

2012 IEEE-IAS/PCA 54th Cement Industry Technical Conference

**San Antonio, Texas, USA
14 – 17 May 2012**



IEEE Catalog Number: CFP12CEI-PRT
ISBN: 978-1-4673-0284-5

TABLE OF CONTENTS

Best Practices in Automation Security.....	1
<i>M. McKay</i>	
Control System Retrofits - The Network is Key.....	16
<i>J. Kemmerer, N. Biege</i>	
Innovative Measuring Technology on the Burner Cuts Operating Costs When Using Liquid Substitute Fuels.....	39
<i>J. Hundrieser</i>	
New Trends for Intelligent Motor Control Centers.....	44
<i>T. Schiazza, F. Mielli</i>	
A Seminal Advance in Vertical Mill Design by an Integrated Drive Train	52
<i>B. Langenbeck</i>	
Comparing International Standards to North American Standards for Large Adjustable Speed Drives.....	57
<i>D. Phares, M. Verma, B. Horvath, N. Rodgers</i>	
VFD Control Methodologies in High Pressure Grinding Drive Systems	67
<i>B. Jones</i>	
A Fixed Bed Gas Remediation Solution for Mercury Control.....	74
<i>J. Knotts, J. Kolde, C. Polizzi, S. Stark</i>	
A Review of Energy Efficiency and CO₂ Emissions in the US Cement Industry	84
<i>M. Vaseghi, A. Amiri, A. Pesaran</i>	
Cement and CO₂, A Victim of Success!.....	93
<i>J. Kline, L. Barcelo</i>	
Energy Efficiency Improvement in the Cement Industry through Energy Management	107
<i>A. Gonzalez, R. Castrillon, E. Quispe</i>	
Energy Management and Efficiency - A Systems Approach.....	120
<i>B. Dusi, R. Schultz</i>	
Enhanced Capture of Mercury in Baghouse by Using Novel Filtration Media and Filter Design.....	128
<i>V. Bansal, R. Taylor, P. Maly, B. Yetter</i>	
Low-carbon Cement with Waste Oil-cracking Catalyst Incorporation	139
<i>C. Costa, P. Marques</i>	
Mining for Energy Efficiency in Cement Plants: A Teamwork Approach	148
<i>R. Sperberg, T. Ruegg</i>	
Mitigation Development for the Reduction of Greenhouse Gas Emissions by the Cement Industyr:	
Agrowaste-based Green Building and Construction Materials	153
<i>S. Kabir</i>	
A Systematic Approach to Increased Alternative Fuel Utilization.....	173
<i>P. Paone, B. Stutsman</i>	
Education and Training: Inculcating Human Capital as a Strategic Investment	184
<i>R. Bohan</i>	
Plant Specific Energy Efficiency Modeling and Analysis of the Indian Cement Industry for Robust Policy Implementation.....	202
<i>S. Krishnan, A. Ramakrishnan, V. Venkatesh, P. Sunder, G. Ramakrishna</i>	
Processes for Activation and Manufacturing of Supplementary Cementitious Materials.....	236
<i>J. Ballan, P. Paone</i>	
Quality of Clinker Related to Preheater Performance	243
<i>P. Oca</i>	
Filter Diagnostics for Reducing Opacity.....	250
<i>R. Baxter, D. Hinkle</i>	
Measuring the Right Level of Maintenance Costs in a Cement Plant	258
<i>S. Rommens</i>	
A Users Guide to Arc Resistant Low Voltage Switchgear & Monitor Control - Analytical Comparison Vs Arc Flash Test Results	262
<i>G. Arce, C. McCollum, J. Jennings, B. Radibratovic</i>	
Continuous On-line Partial Discharge Monitoring of Medium Voltage Substations	273
<i>J. Benzing, I. Blokhintsev, C. Patterson, A. Loesch, B. Cassidy</i>	
Cost Effective Energy Information System for Cement Manufacturers.....	285
<i>F. Mielli</i>	

Grounding Systems for the Cement Industry	291
<i>J. Stroker</i>	
Power Factor Correction - A Fresh Look into Today's Electrical Systems	297
<i>C. Heger, A. Morroni</i>	
Successful Integration of a Facility Wide Energy Management System in a Cement Plant.....	310
<i>H. Young, B. Newell, D. Durocher</i>	
Author Index	