

Curriculum Vitae of

JOHN A. PALMER, PH.D., P.E., C.F.E.I.

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SYNOPSIS

Dr. Palmer has extensive experience in cause and origin analysis of electrical accidents, electrical equipment failures, electrical fires, structural fires, vehicle fires, and explosions. He also performs product testing and design review. He has consulted on cases involving industrial processes, electric machinery and systems, elevators, consumer electronics, control systems, electric shock and electrocution. He has also provided litigation support for multiple intellectual property matters. Dr. Palmer's education and research experience includes a vast array of aspects relating to electrical engineering, electric power, control systems, and electromechanical systems. An area of particular emphasis throughout his career has been his focus on electric power equipment, including transformers and electric machines and drives. He has conducted power system fault studies, protective device coordination, and load flow studies. Dr. Palmer's extensive experience includes electro-magnetic fields and high-voltage systems. His responsibilities and research often include working with thermodynamics, fluid dynamics and liquid dielectrics. Career research projects include: analytical and computational assessment of overheating of pipe-type underground cables; experimental, analytical and computational assessment of static electricity problems in large power transformers; modeling of pulsed linear induction motors; distributed generation; and optical and ultrasonic diagnostic and monitoring tools for power equipment. Dr. Palmer's research has led to the development of a controller device for a power transformer cooling system, resulting in a patent. In addition, he has taught principles of failure analysis, electromechanical energy conversion, power systems, power system protection, power electronics and power quality as part of the electrical engineering curriculum at several universities. He has authored over twenty journal and conference publications.

EDUCATION

Rensselaer Polytechnic Institute	
Ph.D. Electric Power Engineering	1996
<i>Thesis: Dynamics of Streaming Electrification in Large Power Transformers</i>	
M.Eng. Electric Power Engineering	1992
<i>Thesis: Effect of Harmonics on Current Carrying Capacity of HPFF Cable</i>	
Brigham Young University	
B.S. Electrical Engineering	1991
<i>Power Emphasis, Math Minor</i>	

REGISTRATION

Registered Professional Engineer in Utah, Colorado, Alabama, Wyoming, Florida, Arizona and Idaho
Certified Fire and Explosion Investigator (NAFI)

EXPERIENCE

Palmer Engineering and Forensics, LLC, Kaysville, Utah President	2009 – Pres
University of Utah, Salt Lake City, Utah Associate Professor, Lecturer – Electrical Engineering Department	2016-Pres
Adjunct Associate Professor -- Electrical Engineering Department	2014-2016
Adjunct Instructor – Electrical Engineering Department	2011-2014
Knott Laboratory, LLC, Centennial, Colorado Manager, Electrical Engineering and Fire Investigations Senior Engineer	2005 - 2009 2000- 2005
University of Colorado Denver, Denver, Colorado Adjunct Instructor – Electrical Engineering Department	2006-2008
Colorado School of Mines, Golden, Colorado Assistant Professor – Division of Engineering/Center for Adv. Ctrl of Elec Pow Systems	1996-2000
NEI Electric Power Engineering, Inc., Arvada, Colorado, Consulting Engineer	1999-2000
Rensselaer Polytechnic Institute, Troy, New York Research Assistant	1991-1996

EXPERT TESTIMONY

Dr. Palmer has provided expert testimony in various jurisdictions across the country. He has been qualified as an expert witness and has provided litigation support in cases involving personal injury, product defects, property loss/subrogation, intellectual property, and class action lawsuits. He has testified over 70 times in depositions, hearings and trials.

PROFESSIONAL AFFILIATIONS

Dr. Palmer is a member of the following technical and professional societies:

NSPE - National Soc. of Prof. Engineers	IEEE (<i>Sen. Mem.</i>)- Inst. of Elect. and Electronics Engineers
NAFI – Nat. Assocn of Fire Investigators	Industrial Application Society
NFPA – Nat. Fire Protection Association	Power and Energy Society
ASME - American Soc. of Mech. Engineers	Product Safety Engineering Society

Publications by John A. Palmer, Ph.D., P.E., C.F.E.I.

