

Jaarverslag Studie comités

2011



A2-NL (Transformatoren)

voorzitter: Jos Veens (SMIT)

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|---|-----------------|---------------|--|
| Transformer Fire Safety Practises | Ja | A2-33 | Final report (Brochure) delayed ; beginning 2012 expected |
| Guide for Transformer Procurement | Ja | A2-36 | 2 of 3 tasks ready Q4 2011; revised Brochures #156 will take until Q2-2012" |
| Transformer Reliability Survey | Ja | A2-37 | 2008- (interim 2011); Collecting data ; 44 utilities, 250 failures, but China-India missing |
| Thermal Modelling | Ja | A2-38 | Good progress; interim report Electra 2011-2012 (Analyzing hotspot calculation methods) |
| Transformers & Transients | Ja | A2/C4-39 | 2009 – 2012; Work in progress; need more utilities; |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| | | | |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| | | | toets belangstelling Cigré internationaal door NSC en toets belangstelling NL-breed door NNC (indien belangstelling NL-breed = zoek deelname Nederland breed door NSC; geen belangstelling NL-breed = zoek deelname geïnteresseerde Nederlandse partij door NSC) |



A2-NL (Transformatoren)

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|---|-----------------|---------------|--|
| Copper Sulphide Long-term Mitigation and Risk assessm. | Ja | A2-40 | 2009-2012; Have sent out questionnaire, but low feedback (some new European cases) |
| Oil Conductivity under DC condition | Ja | A2/D1 -41 | Progress; made round robin test with some oil qualities |
| Transformer Transportation | Ja | A2-42 | Work in Progress; Draft contence; Report in 2012 expected |
| Bushings Reliability | Ja | A2-43 | Work in progress; till end 2013; 3 Task Forces formed |
| Intelligent Monitoring | Ja | A2-44 | 2011-2014 (convenor from Brazil); 5 TF formed; first proposal for ToC |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| | | | toets belangstelling NL-breed door NNC (indien belangstelling NL-breed = zoek deelname Nederland breed door NSC; geen belangstelling NL-breed = zoek deelname geïnteresseerde Nederlandse partij door NSC) |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| - | | | |



A2-NL (Transformatoren)

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|---|-----------------|---------------|--|
| Transformer Failure Investigation | Ja | A2-45 | 2011-2014 |
| Solid Insulation Ageing Markers | Ja | A2/D1-46 | 2011-2014 |
| Dissolved Gas Analysis; new frontiers | Ja | D1/A2-47 | 2011-2014 |
| | | | |
| | | | |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| Reactors ; Transformer Health Index Vacuum Type Tap Changers experience Interpretation of IEC norms; SC Reference Book Renewables, impact on transformers | | | toets belangstelling NL-breed door NNC (indien belangstelling NL-breed = zoek deelname Nederland breed door NSC; geen belangstelling NL-breed = zoek deelname geïnteresseerde Nederlandse partij door NSC) |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| - | | | |



A2-NL (Transformatoren) Activiteiten 2011

- SC congres: *Joint colloquium A2/D1 in Kyoto, 10-14 sep 2011*
- NSC bijeenkomsten : -
- Nederlandse papers : 2 (*on PST SIL testing,+Liander/TU Delft*)
- Preferential subjects 2011:
PS1: Maintenance, Monitoring, Diagnostics, related Testing
PS2: Materials
PS3: Transient Phenomena and Testing
- Themadag? -
- Young Engineers: *Informatie vooral via e-mail ; jonge deelnemers werkgroepen aangedragen*
- Overige activiteiten: -





A2-NL (Transformatoren) Activiteiten 2012



Te bespreken onderwerpen:

- SC congres 2012 (Parijs)
- Preferential subjects 2012:

PS1: Transformers for future networks

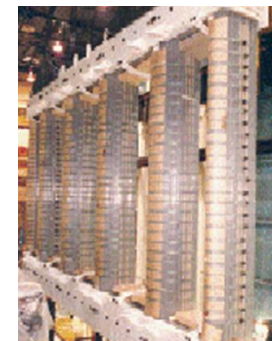
monitoring /dynamic overloading/harmonics/intelligent safeguards

PS2: Eco design / eco use

*low noise/low weight(high temperature)/optimum use/
environmental protection/recycling/refurbishment*

PS3: Magnetic circuit

modelling/materials/inrush/noise/saturation/GIC





A2-NL (Transformatoren) Leden

on

<http://www.cigre.nl/>

studiecomites/transformatoren/

Voorzitter:

- 👤 J.A.M. Veens (Smit Transformatoren BV)
Neem contact op

Secretaris:

- 👤 B.A.M. Veens (Bmit Transformatoren BV)
Neem contact op

Overige leden:

- 👤 J. Veens (Smit Transformatoren BV)
[bekijk ledenpagina](#)
- 👤 A.J.L.M. Kanters (TenneT TSO B.V.)
[bekijk ledenpagina](#)
- 👤 W. de Leeuw (KEMA Nederland BV)
[bekijk ledenpagina](#)
- 👤 H.F. Reijnders (Smit Transformatoren BV)
[bekijk ledenpagina](#)
- 👤 M.J.M. van Riet (Liandon B.V.)
[bekijk ledenpagina](#)
- 👤 W.A.H.F. Rorijs (KEMA Nederland BV)
[bekijk ledenpagina](#)
- 👤 A. van Schijndel (Liander N.V.)
[bekijk ledenpagina](#)
- 👤 J.A. Wiersma (Stedin Netbeheer B.V.)
[bekijk ledenpagina](#)



A2-NL (Transf.) Deelname werkgroepen

| | | |
|----------------------------|----------------|-------------------------------------|
| Erik de Groot | SMIT | A2-36 Transf. Procurement |
| Kees Spoorenberg | SMIT | A2-38 Thermal Modelling |
| Marjan Popov, (+JV) | TU Delft /SMIT | A2/C4-39 Transf. Transients |
| Geert Krikke | KEMA | A2-40 (Cu ₂ S longterm) |
| Kyrill Melai | SMIT | A2-42 Transf. Transportation |
| Wilco Rorijs/A.v.Schijndel | KEMA/Liander | A2-43 Bushing Reliability |
| Jos Wetzer | KEMA | A2-44 Intelligent Monitoring |
| Mark Louwerse (young) | KEMA | A2-45 Transformer Failure Investig. |
| Harry Verhaart | KEMA | A2/D1-46 Solid Insul.Ageing Markers |
| Geert Krikke/Pieter vdBijl | KEMA/SMIT | D1/A2-47 DGA new frontiers |

D1-29 PD measurements: Huub Reijnders

D1-NL: Henk Fonk (beide SMIT)





SC A3 (HV Equipment)

voorzitter: Anton Janssen (Liander)

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|---|-----------------|---------------|---|
| Worldwide reliability survey | ja | A3.06 | Draft TB in 2011, Johan Krone lid |
| Non-conventional instrument transformers | ja | A3.15 | Draft TB gereed, publicatie in 2011 ? |
| Surge arresters | minder | A3.17 | TB publicatie in 2011 |
| Application of non-ceramic hollow insulators | ja | A3.21 | TB gereed. Publicatie in 2011. |
| UHV substation equipment | ja | A3.22 | TB gepubliceerd. WG beëindigd.. Rene Smeets, Anton Janssen lid |
| Application and feasibility of FCL in power systems | ja | A3.23 | Draft TB gereed. Samenwerking met IEEE. Cvoric, Van den Burgt leden |
| Tools for simulating internal arc and STW testing | ja | A3.24 | Nadruk op internal arc, drukopbouw en worst conditions voor hete gas uitstroom. Rene Smeets is lid |
| MO varistors and surge arresters for emerging system conditions | neen | A3.25 | Samenwerking met IEC TC 37. Serie C-banken, UHV, testen |
| Capacitor switching and impact on equipment | minder | A3.26 | Anne Bosma is voorzitter. |



SC A3 (HV Equipment)

voorzitter: Anton Janssen (Liander)

