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Dr Mel Gerhard Botha

Personal Information	
	First names: Mel Gerhard
	Surname: Botha
	Marital status: Married
	Age: 41
	Place of Birth: Newcastle, Kwa-Zulu Natal, South Africa
	Nationality: South African

Languages	
	Fully bilingual, Afrikaans and English.
	I can also read and understand Dutch.

Objective	
	I aim to excel in everything I do.

Overview	
	Dr Gerhard Botha is an ECSA registered Professional Engineer with over 19 years' experience, centred on research in reliability and quality of supply in the utility environment. He has excellent analytical and reasoning skills; thereby finding optimal solutions. Focussing on Operational Research, resulted in very wide exposure to the disciplines of reliability, quality of supply, planning, contracting as well as integration of renewables onto the grid.

Education			
▪	**Matric**	President High School, Johannesburg	1991
▪	**B.Ing** *cum laude*	University of Stellenbosch	1995
▪	**M.Ing** *cum laude*	University of Stellenbosch	1997
▪	**PhD (Eng)**	University of Stellenbosch	2002

Awards received		
▪	*Dux* student at President High School	1991
▪	Eskom Merit Award for Academic Excellence	1996
▪	FRD Prestige Bursary (for PhD studies)	1998
▪	Eskom Resources & Strategy Manager's Awards, Special Award:	
	Researcher of the Year	2003

Professional memberships	
	ECSA: Pr.Eng (Reg number: 20070070)
	SAIEE Member since 2004 (Membership number: 10308)
	IEEE Member since 1996 (Membership number: 40204741)
	IEEE Senior Member since 10 April 2010.

Interests and activities	
	Interests include reading widely, music, photography, hiking, art, dog training and breeding, astronomy, electromagnetics (EMC and basic radio ham training), share and Forex trading, property investment and renovations. Spending time with my spouse and our pets is a high priority as we place high value on our family unit.

	Professional Experience Overview
May 2015 – **Present**	Route 63 Training and Consulting (Pty) Ltd **Director** As Founding Member, I am responsible for both the business and technical performance of the company. Key focus of the company is: ▪ Training in all electrical engineering related fields, concentrating on Quality of Supply and Renewable Power Generation; and ▪ Consulting in electrical engineering, concentrating on Quality of Supply and Renewable Power Generation. Gerhard has worked extensively on - and gained experience in - complex problems, analysing vast amounts of data and drawing correlations to find the balance between theory and practical solutions.
March 2002 – **April 2015**	Eskom Holdings Ltd, Group Sustainability, Research, Testing and Development (RT&D) **Johannesburg (Rosherville)** Gerhard has over 19 years' post-graduate electrical engineering experience. He started at Eskom's Research Department in 2002, specialising in Quality of Supply. He has worked extensively with the operational side of the business, from LV to HV planning, to Demand Side Management and Electromagnetic Compatibility. He has advised the Eskom business on various guidelines and standards; with the main focus being on the Quality of Supply, System Reliability and integration of Generators at all voltage levels. He is currently the chairman of the NRS 097-2-1&2 specification development working group. This specification sets the standards for connection of LV generators to the utility network. Additionally, he is the author of the Harmonic Emission Guideline for Grid Code compliance of Renewable Power Plants.
2004 – 2009	Part-time Lecturing ▪ Reliability Analysis and Risk Mitigation module at M.Eng level at UKZN. ▪ EMC and Power Quality module at M.Eng level at UKZN. ▪ High Voltage Engineering module at final year level at WITS.
1992 – 1995 **(Vacation training** **adding up to** **24 weeks)**	Engineer in Training ▪ Assisted project engineers and draughtsmen with various tasks relating to projects in the petrochemical industry. Main function was computerising of project and quality management forms as well as instrumentation and electrical line drawings. ▪ Debugging of production-scale data loggers developed in-house and based on the 8031-microcontroller. ▪ Statistical analysis and modelling of general distribution networks.

Standardisation Activities

SABS	SANS TC73 (Electromagnetic Compatibility) - Member IEC Mirror Committee TC77A (Low Frequency Phenomena) - Member

NRS	NRS 048: Quality of Supply
	   ▪ WG Member (2010-present)
	   ▪ Chairman: (NRS 048-2 Ed4 Revision Task Team)
	NRS 097: Grid Interconnection Of Embedded Generation
	   ▪ Chairman: (NRS 097-2-1 Ed2 Revision, NRS 097-2-2 Development)

Grid Code	IET (Industry Expert Team) member with emphasis on Grid Code for Renewable Power Producers
CIGRE	CIGRE Study Committee C4 (TF C4.1.02) - Corresponding member (2004-2006)

Computer Literacy

	Fully competent in using and programming a computer. Software packages used, include the following:

General	▪ Current:
	   ▪ Microsoft Word, -Excel, -PowerPoint and –Visio
	   ▪ Limited experience with SAP (Cost Centre Owner, Project Management)

Programming	▪ Current:
	   ▪ Matlab (high-level mathematical programming and data analysis)
	▪ More than 10 years ago:
	   ▪ Modula 2 / Turbo Pascal (low-level computer programming)
	   ▪ MaxPlus II (firmware programming and simulation – limited experience)
	   ▪ 8031/8086 Assembly Programming

Simulation	▪ Current:
	   ▪ DIgSILENT *PowerFactory* (full circuit analysis package, including harmonic and reliability analyses)
	▪ More than 10 years ago:
	   ▪ Electro and Coulomb (electric field simulations from Integrated Engineering Software)
	   ▪ EMTDC and ATP (variants of EMTP – Electromagnetic Transients Programme – limited experience)
	   ▪ Pspice (general circuit analysis)

Publications

Journal / conference publications (refereed): 14

Journal / conference publications (invited): 1

Journal / conference publications – co-author (refereed): 1

Books: 1 (Co-author and editorial team)