Refereed Publications

1. Palmer, John A., J. K. Nelson, and M. A. Brubaker. "The Formulation of Models for the Description of Streaming Electrification in Transformer Structures." *IEEE Transactions on Dielectrics and Electrical Insulation* vol. 10 (Dec. 2003): 920-932.
2. Palmer, John A., and J. K. Nelson. "Parametric Performance of a Transient Streaming Electrification Model." *IEEE Transactions on Dielectrics and Electrical Insulation* vol. 4 (Aug. 1997): 418-424.
3. Palmer, John A., and J. K. Nelson. "Practical Implications of Transformer Flow Electrification Studies." *Journal of Electrostatics* vol. 40/41 (1997): 693-698.
4. Palmer, John A., and J. K. Nelson. "The Simulation of Short-Term Streaming Electrification Dynamics." *Journal of Physics D: Applied Physics* 30 (1997): 1207-1213.
5. Palmer, John A., and J. K. Nelson. "Intelligent Control of Large Power Transformer Cooling Pumps." *IEEE Proceedings: Generation, Transmission, and Distribution* (Sept. 1996).
6. Palmer, John A., and J. K. Nelson. "A Method for the Repetitive Measurement of the Electrostatic Charging Tendency of Liquid Dielectrics." *IEEE Transactions on Dielectrics and Electrical Insulation* (Feb. 1996): 70-74.
7. Palmer, John A., R. C. Degeneff, T. M. McKernan, and T. M. Halleran. "Pipe-Type Cable Ampacities in the Presence of Harmonics." *IEEE Transactions on Power Delivery* vol. 8, no. 4 (Oct. 1993): 1689-1695.
8. Palmer, John A., R. C. Degeneff, T. M. McKernan, and T. M. Halleran. "Determination of the Effect of Harmonics on HPFF Pipe-Type AC/DC Resistance Ratios." *IEEE Transactions on Magnetics* vol. 29, no. 2 (Mar. 1993): 1427-1433.

Patents

1. Nelson, J. K., and John A. Palmer. "Intelligent Control of a Large Power Transformer Cooling System." *U.S. Patent number 5,838,881* (Nov. 1998).

Conferences, Symposia, and Other Publications

1. Palmer, John A., "Maximizing the Effectiveness of your Engineering Expert," PE&F Legal Lunch and Learn Series, North Salt Lake, UT, January 2018.
2. Palmer, John A., "Electrical Issues for Adjusters," PE&F Adjuster Information and Networking Series, North Salt Lake, UT, January 2018.
3. Palmer, John A., "Electrical Issues for Attorneys," PE&F Legal Lunch and Learn Series, North Salt Lake, UT, August 2017.
4. Palmer, John A. "The Hazard of Portable Radiant Electric Space Heaters," NASP Annual Conference, Denver, CO. Oct. 2016
5. Palmer, John A. "Safety and Reliability from the Forensic Engineer's Perspective," USPE Annual Continuing Education Conference, Salt Lake City, UT. May 2015
6. Palmer, John A. "Engineering Perspectives on a Catastrophic Power Plant Explosion," USPE Annual Continuing Education Conference, Salt Lake City, UT. May 2010.
7. Palmer, John A. "Electrical Issues for Adjusters" PLRB/LIRB 2008 Claims Conference and Insurance Services Expo. Boston, MA. Mar. 2008.
8. Palmer, John A. "Evidence Management", CPCU monthly meeting. Presenter. Denver, Colorado, December 2007
9. Palmer, John A. "The Case of the Misleading Meter." *EC&M, The Magazine of Electrical Design, Construction & Maintenance*. Dec. 2007.

