

2014 IEEE-IAS/PCA Cement Industry Technical Conference (CIC 2014)

**National Harbor, Maryland, USA
13-17 April 2014**



**IEEE Catalog Number: CFP14CEI-POD
ISBN: 978-1-4799-3295-5**

**Copyright © 2014 by the Institute of Electrical and Electronic Engineers, Inc
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

******This publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP14CEI-POD
ISBN 13:	978-1-4799-3295-5

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

A Systems Safety Approach to Occupational Electrical Safety	1
<i>H. Floyd</i>	
Advantages of Optimizing Motor & Drives to Ensure Best Performance & Total Cost of Ownership.....	18
<i>W. Finley</i>	
Alternative Fuels- How to Increase the Use of Coarse Alternative Fuels in the Cement Industry	32
<i>K. Menzel, K. Rohloff</i>	
Arc Flash Compliance Implementation at Industrial Processing Facilities	39
<i>D. Durocher</i>	
Cement and CO₂- What's Happening	48
<i>J. Kline, C. Kline</i>	
Cement Plant Environmental Technology for Achieving High SO₂ Removal	57
<i>S. Safariyeganeh, C. Lovett</i>	
CEMS Strategy for Portland Cement Maximum Achievable Control Technology (PCMACT)	65
<i>A. Edwards, S. Nielson</i>	
Drives for Overland Conveyors and Lessons Learned	75
<i>A. Holtom, D. Keller, P. Van Winkle</i>	
Evaluation of Synchronous Motors on Grinding Mills.....	82
<i>G. Seggewiss, J. Dai, M. Fanslow</i>	
Fundamentals of Wireless Communications	94
<i>C. King</i>	
High Efficiency Cement Cooling	101
<i>N. Sutherland, R. Anbari</i>	
Implementation of an Arc Flash Program.....	110
<i>S. Drzymala</i>	
Increasing Reliability by Maintaining Kiln Stability.....	127
<i>J. Ross</i>	
Maintaining HMI and SCADA Systems Through Computer Virtualization	135
<i>J. Reeser, T. Jankowski, G. Kemper</i>	
Motor Conversion for Reduced Energy Consumption in Compressor Applications.....	144
<i>M. Dale, D. Carichner</i>	
MSHA's Electrical Regulations- Use Prudence to Avoid Pitfalls.....	148
<i>C. Ruffennach</i>	
New 3000 TPD Line in Italy- Innovation for a Sustainable Production.....	159
<i>G. Cinti, J. Riva</i>	
Pyro and Raw Mill Modifications to Achieve 2,200 STPD.....	167
<i>G. Mckervery, S. Miller, J. Weston</i>	
Quality Based Processed Engineered Fuel Concept.....	175
<i>E. Morton</i>	
Reduced Baghouse Maintenance with LPHV Pulse Cleaning Technology	183
<i>C. Leivo, J. Lange, D. Ramshaw</i>	
The Latest Innovative Technology for Vertical Roller Mills- Modular Mill with Modular Drive System and Swing Mill Solutions.....	192
<i>C. Woywadt</i>	
The World's First Vertical Roller Mill with Driven Rollers	198
<i>T. Schmitz</i>	
Tunable Diode Laser (TDL) Based HCl Continuous Emission Monitoring System (CEMS) Development Challenges and Monitoring Technologies to Meet the Portland Cement MACT Rule.....	203
<i>H. Henry, P. Tran</i>	
Unconventional Binders in Refractory Concretes for Cement Plant Use	208
<i>C. Macey</i>	
Using 3-D Modeling for Plant Capital Projects.....	216
<i>P. Sopher</i>	
X-Ray Diffraction - New Eyes on the Process.....	222
<i>J. Anderson, L. Gobbo, H. Weeren</i>	
Author Index	