

**CIGRE
Transformer Colloquium 1999
in BUDAPEST**

Monday 14 th. June

What about the future?

- FU-01** Life Management (failure guide, diagnostic, monitoring, operations on aged transformers)
- **Economic Issues** (How Dr. Engineer can convince Mr. Finance?)
- FU-02** New Concepts and New Technologies (1000 kV and above, Application
FU-03 of Power Electronic, Solid Insulation Technology, Non-conventional Instrument Transformers, Superconducting Transformers, New Materials for Power Transformers, ...)
- FU-04** Reliability Survey (Cigre Guidelines, some examples of benefit for utilities)
- **General Discussion** (for utility needs better covered by CIGRE SC12)

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----- « What about the Future ? » complementary documents -----

- FU_05 « The solid insulation technology : the Powerformer and the Dryformer » by Mr T. Fogelberg (ABB – Sweden)
- FU_06 « Non-conventional Instrument Transformers » by Mr D. Uhde (Alstom France)
- FU_07 Contribution at « Mr Finance point of view » by P. Norberg (Vattenfall – Sweden)
- FU_08 Complementary information according to SC23 Preferential subject N°1 Question 6 (1998 Paris Session) by P. Norberg (Vattenfall – Sweden)
- FU_09 Contribution for « utility needs better covered by CIGRE SC12 » concerning the « verification of specified and guaranteed properties of transformers » by Mr T. Tuomisto (ABB Transmit Oy)
- FU_10. Preferential questions for the General Discussion by Mr P. Christensen (NVE HVDC Group - Denmark)



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----- University & Cigre -----

FU_11 « R&D Activities in Hungary on the Protection of Electric Networks by Superconducting Fault Current Limiters» by MM Vajda, Porjesz, Szalay, Gobl and Lukacs



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booklet 2

Short circuit performance

Tests and failures (WS1, leader: Mr. Lindroth)

- SCP-01. Anders Lindroth - (Sweden)
' Results of Survey carried out by WG12.19 TF#1, of Current Short Circuit Performance in the Field '
2. Giorgio Bertagnolli - (Italy)
' Results of Short Circuit Tests carried out by the Testing Stations '
3. Dr. A. Yu. Khrennikov - (Russia)
' Short Circuit Performance of Power Transformers, Test Experience at Samaraenergo Co. and at Power Testing Station in Togliatti, Russia, Including Fault Diagnosis '
4. Peter Austin - (Australia)
' Short Circuit Performance of Transformers, Australia and New Zealand Experience '
5. Gerald Leber - (Austria)
' Short Circuit Test on a 440 MVA, 400 kV GSU Transformer '
6. Joe Foldi - (Canada)
' Tests on 775 MVA GSU Transformer, and 102 MVA Three-Winding Transformer '
' Prediction of Short Circuit Performance by Calculation and Design Review '
7. Hassé Nordmann - (Finland)
' Practices in Finland '
8. Mohd Nordin - (Malaysia)
' TNB's Practices and Experience on Short Circuit Performance for Transformers '

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Short circuit performance

Calculations and Review (WS2, leader: Mr. Kees Spoorenberg)
Kees Spoorenberg - (Netherland)

- SCP-09. Robert Del Vecchio - (USA)
' Calculation of Short Circuit Forces '
10. Gerard Robert - (France)
' Mechanical Failure Mechanisms in Shell type Transformers '
11. E. Tamaki, A. Kishi, S. Itoh, K. Taninouchi, H. Murakami -
(Japan)
' The Coil Mechanical Behaviour Under the Short Circuit '
12. Ch. Krause - (Switzerland)
' The Change of Clamping Pressure in Transformer Windings due to
Variation of the Moisture Content - Tests with Pressboard Spacer
Stacks '
13. Prof. Dr. Eng. Augustin Moraru - (Romania)
' Calculation of Short Circuit Forces in Transformer Windings '
14. Dr. P.G. Kokhan, Dr.V.I. Lazarev - (Ukraine)
' Electrodynamic Withstand of Transformer Windings under Short
Circuit '
15. Jim Fyvie - (United Kingdom)
' Design Review for Short Circuit Performance '

Diagnostic Technics and Monitoring (WS3, leader: Mr. Lapworth)

16. John Lapworth - (United Kingdom)
' Discussion plan '
17. Tim Noonan - (Ireland)

' ESBI's Experience on Mechanical Condition Assesment of Transformers '

- SCP- 18. Dr. Eng. Andrei Marinescu - (Romania)
' On Line Measurement of Electrodynamic Axial Forces in High Voltage Power Transformers '
19. Leos Valenta - (Czeck. Rep.)
' A New Approach to Maintenance of Power Transformers '

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----- « Short circuit performance » complementary documents -----

- SCP_20 • « Short-circuit performance of transformers WG12.19 » by MM Lury, Zenova, Panibratets, Drobishevski, Levickaja (Russia)
- 21 • « The short circuit strength of transformers : current situation and common philosophy in Germany » by Mr K. Eckholz (Siemens – Germany)
- 22 • « Transformers on which dynamic short circuit withstand tests have been performed : examples of impedance changes » by Mr K. Eckholz (Aistom – Turkey)
- 23 • « TNB's practices and experience on short circuit performance for transformers » by Mr Modh, Nordin Ab. Wahab (TNB – Malaysia)



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----- « Short circuit performance & diagnostic » complementary documents -----

- SCR 24 • « The transfer function analysis : a method to detect mechanical changes in transformer windings » by Dr Kachler (Siemens – Germany)
- 25 • « An application of FRA to fault Location on Transformer » by MM E. Ozaki and S Soyama (HOPSSC and Toshiba Japan)
- 26 • « SUMER : a software for H.F. transformer modelling : 2 diagnostic applications » by Mr P. Guinic (EDF – France)

