
ROBERT A DURHAM, PhD, PE

Resume
Specialization
Honors & Awards
Publications
Partial Client List

ROBERT A DURHAM, PhD, PE

Robert A Durham is the Principal Engineer of D² Tech Solutions, an engineering and technology related firm concentrating on Mechanical and Electrical systems and conversions. He is also a Principal Engineer of THEWAY Corp, Tulsa, OK, an engineering, management and operations group that conducts training, develops computer systems, and provides design and failure analysis of facilities and electrical installations. He specializes in technology management, power systems, utility competition, controls, and technology integration.

Dr. Durham is registered as a Professional Engineer in seven states, and is a licensed electrical contractor. His work experience is broad, and encompasses all areas of the energy industry. Dr. Durham spent 11 years with AEP/CSW, at the time the country's largest utility, in electrical engineering positions in the power generation and transmission planning departments. He then accepted a position as Manager of Electric Infrastructure for New Dominion, LLC., a major independent energy producer in Oklahoma. Dr. Durham then moved on to hold the position of Vice President of Engineering and Project Management for EDG Power Group, an Engineering Procurement and Construction company specializing in design and construction of small to medium size power generating facilities. Dr. Durham left EDG Power Group to accept his current positions. Dr. Durham has been accepted as an expert and offered testimony in several jurisdictions.

Dr. Durham's extensive client list includes the development of a broad spectrum of forensic, electrical and facilities projects for many companies. He has also taught University offered courses in electrical engineering review for board licensure. He has published four books, six magazine articles and over 30 other technical papers and articles.

Dr. Durham received the B.S. in electrical engineering from the University of Tulsa in 1992 and the M.E. in Technology Management from The University of Tulsa in 1997. Tulsa, OK. In 2004, Dr. Durham received a PhD in Engineering Management from Kennedy Western University.

Degrees Earned

BSEE, The University of Tulsa
Master of Engineering, The University of Tulsa
PhD , Kennedy Western University

Area of Specialization

lightning & grounding
failure analysis & forensic engineering
electrical power systems & safety
power generation
utility industry competition
economics & management
petroleum & chemical industry
electrical / mechanical energy conversion

Registration

Professional Engineer - OK
Professional Engineer – TX
Professional Engineer – CA
Professional Engineer – NH
Professional Engineer – KS
Professional Engineer – NC
Professional Engineer - MO
Electrical Contractor - OK

Work History

D ² Tech Solutions, Inc.	2002 - 2009
Principal Engineer	
THEWAY Corp.	2004 - 2009
Chief Engineer	
EDG Power Group, Inc.	2002 - 2004
Vice President Engineering & Project Management	

New Dominion, LLC 2000 - 2002
Mgr Electric Infrastructure

Central & Southwest, Inc 1989 - 2000
Electrical Engineer

Professional Memberships

Senior Member	Institute of Electrical and Electronic Engineers
Member	American College of Forensic Examiners, International
Voting Member	National Fire Protection Institute, Electrical Section
Executive Member	Petroleum and Chemical Industry Committee, IEEE
Member	IEEE Standards Association
Officer	Production Subcommittee, IEEE IAS/PCIC
CFC	American College of Forensic Examiners
Member	International Association of Arson Investigators

Honors and Awards

Honor Societies

Tau Beta Pi, national engineering honors
Eta Kappa Nu, national electrical engineering honors

Dr. Durham's publications have often successfully competed for outstanding paper awards from journals of the Institute of Electrical and Electronic Engineers (PCIC and IAS). This is an international competitive peer review and evaluation of papers that provide a significant contribution to the advancement and understanding of electrical applications.

IEEE Industry Applications Society, New Orleans, LA: Prize Article for "Data Quality and Grounding: Considerations in a Mixed Use Facility"

PCIC, New Orleans, LA: Prize paper for "Industrial Design Application for Power Distribution over Extra-Long Distances"

PCIC, Philadelphia, PA: Prize paper for "Paradigm Shifts and Impact on Engineers and Industry"

Transactions on Industry Applications, Orlando, FL: Prize Paper for "Lightning, Grounding, and Protection for Control Systems".

PCIC, Denver, CO: Prize Paper for “Grounding System Design for Isolated Locations and Plant Systems”

PCIC, St. Louis, MO: First place for "Lightning, Grounding, and Protection for Distributed Control and Communications Systems: A Retrofit".