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|---|-----------------|---------------|---|
| Impact of application of vacuum switchgear at transmission voltages | ja | A3.27 | <u>Rene Smeets</u> is voorzitter, grote belangstelling. VCBs voor 72.5 tot 245kV |
| Switching phenomena and testing requirements for UHV & EHV equipment | ja | A3.28 | <u>Rene Smeets</u> lid, <u>Anton Janssen</u> secretaris |
| Deterioration of ageing substation equipment and possible mitigations | ja | A3.29 | Net opgestart, <u>Wouter van der Akker</u> lid |
| Impact of overstressing of substation equipment | ja | A3.30 | Net opgestart, <u>Marcel Hooijmans</u> lid |
| Accuracy, Calibration & Interfacing of Instrument Transformers with Digital Outputs | | A3.31 | Gloednieuw, call for members |
| Initiatief: A3.24, A3.26, A3.27, A3.28, A3.29, A3.30 | | | Rene Smeets en Anton Janssen beide lid van Advisory Group |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| Out-of-Phase, mixed OH-line/cables, HVDC-CB, ontwikkelingen in kortsluitstromen | | | De vier nieuwe WGn op initiatief van Rene en/of Anton |



NSC A3

Activiteiten 2011

- SC A3 Tutorial, Colloquium, Meeting: Wenen, september
- NSC bijeenkomsten gehouden: januari, oktober
- Nederlandse papers: A3.101, -211 en -103, general report
- Preferential subjects 2012:
 - Equipment design to facilitate network developments (HVDC, UHV, intelligence, AC)
 - Reliability and life time of HV equipment
 - Environmental suitability of HV equipment (extreme, off-shore)
- Geen thema-dag, jongere aanwas, geen andere activiteiten



NSC A3

Activiteiten 2012

- SC A3 Session in Parijs, augustus
diverse papers, special report
- NSC bijeenkomsten: twee (eerste in maart)
- Tutorials in Rio en voor IEEE PES Switchgear Cie
- AG in maart, Hiroki Ito chairman
- TBs met Nederlandse inbreng: A3.06, A3.23



NSC A3 Leden

Anton Janssen (voorzitter) – Liander

Rene Smeets (lid SC A3, secretaris - KEMA)

Geert Damstra – (emiraat)

Jos Kanters – TenneT

Wouter van den Akker – TenneT

Martin Kluistra – Hapam

Maarten van Riet – Liandon

Gerard Schoonenberg – Eaton Electric

Lou van der Sluis – TU Delft

Auke Wiersma - Stedin



NSC A3

Deelname werkgroepen

Johan Krone – Hapam – A3.06

Rene Smeets – KEMA – A3.24, A3.27, A3.28

Dr. Cvoric – TU Delft (Philips) – A3.23

Jos van den Burgt – KEMA – A3.23

Anton Janssen – Liander – A3.28

Lou van der Sluis – TU Delft – A3.24

Gerard Schoonenberg – Eaton – A3.24

Marcel Hooijmans – Liander – A3.30

Wouter van der Akker – TenneT – A3.29

NC B1

voorzitter: Frank de Wild (KEMA)

| lopende onderwerpen | belang NI breed | lopende WG/TF | info-overdracht |
|--|-----------------|---------------|-------------------------------|
| Uprating and upgrading | Ja | B1.11 | TB + Electra paper + tutorial |
| Impact of EMF on ratings and systems | Ja | B1.23 | TB + Electra paper + tutorial |
| Test recommendations for XLPE AC submarine cables from 170-500 kV | Nee | B1.27 | TB + Electra paper + tutorial |
| On site PD assessment | Nee | B1.28 | TB + Electra paper + tutorial |
| Guidelines for maintaining the integrity of XLPE trans. Accessories | Ja | B1.29 | TB + Electra paper + tutorial |
| Cable system electrical characteristics | Ja | B1.30 | TB + Electra paper + tutorial |
| Testing of superconducting cable systems (upto 170 kV) | Ja | B1.31 | TB + Electra paper + tutorial |
| Recommendations for testing DC cable systems for power transmission up to 500 kV | Nee | B1.32 | TB + Electra paper + tutorial |
| Feasibility of a common dry type interface for GIS and Power cables of 52 kV and above | Ja | B1.33 | TB + Electra paper + tutorial |
| B1.34 Mechanical forces in large cross section cable systems | Nee | B1.34 | TB + Electra paper + tutorial |
| B1.35 Cable ratings | Ja | B1.35 | TB + Electra paper + tutorial |
| B1.36 (renewed) Life cycle assessment and environmental impact of UGC systems | Ja | B1.36 | TB + Electra paper + tutorial |
| B1.37 Guide to continue operation of fluid filled cable systems | Nee | B1.37 | TB + Electra paper + tutorial |

NC B1

voorzitter: Frank de Wild (KEMA)

| lopende onderwerpen | belang NI breed | lopende WG/TF | info-overdracht |
|---|-----------------|---------------|---|
| After laying test on AC and DC cable systems with new techniques | Ja | B1.38 | TB + Electra paper + tutorial |
| On shore generation cable connections to grid | Ja | B1.39 | TB + Electra paper + tutorial |
| Off shore generation cable connections | Ja/Nee | B1.40 | TB + Electra paper + tutorial |
| Recommendations for mechanical testing of submarine cables | Ja/Nee | B1.43 | TB + Electra paper + tutorial |
| Issues regarding soil thermal characteristics | Ja | TF B1.41 | TB + Electra paper + tutorial |
| Further recommendations on HVDC cable systems | Ja | TF B1.42 | TB + Electra paper + tutorial |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| New techniques for TAI On shore generation cable connections Off shore generation cable connections Soil thermal characteristics (partly) HVDC cable system recommendations | | | SC B1 zal bij sommige onderwerpen NL leden voordragen ter acceptatie door NNC |
| nieuwe onderwerpen vanuit (Cigré)Nederland | | | actie |
| Cable rating, mechanical forces HV (via SAG) Mechanical forces MV ! Soil thermal characteristics (via WG B1.35, partly) | | | SC B1 zal bij sommige onderwerpen NL leden voordragen ter acceptatie door NNC |

Samenstelling NC B1 in 2011

| | |
|------------------------------|----------------|
| Gert Aanhaanen | TenneT |
| Dik van Houwelingen | Stedin |
| Cor de Jong | Alliander |
| Edwin Pultrum (CAG contacts) | KEMA |
| Maarten van Riet | Alliander |
| Jos van Rossum | Prysmian |
| Fred Steennis (secretaris) | KEMA |
| Auke Wiersma | Stedin |
| Frank de Wild (voorzitter) | KEMA |
| Sander Meijer | TenneT |
| Piet Soepboer | Enexis |
| <i>(Bram Kasse?)</i> | <i>(Delta)</i> |

NC B1

- NC B1 komt 2 maal per jaar bijeen voor regulier overleg
 - Informatie uitwisseling over specifieke onderwerpen / problemen
- Daarnaast:
 - Email correspondentie en discussie
 - Speciale vergaderingen voor events (recent event: Kabeldag in 10-2010)

Nederlandse deelname in B1

| | Werkgroep / Taskforce | Voorzitter | Nederlands lid |
|--|-----------------------|---------------|----------------|
| | CAG (Customer) | E. Bergin | X |
| | TAG (Tutorial) | J. Karlstrand | W.Boone |
| | SAG (Strategic) | P. Argaut | W.Boone |
| | PAG (Prospective) | M. Marelli | X |
| | JTF Cigre/ICC | W. Zenger | W. Boone |

Kleurcode: **Recent afgerond** / **In afrondende fase**, **Actief**

Nederlandse deelname in B1

| | Werkgroep / Taskforce | Voorzitter | Nederlands lid |
|--------|---|---------------|----------------|
| Yellow | B1.11 Uprating and upgrading | F. Lesur | J. Pellis |
| Red | B1.22 Cable accessory workmanship | K. Leeburn | H. Geene |
| Yellow | B1.23 Impact of EMF on ratings and systems | H. Orton | J. Smit |
| Red | B1.25 Adv. design of laminated metallic foils | P. Mirebeau | F. Middel |
| Yellow | B1.27 Test recommendations for XLPE AC submarine cables from 170-500 kV | A. Gustaffson | R. Gruntjes |
| Green | B1.28 On site PD assessment | M. Fenger | E. Pultrum |

