

IEEE Industry APPLICATIONS

Advancing the Practice of Electrical
& Electronics Engineering in Industry

May/June 2016
Vol. 22, No. 3 • ISSN 1077-2618
<http://www.ieee.org/ias>



Growing Bright Ideas

on ELECTRICAL SAFETY



IEEE Industry APPLICATIONS

MAGAZINE

Editor-in-Chief

H. Landis "Lanny" Floyd • eic-iam@ieee.org

Column Editors

Chapter News

Peter Magyar — peter.magyar@ieee.org

Education News

Iqbal Husain — ihusain2@ncsu.edu

Electrical Safety

Daniel R. Doan — doan@ieee.org

History

Barry Brusso — bbrusso@sandc.com

Pathways

David Eng — engdd412@comcast.net

President's Message

David Durocher — DavidBDurocher@eaton.com

Standards

Mark Halpin — halpism@auburn.edu

IEEE Periodicals Magazines Dept

Sr. Managing Editor

Geraldine Krolin-Taylor

Sr. Art Director

Janet Dudar

Associate Art Directors

Gail A. Schnitzer

Mark Morrissey

Theresa L. Smith

Production Coordinator

Felicia Spagnoli

Ad Production Manager

Sr. Manager Advertising &

Business Development

Mark David

+1 732 562 3937

m.david@ieee.org

Editorial Director

Dawn M. Melley

Production Director

Peter M. Tuohy

Staff Director,

Fran Zappulla

IEEE Publishing Operations

IEEE prohibits discrimination, harassment, and bullying. For more information, visit <http://www.ieee.org/web/aboutus/whatis/policies/p9-26.html>.

IAS Society Officers

President

David Durocher

President Elect

Tomy Sebastian

Vice President

Georges Zissis

Treasurer

Massimo Mitolo

Executive Office

Executive Director

Patrick McCarren

+1 732 562 2663

p.mccarren@ieee.org

Lynda Bernstein

+1 732 465 6627

l.m.bernstein@ieee.org

ias-administrator@ieee.org

Program Specialist

IEEE Industry Applications Magazine: (ISSN 1077-2618) (IAAMEG) is published bimonthly by The Institute of Electrical and Electronics Engineers, Inc. Headquarters: 3 Park Avenue, 17th Floor, New York, NY 10016-5997, +1 212 419 7900. Responsibility for the contents rests upon the authors and not upon the IEEE, the Society or its members. IEEE Service Center (for orders, subscriptions, address changes): 445 Hoes Lane, Piscataway, NJ 08854 USA; www.ieee.org. **Individual copies:** IEEE members US\$20.00 (first copy only), nonmembers US\$82.00 per copy.

Subscription Rates: Society members included with membership dues. Subscription rates available upon request.

Copyright and reprint permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limits of U.S. Copyright law for the private use of patrons 1) those post-1977 articles that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923 USA; 2) pre-1978 articles without fee. For other copying, reprint or republication permission, write Copyrights and Permissions Department, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. Copyright © 2016 by The Institute of Electrical and Electronics Engineers, Inc. All rights reserved. Periodicals postage paid at New York, NY and at additional mailing offices. Postmaster: Send address changes to IEEE Industry Applications Magazine, IEEE, 445 Hoes Lane, Piscataway, NJ 08854 USA. Canadian GST# 125634188

PRINTED IN U.S.A.

Digital Object Identifier 10.1109/MIAS.2016.2523638

May | June 2016

Vol. 22, No. 3 • ISSN 1077-2618

<http://www.ieee.org/ias>



IMAGE LICENSED BY INGRAM PUBLISHING

Electrical Safety

features

- 18** Selling Electrical Safety in Your Organization
How to become an effective change agent
Tim Rohrer
- 21** Electrical Fatality Rates in Japan, 2002–2011
New preventive measures for fatal electrical accidents
Norimitsu Ichikawa
- 27** At-Risk Occupations in Power Line Fatalities
How do Occupational Safety and Health Administration and U.S. Bureau of Labor Statistics data compare?
Brett Brenner and James C. Cawley
- 33** Risk Assessment and Your Electrical Safety Program
Performance at the organizational and worker levels
Daniel Roberts
- 40** Bridging the Gap
Using technology to capture the old and encourage the new
Joe Barrios and Katie Scarlett Reyes
- 45** Hearing Protection
The electrical hazard you don't "hear" about!
Kevin J. Lippert and Amanda M. Lippert
- 51** Forging Skill-Rich Workers
How one firm adopted a training and pay structure to launch a dynamic company culture
Joe Rachford
- 58** Electrical Safety Leadership from the "12th Man"
You can make a difference
Daryld Ray Crow

departments and columns

From the Editor's Desk 2	Chapter News 64
President's Message 4	Pathways 68
Electrical Safety 8	Conference Calendar 70
History 10	Memoirs 72
Education News 63	

Scope: IEEE Industry Applications Magazine publishes technical articles on the development and application of electrical systems, apparatus, devices, and controls to the processes and equipment of industry and commerce; the promotion of safe, reliable, and economic installations; the encouragement of energy conservation; and the creation of voluntary engineering standards and recommended practices. IEEE Industry Applications Magazine includes technical articles as well as new standards, education information, announcements of conferences, workshops, committee meetings, and reports of IEEE Industry Applications Society activities.

Digital Object Identifier 10.1109/MIAS.2016.2523839