papers or presentations only?



THE SEARCH FOR SOLUTIONS

- Support the development of a research roadmap in collaboration with:
 - Regulators
 - Equipment manufacturers
 - Network operators
 - Electric utilities
- Possible topics:
 - Microgrids
 - Innovative cooling systems.



ADDITIONAL ACTIVITIES

- Collaboration with other groups:
 - Within IEEE:
 - Systems Council
 - Communications Society
 - Power and Energy Society
 - Outside of IEEE
 - ITU-T
 - American Society of Civil Engineers



ADDITIONAL ACTIVITIES

- Products:
 - Technical workshops
 - Guidelines / best practices / standards
 - Technical and risk assessments pre-disasters
 - Performance assessments post-disasters
 - Public and government outreach