Kleurcode: **Recent afgerond** / **In afrondende fase**, **Actief**

Nederlandse deelname in B1

| | Werkgroep / Taskforce | Voorzitter | Nederlands lid |
|---|---|------------|----------------|
| ■ | B1.29 Guidelinges for maintaining the integrity of XLPE trans. accessories | E. Bergin | J. v. Rossum |
| ■ | B1.30 Cable system electrical characteristics | C. Royer | X |
| ■ | B1.31 Testing of superconducting cable systems (upto 170 kV) | D. Lindsay | A. Geschiere |
| ■ | B1. 32 Recommendations for testing DC cable systems for power ransmissiong up to 500 kV | B. Sanden | R. Bodega |
| ■ | B1/B3.33 Feasibility of a common, dry type interface for GIS and Power Cables of >52 kV | B. Sanden | R. Bodega |

Kleurcode: **Recent afgerond** / **In afrondende fase**, **Actief**

Nederlandse deelname in B1

| | Werkgroep / Taskforce | Voorzitter | Nederlands lid |
|--|---|-----------------|-------------------|
| | B1.34 Mechanical forces in large cross section cable systems | J. Kaufmanns | R. v.d. Thillart |
| | B1.35 Cable ratings | F.H. de Wild | J.v. Rossum |
| | B1.36 (renewed) Life cycle assessment and environmental impact of UGC systems | R. Awad | To be decided |
| | B1.37 Guide to continue operation of fluid filled cable systems | C. Peacock | D. v. Houwelingen |
| | B1.38 After laying test on AC and DC cable systems with new techniques | To be nominated | To be decided |
| | B1.39 On shore generation cable connections to grid | Y. Maugain | X |
| | B1.40 Off shore generation cable connections | C. Jensen | To be decided |

Kleurcode: **van TF naar WG, nieuwe TF, SC stelt voor aan NNC**

Nederlandse deelname in B1

| | Werkgroep / Taskforce | Voorzitter | Nederlands lid |
|--|--|-------------|----------------|
| | B1.43 Recommendations for mechanical testing of submarine cables | M. Jeroense | X |
| | TF B1.41 Issues regarding soil thermal characteristics | W. Zenger | To be decided |
| | TF B1.42 Further recommendations on HVDC cable systems | G. Evenset | X |

Kleurcode: **van TF naar WG, nieuwe TF, voorgesteld aan NNC**

Discussie items

- Cigre B1 voor MS netbeheerders:
 - MS netbeheerders zijn als HS service provider geïnteresseerd in HS onderwerpen
 - Ook typische MS onderwerpen zouden bij Cigre moeten worden opgepakt conform Cigre strategie
- Vanuit die gedachte missen we partijen in NC B1 die we willen vragen deel te nemen aan NSC B1
- Als Cigre richting MS wil, moet Cigre SC B1 ook typische MS onderwerpen op gaan pakken. Dit is vanuit NL concreet en actief op de SC agenda gezet



Cigre SC B1

Activiteiten 2010 / 2011

- SC congressen en bijeenkomsten:
 - Cigre 2010, Jicable 2010, Cigre 2011, AORC 2011, diverse symposia & colloquia
- NSC bijeenkomsten gehouden:
 - 2 meetings/jaar
- Nederlandse papers/abstracts
 - 2010: X, wel aardig wat contributions to discussion, en chair of poster session
 - 2012: ?, chair of poster session
- Preferential subjects 2012: breed als altijd
- Themadag gehouden?
 - Kabeldag 10-2010
- Young Engineers:
 - Verjonging NSC B1, relatief jonge mensen in WG's



Substations

voorzitter: K.P. (Piet) Knol (Liandon)

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|--|-----------------|---------------------|--|
| Substation Management | | WG B3.06 | Brochure 2011 |
| Obtaining value from on-line condition monitoring | Ja | WG B3.12 | TB will be published in Jun 2011, and the Electra article will also appear in the Jun 2011 edition |
| Reducing replacement time of HV equipment | Ja | WG B3.13 | Planned to be finished at middle of 2011 |
| Circuit Configuration Optimization | Ja | WG B3. B3/C1/ C2.14 | In may 90% completed planned to be finished at end of 2011 |
| Primary/Secondary system interface modelling for total asset | Ja | WG B3.10 | Brochure is published |
| Residual Life Concepts Applied to HV GIS | | WG B3.17 | Will end in 2010 |
| Guidelines for uprating and upgrading of substations | Ja | WG B3.23 | Electra june 2012 Brochure aug 2012 |
| SF6 analysis for AIS, GIS and MTS condition assessment | Ja | WG B3. 25 | Draf is ready publication scheduled spring 2012 |



Substations

voorzitter: K.P. (Piet) Knol (Liandon)

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|--|-----------------|---------------|--|
| Guidelines for the Design and Construction of AC Offshore Substations for Wind Farms | Ja | WG B3.26 | Brochure send to Paris for publication |
| Field test technology on UHV substation construction and operation | Ja | WG B3.29 | Half of draft documents have been prepared, Brochure scheduled end 2012 |
| Minimize SF6 Use | Ja | WG B3-30 | First draft under preparation, technical discussion not yet settled down. End 2012 |
| Air insulated substations design for severe climate condition | | WG B3.31 | An Questionnaire is held in 2011 result are studied, Brochure scheduled end 2013 |
| Saving through optimized maintenance of Air insulated Substations | Ja | WG B3.32 | An Questionnaire is planned in 2011, The Brochure scheduled end 2014 |
| Expected impact of future grid concept on substation management | Ja | WG B3.34 | Approved 03-05-2011 |



Substations

voorzitter: K.P. (Piet) Knol (Liandon)

| | belang NL breed | lopende WG/TF | info-overdracht |
|---|--------------------|------------------|--|
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| Guide to minimize the use of SF6 during routine testing of electrical equipment | Ja | TOR-WG B3.30 | Binnen het NSC getoets echter geen repons helaas gezien het belang van Participatie Start 05/2010/End 2013 |
| Factors for investment decision GIL vs. Cables for AC Transmission | | JWG B3/B1.27 | TOR approved 29-03-2011 no Dutch members involved |
| Feasibility of a common, dry type interface for GIS and Power cables of 52 kV and above | Ja | JWG B1/B3.33 | |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| Standard approach primary renovation/expansion substation | | TOR-WG B3.XX | TOR is gerevieuwd, te verwerken Voorzitterschap vertegenwoordiging van uit NL is nog onduidelijk |



Substations

Activiteiten 2011

Te bespreken onderwerpen:

- SC congressen en bijeenkomsten:
 - Thema dag 19 April 2011
 - SC B3 Chicago mei 2011 in combinatie met IEEE
- NSC bijeenkomsten gehouden:
 - Mei 2011
 - November 2011
- Nederlandse papers/abstracts opgeleverd?
 - None



Substations

Activiteiten 2011

- Preferential subjects 2012:
 - Advances in Substation Technologies
 - Challenges on the design of UHV AC Substations
 - Use of GIS for HVDC busbars and switchgear
 - Impact of IEC 61850 and non conventional instrument transformer on Substation design
 - Requirements on the design of offshore AC Substations
 - Reducing the environmental footprint of Substation



Substations

Activiteiten 2011

- Preferential subjects 2012:
 - Substation Management Experience
 - Experience with UHV Substations
 - Modification of existing Substations to meet new requirement such as higher rating, improved reliability and reduced maintenance.
 - Monitoring and condition assessment for Substations and GILs
 - Managing different reliability and life expectancy of primary and secondary equipment
- Themadag 2011 “Pure Windst!”

pure windst!

de Nieuwe Delta Werken

Themadag over de rol van Nederland bij windenergie op zee en de elektrische infrastructuur offshore

Bouwen aan een sterke positie in de offshore windtechnologie?