Publications

Leadership and Success in Relationships and Communication, Marcus O. Durham and Robert A Durham, Dream Point Publishers, Tulsa, OK, ISBN 978-0-9719324-4-1

Leadership and Success in Organizations, Culture & Ethics, Marcus O. Durham and Robert A Durham, Dream Point Publishers, Tulsa, OK, ISBN 978-0-9719324-5-X

Leadership and Success in Economics, Law & Technology, Marcus O. Durham and Robert A Durham, Dream Point Publishers, Tulsa, OK, ISBN 978-0-9719324-7-6

“Transient Voltage Aspects of Grounding”, Thomas R Brinner and Robert A Durham, *Institute of Electrical and Electronics Engineers PCIC*, IEEE #PCIC-2008-CN-23, Cincinnati, September 2008

“What to Do When Things Go Wrong: an Ethical Solution”, Robert A Durham and Marcus O. Durham, *Institute of Electrical and Electronics Engineers PCIC*, IEEE #PCIC-2007-CL200, Calgary, September 2007.

“Data Quality and Grounding” Marcus O. Durham and Robert A. Durham, *IEEE Industry Applications Magazine*, May/June 2006, Vol 12, No. 3.

“Submersible Cable Standards History Newly Revised”, , Marcus O Durham, Robert A Durham, Rich Hulett, *Institute of Electrical and Electronics Engineers PCIC*, IEEE #PCIC-2005-D, Denver, September 2005.

“Cathodic Protection: Consequences and Standards From Using CP Systems to Prevent Corrosion” Marcus O. Durham and Robert A. Durham, *IEEE Industry Applications Magazine*, January/February 2005, Vol 11, No 1.

"Data Quality and Grounding Considerations in a Mixed-Use Facility", Marcus O. Durham and Robert A. Durham, *Institute of Electrical and Electronics Engineers PCIC*, September 2004.

"Covering All the Bases: Industrial Power System Design in a Utility Environment", Robert A. Durham and Marcus O. Durham, *IEEE Industry Applications Magazine*, November/December 2003, Vol 9 No 6.

"Corrosion Impact of Cathodic Protection on Surrounding Structures", Robert A. Durham and Marcus O. Durham, *Institute of Electrical and Electronics Engineers PCIC*, September 2003.

"TVSS Designs," Marcus O. Durham, Karen D. Durham, and Robert A. Durham, *IEEE Industry Applications Magazine*, September/October 2002, Vol 8 No 5.

"Applications Engineering Approach to Maxwell and Other Mathematically Intense Problems", Marcus O. Durham, Robert A. Durham, and Karen D. Durham, *Institute of Electrical And Electronics Engineers PCIC*, September 2002.

"Ground System Design Considerations for Vessels," Marcus O. Durham and Robert A. Durham *IEEE Industry Applications Magazine*, November/December 2001, Vol 7 No 6.

"Industrial Design Application for Power Distribution over Extra-Long Distances," Robert A. Durham and Marcus O. Durham, *Institute of Electrical and Electronics Engineers PCIC*, Toronto, September 2001.

"Transient Voltage Surge Suppression Design and Correlation," Marcus O. Durham, Robert A. Durham, Karen D. Durham *Institute of Electrical and Electronics Engineers PCIC*, *Institute of Electrical and Electronics Engineers PCIC*, September 2000.

"Electric Re-Regulation Impact," Robert A. Durham and Marcus O. Durham, *IEEE Industry Applications Magazine*, September/October 1999, Vol 5 No 5.

"Interaction and Design of Grounded Systems for Tanks and Vessels," Marcus O. Durham, Robert A. Durham, *Institute of Electrical and Electronics Engineers PCIC*, *Institute of Electrical And Electronics Engineers PCIC*, September 1999.

"What are Standardized Equations for Acceptance of Hi-pot Tests and for Voltage Drop?" Marcus O. Durham, Robert A. Durham, David Anderson, *Institute of Electrical And Electronics Engineers PCIC*, *Institute of Electrical And Electronics Engineers PCIC*, Indianapolis, September 1998.

"Changing Paradigms for Engineering," Marcus O. Durham and Robert A. Durham, *IEEE Industry Applications Magazine*, March/April 1998, Vol 4 No 2.

