

STUDY AND PLANNING OF **SUPPLY SYSTEMS** 

# **CONTENTS**

## **SESSION 6**

#### STUDY AND PLANNING OF SUPPLY SYSTEMS

6.1 Towards new challenges for distribution system planners

Invited E van Geert

Tractabel, Belgium (Member of the Expert Group for Session 6)

6.2 Deregulation - Challenges and impacts for planning and documentation

Invited *E Lakervi* 

Tampere University of Technology, Finland

S Lindgren

Uppsala Elnät Ab, Sweden

K B Mortensen

Troms Kraftforsyning, Norway

## Methods, Systems and Tools

6.1 New considerations for distribution network planning and design

T M Taylor and H L Willis ABB T & D Co, USA

M V Engel

Midwest Energy Inc, USA

6.2 Network planning under economic aspects with special regard to reliability

J Backes, H-J Koglin and L Klein University of Saarland, Germany

6.3 Structural design of medium-voltage networks considering dispersed generation

Th Seitz and H-J Haubrich

Insitut für Elektrische Anlagen und Engergiewirtschaft, Germany

A Schweer

RWE Energie AG, Germany

6.4 Visions of future distribution systems

S Bergman

ELFORSK, Sweden

6.5 Integrated resources planning at CEB-Brasilia City Utility

F M Figueiredo

CEB-Companhia Energética de Brasilia/USP, Brazil

J A Jardini

PEA/EPUSP-Escola Politécnia da USP, Brazil

6.6 An evolutionary approach to decision-making in distribution planning

LAF M Ferreira and P M S Carvalho Instituto Superior Tecnico, Portugal

L M F Barruncho

Edinfor (Groupo EDP), Portugal

6.7 Aspects concerning power distribution networks planning using artificial intelligence

Gh Georgescu, M Gavrilas and Gh Cartina

'Gh. Asachi' Technical University Iasi, Romania

6.8	A software based design methodology for the design of low-cost electrical reticulation networks B Dwolatzky and A S Meyer University of Witwatersrand, South Africa
6.9	Heuristic methods for the optimisation of MV distribution networks operation and planning M P Papadopoulos, G J Peponis and N G Boulaxis National Technical University of Athens, Greece N X Drossos
	Public Power Corporatory, Greece
6.10	Preiny: A comprehensive tool for network installations planning
	J Lumbreras, J Cabetas, J A Sánchez Iberdrola, Spain
	P Basagoiti and P Ribes Software AG, Spain
6.11	INTFO: Corporation integrated multimedia intelligent assistant for field operators.
	An overview. P Basagoiti, J A Frias F García-Julián
	Software AG, Spain
	L Azpiazu IBERDROLA, Spain
6.12	Distribution planning with fuzzy loads and independent generation
	M T Ponce de Leão and M A Matos INESC & FEUP, Portugal
6.13	Load flow calculations on distribution networks by using a statistical approach R Cicoria, G L Fracassi, G Gambelli, M Mazzoni, W Palenzona and E Ricci ENEL SpA, Italy
6.14	Selection of distribution transformers based on economic criteria
	J A Jardini, C M V Tahan and E L Ferrari Escola Politécnica da Universidade de São Paulo, Brazil S U Ahn
	Electropaulo, Brazil
6.15	This paper is cancelled
6.16	The effects of material management on the reliability of an electricity distribution network and modeling the logistic system for fault situations  J Lauronen and J Partanen  Lappeenranta University of Technology, Finland
ć 17	
6.17	Reliability of medium-voltage primary substation structures  M Le Du and R Sinius  Electricité de France, France
6.18	Minimum loss distribution network configuration: analyses and management
	V Borozan University 'Sv Kiril i Metodij', Macedonia
	N Rajakovic University of Belgrade, Yugoslavia
	vigogiffical felofikm grisa grinardig zdrawien network plantiff and bielfificiel bedreg grin record as out the

6.19	Improvement of quality service in Uruguay - Plans developed and its 93-95. Fault statistic as a parameter of measurement J Carrasco, R Rodriguez, A Rondoni and A Pardo U T E, Uruguay	s results in the perio	<b>d</b> %.0
6.20	STEP-standard as a means to document electrotechnical installations <i>M Hartje</i>		-
	RWE Energie AG, Germany		
6.21			
Criteria	and Integrated Resource Planning and as V 2003 to to reserve		
6.22	SISPIR: An integrated system for multi-stage investment plan selective electric distribution network  LF Escudero, E Gómez and J Salmerón vedescon a gradua analysis and the selective electric distribution network.	Simplification of	in an 48.8
	UITESA Iberdrola Ingenieria y Consultoria, Spain R Criado and E Valtierra Iberdrola, Spain		
	oly reliability for Southern Electric's rural customers		
6.23	ENEL SpA, Italy		
6.24	Present status in applying mathematical planning methods in AM/FN E Lakervi and M Nurmi	M-GIS systems	
	Tampere University of Technology, Finland		
6.25	Dynamic resource planning applied to distribution transformers		
	J M Soroa		
	Iberdrola, Spain L F Escudero and G Garcia		
	Iberdrola Ingenieria y Consultoria, Spain de abando de actividado de la		
6.26	eaNSF: A simulation tool for evaluating strategies  A T Brint, W R Hodgkins, D M Rigler, G V Roberts and S A Smith		
	EA Technology, UK		
6.27	Reliability indices estimation of unstationary distribution networks  M.D. Nimrihter and P.N. Dapić		
	University of Novi Sad, Yugoslavia		
6.28	Achieving energy efficiency in restructured markets. Implications for J M Martín Giraldo Union Fenosa, Spain		
6.29	ENEL's DSM actions in the international scenario distributed believed about a P Oliva and S Russo ENEL SpA, Italy		
	ENEE OF I, Imiy		

6.30	Demand side management and rural network extension
	A Davriu, F Massot, M Ribière and P Valentin
	Electricité de France, France

### Practical Experience

6.33

celled

6.32 Strategic system planning of an urban power system for 60,000 inhabitants

A Aichinger and Th Connor
Siemens AG, Germany

R Höche
Gas- und Elektrizitätswerk Singen, Germany

Strategy for the renewal of 110kV substations

Hamburgische Electricitäts-Werke AG, Germany

6.34 Simplification of medium voltage networks versus a higher degree of guarantee J M González and A Chofré Compañia Sevillana de Electricidad, Spain

6.35 Improving supply reliability for Southern Electric's rural customers

D C Mee

Southern Electric, UK

Voltage control in the medium-voltage distribution networks

H-J Haubrich, G Daniëls and G Clemens
Institute of Power Systems and Power Economics (IAEW), Germany

H Konings, S Brouns, H Dircks and H Dreuw

MEGA Limburg, The Netherlands

#### POSTER SESSION

6.36 Optimal design of distribution networks using network configuration and load
A F Bin Kasim
Universiti Teknologi, Malaysia
C S Özveren
University of Abertay-Dundee, UK
B Ramsey
University of Dundee, UK
A P Birch
Scottish Hydro-Electric, UK

6.37 Improvement of the (n-1)-criterion introducing a probablistic failure-related reliability criterion *T Nippert*Hamburgische Electricitäts-Werke AG, Germany

Risk assessment model for distribution system reliability

D J Pearson

Pacific Gas and Electric Co, USA

V G Rose

Rose Consulting, USA

6.39	This paper is cancelled
6.40	The application of fundamental network modelling tools B F Hall and K C Parton International Computers Ltd, UK

6.41 Supply quality in planning of MV networks

M Schneider and D Voirin

Electricité de France, France