Nederland heeft drie belangrijke redenen om nu te investeren in offshore windenergie: duurzame energieopwekking, technologisch leiderschap en grote kansen op een snel groeiende markt in Europa. Op dit moment zijn er nog geen windparken ver-op-zee operationeel. Wel hebben we al een

sterke kennispositie in windenergie op land. En onze offshore bedrijven hebben waardevolle kennis en ervaring in offshore technologie. Als we nu handelen, bouwen we in de komende jaren een sterke positie op in de offshore windtechnologie. Dat is pure windst!

Deel je visie op
windenergie-
opwekking op
zee!





Substations

Activiteiten 2011

- Young Engineers:
 - Samenwerking organisatie Themadag Waldur
 - Voorstel//status studentenlidmaatschap
- Overige activiteiten
 - Lidmaatschap B3 TAG van Ad Zomers naar Piet Knol
- Voorstel
 - Grotere deelname genereren voorbereidingsdagen
(dutch Power?)



Substations

Leden

| | |
|--------------------------------|--|
| K.P. Knol (voorzitter) | Liandon B.V. |
| F.L. Baldinger | Locamation Control Systems B.V. |
| H. Eleveld (secretaris) | KEMA CONSULTING |
| D. Boender | Stedin Netbeheer B.V. |
| P. Freij | Alliander N.V. |
| A.J.P.M Geraerds | Essent Energie |
| C.G.A. Koreman | TenneT |
| J.J.M. Langedijk | Siemens Nederland N.V. |
| M. van Meggelen | AREVA T&D Nederland BV) |
| E de Meulemeester | KEMA CONSULTING |
| M. T. Rienks | TenneT |
| T.G. Spiensma | Eurovolt Consultancy BV. |
| J.L. Verpoorten | ABB Energie B.V. |
| A. Visser | SBI Connectors Espana S.A |
| J.A. Wiersma | Stedin Netbeheer BV. |
| J.J Smit | TU Delft |



Substations

Dutch Power

- B3.06 Johan Smit convenor
- B3.10 Frank Baldinger (convenor)
- B3.26 Of Shore platfroms
 - Inge Tiggelaar TenneT
 - Martijn de Ruiter TenneT
 - Piet Knol Liandon
- B3.32 Saving through Optimized Maintenance of Air Insulated Substations
 - Theo van Rijn
- B3.34 Johan Smit convenor



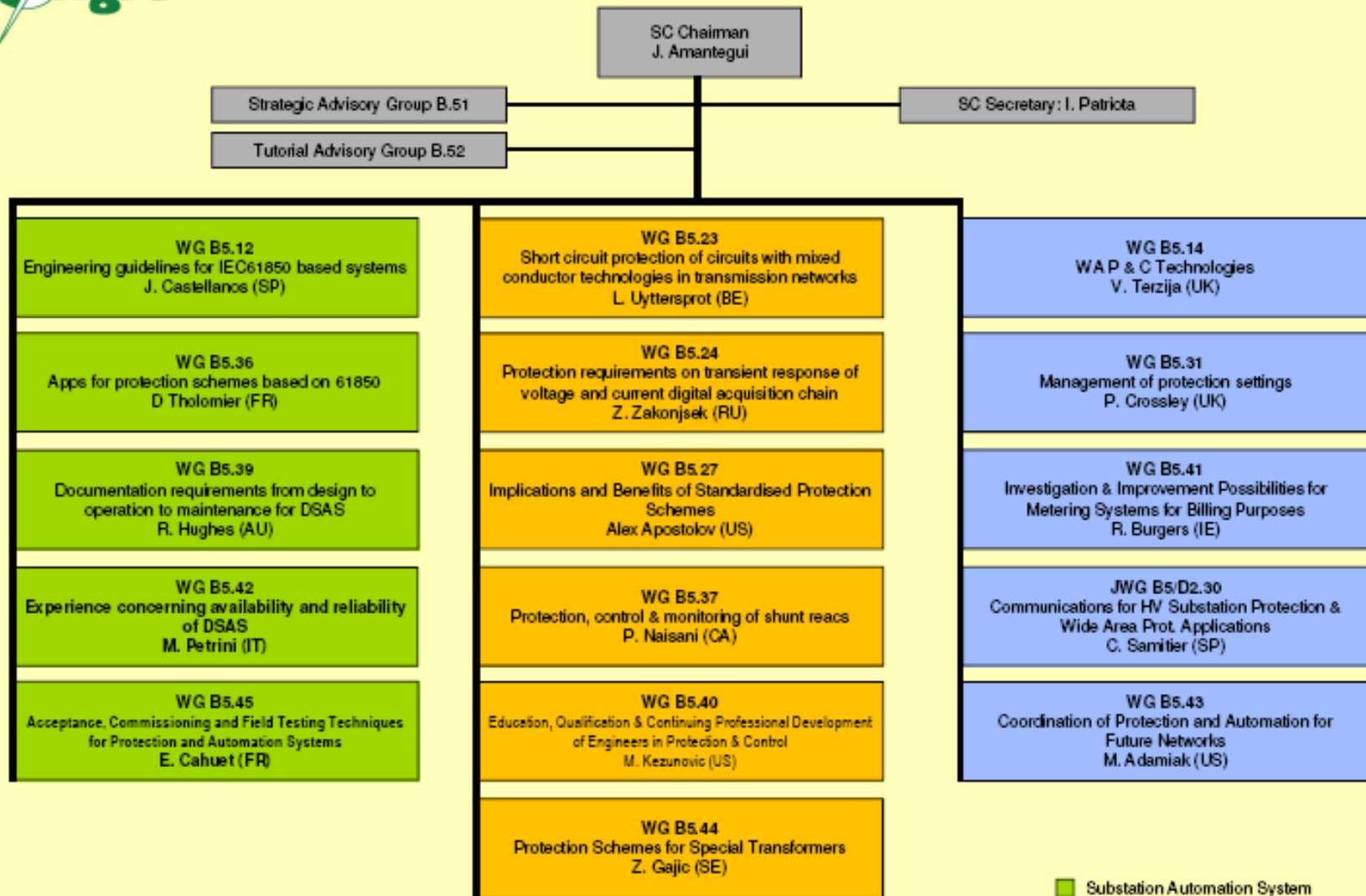
NSC-B5

voorzitter: Frank Koers (TenneT)

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|---|-----------------|---------------|--|
| Zie volgende slides | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| | | | toets belangstelling NL-breed door NNC (indien belangstelling NL-breed = zoek deelname Nederland breed door NSC; geen belangstelling NL-breed = zoek deelname geïnteresseerde Nederlandse partij door NSC) |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| | | | toets belangstelling Cigré internationaal door NSC en toets belangstelling NL-breed door NNC (indien belangstelling NL-breed = zoek deelname Nederland breed door NSC; geen belangstelling NL-breed = zoek deelname geïnteresseerde Nederlandse partij door NSC) |



SC B5 Protection and Automation September 2011



- Substation Automation System
- Protection
- Network Requirements



Voor NL belangrijke werkgroepen

WG B5-12: Engineering guidelines for IEC61850 based systems

WG B5-23: Short circuit prot. of circuits with mixed conductor techn. in transm. networks

WG B5-27: Implications and Benefits of Standardised Protection Schemes

WG B5-36: Apps for prot schemes based on IEC 61850

WG B5-39: Documentation requirements from design to operation to maintenance for DSAS

WG B5-40: Education, Qualification & Continuing Professional Development of Engineers in Protection & Control

WG B5-B4/-25: Impact of HVDC Station on Protection of AC Systems



Leden NC B5

| Lid | Bedrijf |
|-------------------------------------|--------------|
| Frank Koers | TenneT |
| Rene de Jong | Joulz |
| Frans Comos | Enexis |
| Frans Volberda | Liandon |
| Godfried Kockelkorn | ABB |
| Leendert Roos | Mott Movaris |
| Marjan Popov | TU Delft |
| Martin Michiels | Areva |
| Jan Langedijk | Siemens |
| Frank Baldinger | Locomation |
| Jacques van Ammers | Schneider |
| Tamiru Shire / Evita Parabirsing | Stedin |