"Electric Re-regulation and Effects on Industrial Customers," Robert A. Durham and Marcus O. Durham, *Institute of Electrical And Electronics Engineers PCIC*, *Institute of Electrical And Electronics Engineers PCIC*, Banff, Canada, September 1997.

"Paradigm Shifts and Impact on Engineers and Industry," Marcus O. Durham and Robert A. Durham, *Institute of Electrical and Electronics Engineers PCIC*, Philadelphia, September 1996.

"Grounding System Design for Isolated Locations and Plant Systems," Marcus O. Durham and Robert Durham, *Institute of Electrical and Electronics Engineers PCIC*, Denver, September 1995.

"Lightning, Grounding, and Protection for Control Systems," Marcus O. Durham and Robert Durham, *IEEE Transactions on Industry Applications*, Vol. 31, No. 1, January/February 1995.

"Lightning, Grounding, and Protection for Distributed Control and Communications Systems: A Retrofit," Marcus O. Durham and Robert A. Durham, *Institute of Electrical and Electronics Engineers PCIC*, PCIC-93CH, September 1993.

"The IEEE Standards Process, A Case Study", Marcus O. Durham & Robert Durham, *Proceedings of 38th Annual Frontiers in Power Conference*, OSU, Stillwater, OK, October 2005.

"Engineering Management: A Course For Survival", Marcus O. Durham, Robert A. Durham, & Rosemary Durham, *American Society of Engineering Educators*, Pittsburg, KS 2004.

"Eleven Ground Systems and Connections", Marcus O. Durham & Robert Durham, *Proceedings of 37th Annual Frontiers in Power Conference*, OSU, Stillwater, OK, October 2004.

"Engineering Management, An Oxymoron?", Marcus O. Durham, Robert Durham & Rosemary Durham, *Proceedings of 37th Annual Frontiers in Power Conference*, OSU, Stillwater, OK, October 2004.

"Corrosion and Electrical Safety", Marcus O. Durham & Robert Durham, *Proceedings of 36th Annual Frontiers in Power Conference*, OSU, Stillwater, OK, October 2003.

"Applications Engineers Don't Do Hairy Math", Marcus O. Durham, Robert A. Durham, and Karen D. Durham, *Proceedings of 35th Annual Frontiers in Power Conference*, OSU, Stillwater, OK, October 2002.

"Tests and Correlations for TVSS", Marcus O. Durham, Karen Durham, and Robert Durham, *Proceedings of 34th Annual Frontiers in Power Conference*, OSU, Stillwater, OK, October 2001.

"Grounding Systems Interaction," Robert A. Durham and Marcus O. Durham, *Proceedings of 33rd Annual Frontiers in Power Conference*, OSU, Stillwater, OK, October 2000.

"A Cost Effective, Numeric Technique for Projecting Quality of Insulation and Impending Failures," Marcus O. Durham and Robert A. Durham, *Proceedings of 33rd Annual Frontiers in Power Conference*, OSU, Stillwater, OK, October 2000.

"An Engineering Selection for Size of Long Conductors Considering Factors in Addition to NEC," Marcus O. Durham and Robert A. Durham, *Proceedings of 33rd Annual Frontiers in Power Conference*, OSU, Stillwater, OK, October 2000.

"Grounding Systems Interaction," Robert A. Durham and Marcus O. Durham, *Proceedings of 32nd Annual Frontiers in Power Conference*, OSU, Stillwater, OK, October 1999.

"Can Electrical Insulation and Conductor Performance Be Predicted?" Marcus O. Durham and Robert A. Durham, *Proceedings of Production Operations Symposium*, SPE 52161, Oklahoma City, OK, March 1999

"Engineering Paradigms: Change, Opportunity and Benefit," Robert A. Durham and Marcus O. Durham, *Proceedings of 31st Annual Frontiers in Power Conference*, OSU, Stillwater, OK, October 1998.

"Electric Re-regulation and Impact on Users," Robert A. Durham and Marcus O. Durham, *Proceedings of 30th Annual Frontiers in Power Conference*, OSU, Stillwater, OK, October 1997.

"Remote Transmitter and Distributed Control Grounding and System Protection," Robert A. Durham and Marcus O. Durham, *Proceedings of 27th Annual Frontiers in Power Conference*, OSU, Stillwater, OK, October 1994.