NL bijdrage in B5 werkgroepen

| Wergroep | Korte omschrijving | Nederlandse vertegenwoordiger | Bedrijf | Rol | Afgerond |
|-----------------|---|---|----------------|--------------------|-----------------|
| B5.24 | Protection Requirements on Transient Response of Voltage and Current Digital Acquisition Chain | Marc Achterkamp (NL) (geen activiteit) | KEMA | Corrseponding | 2011 |
| B5.25 | Impact of HVDC Station on Protection of AC Systems | Kees Koreman | TenneT | Member | 2012 |
| B5.27 | Implications and Benefits of Standardised Protection Schemes | Hans Bremer | TenneT | Member | 2011 |
| B5.40 | Education, Qualification & Continuing Professional Development of Engineers in Protection & Control | Peter Ooms | Joulz | Member | 2012 |
| B5.41 | Investigation & Improvement Possibilities for Metering Systems for Billing | Gert Rietveld | VSL | Convenor Member | 2012 |



Werkgroepen en Preferential subjects

Nieuwe werkgroepen

- Application and management of cyber security measures for P&C systems
- Protection & Automation of Shunt Capacitors
- The development of relevant models for Wind parks (dynamic behavior/ protection etc.
- Network Protection Performance Audits

Preferential subjects

2012PS1 - Coordination of PC for the Network of the Future

2012 PS2- Use of remote access for PC systems

2013 PS1 - Acceptance, Commissioning and Field Testing for Protection and Automation Systems

2013 PS2 - Experience and prospective of protections & automation connected to Non-Conventional Instrument transformers

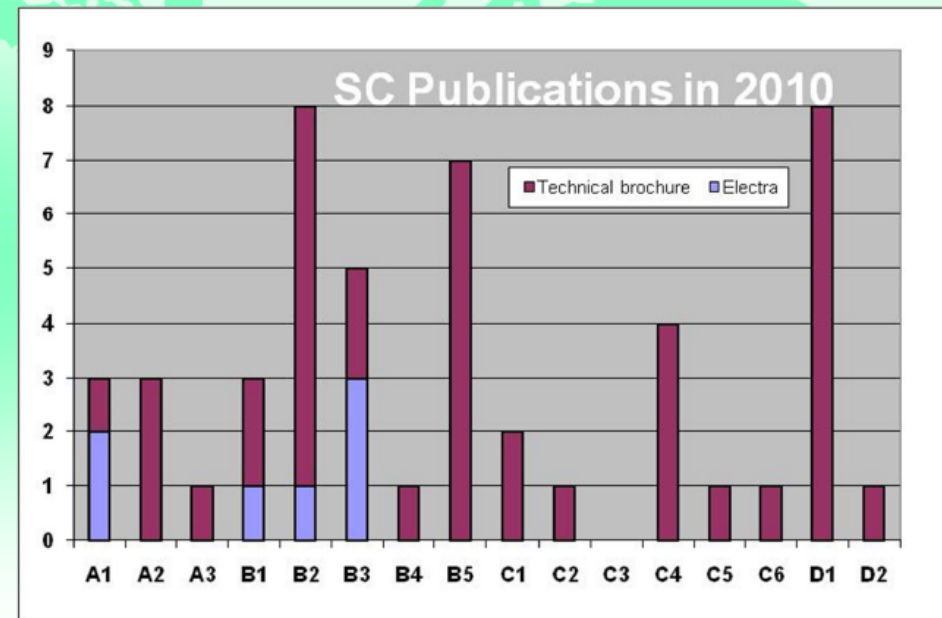
2013 PS3 - Protection, Monitoring and Control of Shunt Reactors and Special Transformers



Trends binnen B5

- Toepassing IEC 61850 buiten het station, tussen stations, windparken, naar bedrijfsvoering,...
- Roep om engineerings “tools” voor 61850 systemen
- Toenemende aandacht voor netwerken van de toekomst
- Meer focus op “utility” aspecten

Working Group publications in 2010





Geplande activiteiten 2011/2012

Workshop Stroomtransformatoren

Datum: 22-11-2011

Plaats: Ugchelen



WELKE BEREKENINGSMETHODE HANTEERT U?

Engineers in Nederland hanteren verschillende berekeningsmethoden voor de bepaling van stroomtransformatoren. De uitkomsten van de berekeningen kunnen daardoor voor gelijksoortige toepassingen in het net, zeer divers zijn.

Het studiec comité B5 van Cigré maakt zich net als het Nationale Beveiligingsplatform zorgen dat kennis over de bepaling van stroomtransformatoren verdwijnt. Hoog tijd dat kennis en ontwerpuitgangspunten gedeeld gaan worden!

Studiec comité B5 nodigt u daarom van harte uit om op dinsdag 22 november deel te nemen aan de interactieve workshop bepaling stroomtransformatoren vanuit beveiligingsperfectief.



C1 - NSC

voorzitter: Alan Croes (TenneT)

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|--|-----------------------|------------------|---|
| WG C1-13 (System Complexity and Dynamic Performance) | Ja | Ja | draft report made, report addresses issues of the static and dynamic composition of reactive response |
| JWG C1-18 (Wind penetration) | Ja | Nee | Final report due end 2011 |
| WG C1-19 (Green field network) | Ja | Ja | final report in April 2012 |
| WG C1-23 (Investment decision points and trees) | Ja | ja | Draft report made, ESKOM has visited TenneT also on this subject |
| WG C1-24 (Tools for transmission development) | Ja | Ja | potential overlap with JWG C4/B4/C1-601(Tools for risk-based and probabilistic planning in power systems) the Convenors agreed that C1-24 would add value by concentrating on quantifying economic benefits on transmission augmentations |
| WG C1-25 (Asset management) | Ja | Ja | Eric Rijks bezig met eindrapport ! |
| JWG C4/B4/C1-601 (Tools for risk-based and probabilistic planning in power systems) | Ja | Ja | The focus of the WG is on: - Reasons for choosing HVDC - Technical impact of HVDC on AC systems |
| WG C1-27 (Reliability) | Ja | Ja | Just started |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| -Public acceptability ism C3 ? -Major interconnections -LV integration, interface with T&D -connect remote RES, power network of the future | | | toets belangstelling NL-breed door NNC (indien belangstelling NL-breed = zoek deelname Nederland breed door NSC; geen belangstelling NL-breed = zoek deelname geïnteresseerde Nederlandse partij door NSC) |



C1

Activiteiten 2011

- SC congressen en bijeenkomsten:
 - Recife, combi: Assessing and Improving Power System Security, Reliability and Performance in Light of Changing Energy Sources
 - Bologna, combi : The Electric Power System of the Future



C1

referential subjects 2012

- **PS1 > Planning options to ensure reliability, sustainability and flexibility as the power system changes across all voltage levels**
 - Impact of future generation sources, storage and need of system services
 - Uncertainty of supply and demand levels
 - Changing transmission/distribution interface
- **PS2 > Investment challenges in delivering future power systems**
 - Sustainability considerations
 - Business case development, project justification and stakeholder engagement
 - Risk of stranded assets or late delivery of capacity
 - Investment coordination with electric and other utilities
- **PS3 > Asset management challenges in future power systems**
 - Variable utilisation
 - Increased uncertainty and changing risk profiles
 - Impact of new technologies
- Ingediend: Combining market simulations and loadflow calculations for planning of interconnected systems with high RES penetration – Practical experience (Jacobs, Jansen, Houtert, Pelgrum, Ciupuliga, Gibescu)



naam NSC C3

voorzitter: Henk Sanders (TenneT)

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|--|-----------------|---------------|---|
| Nog niet, momenteel bezig met opzetten NSC | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| Congres in Israel. 23-30 oktober 2011: Strategic needs, sustainability and social issues related to long-distance and cross-boorders power system interconnections | | | Er is nog geen bestaand NSC C3. Uitnodiging wel binnen TenneT uitgezet. |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| Nog niet. | | | n.v.t. |



naam NSC

Activiteiten 2010

Te bespreken onderwerpen: **in 2010 bestond NSC nog niet, dus geen reactie op deze vragen**

- SC congressen en bijeenkomsten: welke, waar?
- NSC bijeenkomsten gehouden: welke?
- Nederlandse papers/abstracts opgeleverd?
- Preferential subjects 2012: welke?
- Themadag gehouden?
- Young Engineers: welke activiteiten uitgevoerd?
- Overige activiteiten



naam NSC

Activiteiten 2011

Te bespreken onderwerpen:

- SC congressen en bijeenkomsten: **zie sheet 1, Israel**
- NSC bijeenkomsten gepland? **1^{ste} eind 2011**
- Nederlandse papers/abstracts voorzien: **niet vanuit NSC**
- Preferential subjects 2012: **nog niet.**
- Themadag? **nog niet**
- Young Engineers: welke activiteiten voorzien? **nog niet en vraag is of dat gebeurt; groep bestaat niet uit engineers.**
- Overige activiteiten **binnenkort pas te bepalen**



naam NSC Leden

Henk Sanders

TenneT

Juan van Beek

TenneT

Marijke Wassens

Movares

Frank de Wild

KEMA

Simone Pront van Bommel

UvA

Willem Hartman

Alliander

Zoeken nog naar deelnemers vanuit RWS, Prorail,
Gasunie en evt vanuit opleidingen.



naam NSC

Deelname werkgroepen

Nog niet van toepassing

NSC C4 2010

Power System Technical Performance

20 November 2011 in Arnhem

(Chris Engelbrecht, Engelbrecht Consulting)

(Secr. Jeroen van Waes, Movares)

C4 System Technical Performance

- CIGRE Study Committee C4 is responsible for **methods** and tools for analysis related to power systems
 - with particular reference **to dynamic and transient conditions** and
 - to the **interaction** between the **power system** and its **apparatus/sub-systems**,
 - between the **power system** and external causes of **stress** and between the **power system** and **other installations**.

C4 System Technical Performance

Vertaling in Technische onderwerpen:

- Power Quality
- EMC & EMF
- Insulation Coordination
- Lightning
- Advanced Tools for the analysis of power system performance
- Power systems dynamic performance models and analysis

C4 System Technical Performance

Leden:

Maarten Berende (Enexis)

Sjef Cobben (Alliander, TU/e)

Chris Engelbrecht (Engelbrecht Consulting)

Jos Kanters (TenneT)

Peter van Oirsouw (Phase to Phase)

Jeroen van Waes (Movares)

Auke Wiersma (Stedin)

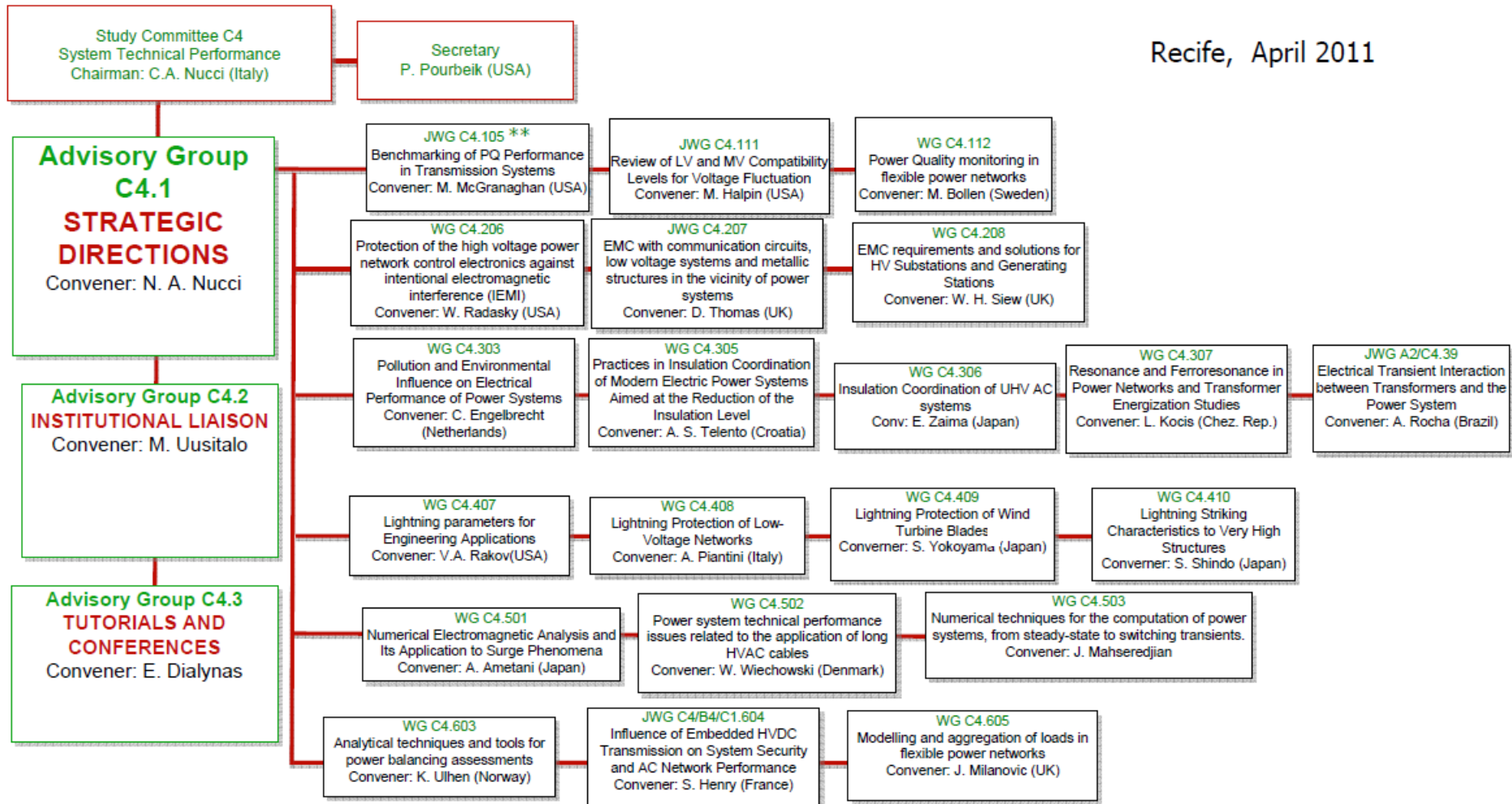
Observers:

Jasper van Casteren (KEMA)

Frans Provoost (Alliander)

Nieuwe structuur

Recife, April 2011



C4: Power Quality

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|--|-----------------|---------------|------------------------------|
| Review of LV and MV Compatibility Levels for Voltage Fluctuations | Ja | C4.111 | NSC C4 voorstel: Sjef Cobben |
| Guidelines for Power quality monitoring – measurement locations, processing and presentation of data | Ja | C4.112 | Paulo Ribeiro, Paul Hesen? |
| <ul style="list-style-type: none"> -PQ/EMC Issues associated with Smart Grids -Power Quality improvement programmes (with C6) -Conducted frequencies > 50th harmonic | | | -Geen |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| | | | |

C4: EMC&EMF

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|---|-----------------|---------------|-----------------------------|
| Protection of the high voltage power network control electronics against intentional electromagnetic interference (IEMI) | Nee | C4.206 | |
| EMC of communication circuits, low voltage systems and metallic structures in the vicinity of power systems | Ja | C4.207 | Werkgroep afsluitend |
| EMC requirements and solutions for HV Substations and Generating Stations | Ja | C4.208 | Werkgroep afsluitend |
| Issues related to ELF Electromagnetic Field exposure and transient contact currents | Ja | C4.25 | |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| -Influence of HV power lines on third party installations (Safety and EMC) -Lightning protection of wind farms -EMC and Smart Grids | | | NSC volgt de ontwikkelingen |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| | | | |

C4: Insulation Coordination

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|--|-----------------|---------------|-------------------------------|
| Pollution and Environmental Influence on the Electrical Performance of Power Systems | Nee | C4.303 | Chris Engelbrecht, Voorzitter |
| Practices in insulation coordination of modern electric power systems aimed at the reduction of the insulation level | Nee | C4.305 | |
| Insulation coordination for UHV ac systems | Nee | C4.306 | |
| Resonance and ferroresonance in Power networks and transformer energization studies | Ja | C4.307 | NSC C4 opzoek naar kandidaat |
| Electrical Transient Interaction between Transformers and the Power System | Ja | A2/C4.309 | Marjan Popov |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| -UHV AC Test Methods (rain tests) -UHV AC Test Methods -Insulation Coordination for GIS substations connected to Overhead lines through cables | | | -Geen |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| | | | |

C4: Lightning

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|---|------------------------|----------------------|------------------------|
| Lightning Parameters for Engineering Applications | Nee | C4.407 | Werkgroep afsluitend |
| Lightning protection of LV Networks | Nee | C4.408 | |
| Lightning Protection of Wind Turbine Blades | Nee | C4.409 | |
| Lightning Striking Characteristics for Very High Structures | Nee | C4.410 | |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| | | | |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| | | | |

C4: Advanced Tools for analysis of Power System performance

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|--|------------------------|----------------------|--|
| Numerical Electromagnetic Analysis and Its Application to Surge Phenomena | Nee | C4.501 | |
| Power system technical performance issues related to the application of long HVAC cables | Ja | C4.502 | Lou van der Sluis Marjan Popov Jan de Jong |
| Numerical techniques for the computation of power systems, from steady-state to switching transients | Ja | C4.503 | |
| | | | |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| | | | |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| | | | |

C4 Power systems dynamic performance models and analysis

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|---|-----------------|---------------|---|
| Analytical techniques and tools for power balancing Assessments | Ja | C4.603 | Onderzoek deelname |
| Modeling and aggregation of loads in flexible power networks | Ja | C4.605 | Voorzitter ontmoedig deelname, vereis tegenwoordigheid bij alle vergaderingen (4x per jaar) |
| Influence of Embedded HVDC Transmission on System Security and AC Network Performance | ?? | C4/B4/C1-604 | |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| -Active grids" (WAMS, WACS concepts, High level grid control, Transmission focus, system services, tools and controls, etc. | | | |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| | | | NSC moeten versterkt worden op dit gebied |

Proposed Working groups

- C4.22 Insulation coordination for GIS substations connected to overhead lines through cables
- C4.23 Guide to procedures for estimating the lightning performance of transmission lines
- C4.24 Power Quality and EMC Issues associated with future electricity networks
- C4.26 Evaluation of Lightning Shielding Analysis Methods for EHV and UHV DC and AC Transmission-lines
- C4.27: Benchmarking of power quality performance in transmission systems

C4 System Technical Performance Activiteiten 2011

- SC congressen en bijeenkomsten:
 - Recife Symposium 2011 (Geen deelname)
 - Bologna Symposium 2011
- NSC bijeenkomsten
 - 2x Reguliere bijeenkomsten
- Nederlandse papers/abstracts voorzien:
 - Geen
- Young Engineers:
 - Co-leden van werkgroepen (PQ gebied)

C4 System Technical Performance Activiteiten 2012

- SC congressen en bijeenkomsten:
 - Paris Session
 - Sarajevo: Lightning and Power Quality
- NSC bijeenkomsten
 - 2x Reguliere bijeenkomsten
- Nederlandse papers/abstracts voorzien:
 - Geen
- Young Engineers:
 - Co-leden van werkgroepen (PQ gebied)

Cigre 2012 Preferential Subjects

- **PS1: Modeling and practical experience of the interaction of new generation/transmission technologies and related power electronics with the transmission and distribution systems**
 - Dynamic and transient performance of the network
 - Power quality and EMC issues related to the massive use of power electronics and to external phenomena
- **PS2: Advanced tools and techniques for power system performance analysis with particular reference to stochastic methods**
 - Incorporating risk in analysis through probabilistic tools and assessment in light of the increasing complexity of future networks
 - Advanced numerical methods with particular reference to asymmetrical systems
- **PS3: Lightning protection and insulation coordination as it relates to new generation and transmission technology**
 - Wind generators
 - UHV systems • HVDC systems
 - New models for the calculation of lightning performance of transmission lines



SC C6

Prof.ir. W.L. Kling, TU Eindhoven

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|---|-----------------|---------------|---|
| Inpassing wind | ja | JWG C1.2.6.18 | Situatie onduidelijk |
| Actieve Distributienetten | ja | WG C6.19 | 5 TFs groots aangepakt |
| Electrical Vehicles in electrical grids | ja | WG C6.20 | Structuur eindrapport bekend |
| Network of the future | ja | TC | SC voorzitters lid. Eindrapport opgeleverd. 10 thema's gedefinieerd |
| Smart metering | nee | WG C6.21 | Net gestart |
| Microgrids | Ja/nee | WG C6.22 | Lopend |
| Hosting DER Capaciteit | ja | WG C6.24 | Net gestart |
| Technologies voor rural electrification | nee | WG C.16 | Vertraagd |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| Distribution control automation Distribution protection Distribution Asset management | | | Definitieve TOR afwachten. Dan NL belangstelling peilen |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| Geen | | | n.v.t. |



SC C6

Activiteiten 2011

- SC meeting Bologna 16 september 2011
- Cigre symposium Bologna: Integrating supergrids and microgrids
 - Wil Kling, Khalil el Bhakari en Else Veldman verantwoordelijk voor de sessie: Active Distribution networks
 - 5 NL papers (2 TU/e, 2 TUD en 1 Kema)
- Samenwerking met Cired wordt geïntensifieerd. Nieuwe gezamenlijke werkgroepen in discussie
- NSC C1-2-5-6 vergadering voorzien in december 2011 (thema Actieve Distributienetten)

Area of Working Groups C6 Distribution Systems and Dispersed Generation (Public information on the membership and Terms of Reference of WGs can be found in the "WG Area" section of the website: www.cigre-c6.org)

AG C6.01 Strategic Advisory Group

AG C6.12 Tutorial Advisory Group

AG C6.17 Rural Electrification Advisory Group

AG C6.23 Advisory Group on Terminology

TF C6.04.02 Computational Tools and Techniques for Analysis, Design and Validation of Distributed Generation Systems – Brochure in draft

WG C6.05 Technical and Economic impact of DG on Transmission and Generation Systems – delayed

WG C6.16 Technologies for rural electrification – running

WG C6.19 Planning and optimization methods for active distribution systems – running

WG C6.20 Integration of electric vehicles in electric power systems – running

WG C6.21 Smart Metering – state of the art, regulation, standards and future requirements – running

WG C6.22 Microgrids Evolution Roadmap – running

WG C6.24 Hosting DER capacity - starting





New Brochures

- WG C6-09 Demand Side Integration (No 475)
- WG C6-15 Electric Energy Storage Systems (No 458)
- WG C6-11 Development and Operation of Active Distribution Networks (No 457)
- WG C6-08 Grid Integration of Wind Generation (No 450)



Aanbevelingen TC/AG Network of the Future

| KEY TECHNICAL ISSUES | CIGRE SCs |
|--|--------------------------------|
| T11. Active Distribution Networks | C6, C3, C4 |
| T12. Massive need for exchange of information | B5, C6, D2 |
| T13. Massive integration of HVDC and power electronics at all voltage levels | B1, B4, B2, C4, C6, C1, D1 |
| T14. Massive installation of storage | C6, C4, C1, D1 |
| T15. New concepts for system operation, control | C1, C2, B5, C6, C5 |
| T16. New concepts for protection | B5, B4, C4, C6 |
| T17. New concepts in planning | C1, C3, C4, C6, B2, B4, B5, C5 |
| T18. New tools for system technical performance assessment | C4, C6, B3, B4 |
| T19. Increase of right of way capacity | B1, B2, B3, B4, C1, C3, C4 |
| T110. Stakeholders awareness and engagement | B1, B2, B3, B4, C1, C3, C6, C5 |



SC C6

Nederlandse deelname werkgroepen

- Ad Zomers in AG 17 en WG 16
- Khalil el Bakari WG 19
- Andre Postma WG 20
- Jacky Lava voorgesteld in WG 23



Preferential subjects 2012

- 1. Planning and operation of active networks including Dispersed Generation (DG), Storage and Demand Side Integration (DSI)**
 - *Integration of microgeneration and storage*
 - *Experiences with demand elasticity trials and smart meter solutions*
 - *Distribution management systems (advanced applications, real-time simulation, communication infrastructure and data management)*
 - *Business models for active networks*
- 2. Integration of Electric Vehicles (EV) in power systems**
 - *System and network impact*
 - *Emerging standards*
 - *Business models*
- 3. Electricity supply of rural and remote areas including islands**
 - *Planning and operation of systems with high penetration of renewables*
 - *Effects of storage, hybrid systems, solar home systems*
 - *Emerging grid based technologies to support rural and remote area electrification*



SC C6

Leden NSC C1-C2-C5-C6

- **prof. ir. W.L. Kling (voorzitter, TU Eindhoven)**
- **ir. H.J.M. Arts (Stedin B.V.)**
- **ir. R.J.L. Beune (TenneT TSO B.V.)**
- **ir. G.A. Bloemhof (KEMA Nederland BV)**
- **ir. P. Boonekamp (APX group)**
- **drs. ing. S.J.M. Bruijns (TenneT TSO B.V.)**
- **ir. E.J. Coster (Stedin B.V.)**
- **ir. A.G. Croes (TenneT TSO B.V.)**
- **dr.ir. H.E. Dijk (KEMA Nederland BV)**
- **ir. B.F.C. Franken (BF-C)**
- **ir. M. Fransen (NMA)**
- **dr. ir. M. Gibescu (TU Delft)**
- **ir. P.G.M. Giesbertz (Statkraft Markets BV)**
- **ir. A.J. Hoeben (Enexis)**
- **dr.ir. A.G. Jongepier (DNWB)**
- **ir. D.A.M. Klaar (TenneT TSO B.V.)**
- **ir. J.H. Maas (Delta NV)**
- **dr.ir. J.J. Meeuwsen (Meeuwsen PS Consultancy b.v.)**
- **ir. P.M. van Oirsouw (Phase to Phase B.V.)**
- **ing. de Pater (Eneco New Energy B.V.)**
- **ir. F. Provoost (Liandon B.V.)**
- **ir. E. Rijks (Movares)**
- **ir. P.H. Schavemaker (NetbeheerNederland)**
- **dr. ir. J.G. Slootweg (Enexis BV)**
- **dhr. T. Snel (Delta NV)**
- **ing. D. Visser (Liander N.V.)**
- **ir. J.J.S. Veerman (TenneT TSO B.V.)**
- **ir. A.N. Zomers**
- **ing. G.L.P. Aanhaanen (secretaris, TenneT TSO B.V.)**



Tot slot

Excuses voor de ontbrekende informatie op de Nederlandse site !!!!!!!

| lopende onderwerpen | belang NL breed | lopende WG/TF | info-overdracht |
|---|-----------------|---------------|--|
| Communication Architecture for IP-based Substation Applications | Groot | D2.28 | Nederland is goed vertegenwoordigd: 4 leden. Document geaccepteerd. Formele afronding november. |
| Communication access to Electrical Energy Consumers and Producers | DSO's | D2.29 | In afronding. Concept ter beoordeling gestuurd. |
| Security architecture principles for digital systems in Electric Power Utilities (EPU's) | Groot | D2.29 | Van groot belang voor iedereen van ons. Nederlandse deelnemers: - Hans Baars (Enexis). Helaas net gestopt. - Frans Campfens (Alliander) |
| Communications for HV Substation Protection & Wide Area Protection Application | Groot | JWG B5/D2-3 | Geen Nederlandse deelnemers. Ik volg zijdelings deze WG. Onderwerp betreft het omgaan met de moderne HS-beveiliging binnen de veranderende telecommunicatieontwikkeling. |
| | | | |
| nieuwe onderwerpen aangedragen door Cigré internationaal | | | actie |
| Er zijn tijdens het D2 Colloquium een paar onderwerpen afgesproken. Deze worden eind van het jaar beschreven (Wordt vervolgd) | | | toets belangstelling NL-breed door NNC (indien belangstelling NL-breed = zoek deelname Nederland breed door NSC; geen belangstelling NL-breed = zoek deelname geïnteresseerde Nederlandse partij door NSC) |
| nieuwe onderwerpen vanuit (Cigré) Nederland | | | actie |
| Een paar onderwerpen zijn aangedragen en geaccepteerd, o.a. 'Disaster & Disaster Recovery' | | | toets belangstelling Cigré internationaal door NSC en toets belangstelling NL-breed door NNC (indien belangstelling NL-breed = zoek deelname Nederland breed door NSC; geen belangstelling NL-breed = zoek deelname geïnteresseerde Nederlandse partij door NSC) |



Activiteiten 2010

- SC congressen en bijeenkomsten
 - Cigré-congres Parijs.
- NSC bijeenkomsten gehouden:
 - 1 bijeenkomst.

Themadag gehouden?

- Nee.
- Young Engineers: welke activiteiten uitgevoerd?
 - Actief jonge leden stimuleren.



Activiteiten 2011 (1)

- Congressen en bijeenkomsten:
 - D2 Colloquium deze week in Buenos Aires (BA)
 - NSC bijeenkomst in November.
- Nederlandse papers/abstracts in BA:
 - Presentatie van Technical Brochure D2.28 door mezelf aan het SC-D2. Deze is accoord bevonden. Dit komt i.p.v. het welbekende stemproces.
 - Presentatie van door Marco Janssen van de paper: 'Bringing IEC 61850 and the Smart Grid closer together: Web2Energy'



Activiteiten 2011 (2)

- Preferential subjects 2012:
 - PS1: Distributed Information platforms for the power systems of the future
 - New architecture for operation information systems
 - Back-upsystems and recovery systems
 - Cloudcomputing applications and shared services platforms
 - Cybersecurity



Activiteiten 2011 (3)

Preferential subjects 2012:

- PS2: Interconnected information systems to support competitive markets
 - Newmarket-drivensolutions
 - New solutions for communication
 - Risks and opportuniteit
- Ik overweeg 'Special Reporter' kandidaad te zijn voor PS2.



Activiteiten 2011 (4)

- Themadag:
 - Workshop 'High availability Networks' 3 november.
- Young Engineers: welke activiteiten voorzien?
 - In workshops en andere bijeenkomsten, de meerwaarde van Cigré uitleggen en benadrukken.



Deelname werkgroepen

Naam – Bedrijf – Werkgroep

| Naam | Bedrijf | Werkgroep |
|----------------------------|----------------|--------------------|
| Frans Campfens | Alliander B.V. | WG D2.31 |
| Maurice Borman | Enexis N.V. | |
| Hans Baars | Enexis N.V. | WG D2.31 / Gestopt |
| Laurens Pots | TKF | |
| Martin Michiels | Alsthom Grid | |
| Ton Jansen | Locamation | |
| Maico Bongers | Alliander B.V. | WG D2.28 |
| John Jansen van der Sligte | TenneT | |
| Erik Schenkel | TenneT | |
| Jacques van Ammers | Schneider | |



NSC-Informatiesystemen en telecommunicatie

Deelname werkgroepen

| Naam | Bedrijf | Werkgroep |
|--------------------|----------------|------------------|
| Johan Bogerd | Siemens | |
| Peter Brunet | Joulz | |
| Carel Lanting | Strict b.v. | |
| Marco Janssen | UTInnovation | WG D2.28 |
| Marijn Flohil | UTInnovation | WG D2.28 |
| Marcel Konings | Stedin | |
| Peter Vogel | Stedin | |
| Ivo Sokromo | Stedin | |
| Lhoussain Lhassani | Stedin | WG D2.28 |



C-Informatiesystemen en telecommunicatie

Activiteiten 2011

Visit of the nice city of Buenos Aires ... If there is time!

- Einde-