10. "Electrical Issues for Adjusters" PLRB/LIRB 2007 Claims Conference and Insurance Services Expo. Orlando, FL. Mar. 2007.
11. "The Roles of Operations, Maintenance, and Management in a Preventable Power Plant Explosion." Materials Science and Technology 2006 Conference and Exhibition. Cincinnati, OH. Oct. 2006.
12. Palmer, John A. "The Case of the Residential Screw-up." *EC&M, The Magazine of Electrical Design, Construction & Maintenance*. Sept. 2006.
13. "Lightning – Failures and Claims." Property Claims Insurance Seminar. Presenter. Knott Laboratory LLC, Centennial, CO. 21 Apr. 2006.
14. Palmer, John A. "Preventing Power Plant Explosions." *Energy-Tech*. Feb. 2006.
15. Palmer, John A. "The Case of Substation Configuration Confusion." *EC&M, The Magazine of Electrical Design, Construction & Maintenance*. Jan. 2006.
16. "Fire & Explosion Investigation" and "Preservation of Evidence." Property Claims Insurance Seminar. Presenter. Knott Laboratory LLC, Centennial, CO. 18 Nov. 2005.
17. Palmer, John A. "A Series of Preventable Events Leads to a Power Plant Explosion." *EC&M, The Magazine of Electrical Design, Construction & Maintenance*. Nov. 2004.
18. "Electrical Failures & Accidents." Property Claims Insurance Seminar. Presenter. Knott Laboratory Inc., Centennial, CO. 27 Oct. 2004.
19. Palmer, John A. "Switchgear Malfunction Results in an Electrician's Death." *The Magazine of Electrical Design, Construction & Maintenance*. Aug. 2004.
20. "Fire & Explosion Investigation." Insurance Claims Seminar. Presenter. Knott Laboratory Inc., Centennial, CO. 6 May 2004.
21. "Fire & Explosion Investigation." Insurance Claims Seminar. Presenter. Knott Laboratory Inc., Centennial, CO. 10 Dec. 2003.
22. Palmer, John A. "Electric Power Substations." *Encyclopedia of Energy*. MacMillian, 2001.
23. Palmer, John A. "Electric Power Transmission Lines." *Encyclopedia of Energy*. MacMillian, 2001.
24. "Industrial Upgrades to an Electric Machinery Laboratory." 2000 ASEE Annual Conference. St. Louis, MO. 18-21 June 2000.
25. "Effect of Aging on the Spectral Response of Transformer Oil." International Symposium on Electrical Insulation. Anaheim, CA. 2-5 Apr. 2000.
26. "Optical Methodology for the Health Assessment of Power Transformers." SPIE 5th Annual International Symposium on Nondestructive Evaluation and Health Monitoring of Aging Infrastructure. Newport Beach, CA. 7-8 Mar. 2000.
27. "Mitigation of Streaming Electrification by Intelligent Control of Oil Circulation." Symposium Proceedings: Transformer Reliability: Management of Static Electrification in Power Transformers. Monterey, CA. May 1999.
28. "Streaming Electrification Dynamics: Duct Modeling and Analysis." Symposium Proceedings: Transformer Reliability: Management of Static Electrification in Power Transformers. Monterey, CA. May 1999.
29. "Monitoring of Large Power Transformers." Proceedings. 1997 North American Power Symposium. Laramie, WY. 13-14 Oct. 1997.
30. "Streaming Electrification Dynamics in Oil/Cellulose Systems." Conference on Electrical Insulation and Dielectric Phenomena. Arlington, TX. Oct. 1994.
31. "A New Reciprocating Apparatus for the Measurement of Electrostatic Charging Tendency of Transformer Oil." EPRI Workshop, Static Electrification in Power Transformers. Milwaukee, WI. Sept. 1994.

Media Appearances

1. "Failure of Consumer Appliances," KSL News, Salt Lake City, UT, February 2017.
2. "Static Electricity Hazards While Filling Gas Cans." Channel 4 News. Denver. August 1997.
3. "Western States Blackout." Channel 9 News. Denver. July 1996.

Log of Testimony by John A. Palmer, Ph.D., P.E., C.F.E.I.

	Testimony Date	Test Type	Job Number	Client	Description	Case No.	Jurisdiction	For
68	2017/4/14	D	130103	Blewett	Camp 34 et al v Idaho County Light and Power, Cook and Sons, et al	CV 14-43441	Idaho District Court, Idaho County	D
69	2017/5/25	D	150703	Blease	BDB v. Truland, Siemens	77 158 00603 13	American Arbitration Association	D
70	2017/8/24	D	160507	Kinzler	Sheehan v. Amerigas et al	DV-14-664A	Montana Eighth District Court, Gallatin County	P
71	2018/4/10	D	141204	Waddoups	Peterson v. Hyundai	16040165 7	Utah Fourth District Court	P
72	2018/7/20	D	150403	Homampour	Zuniga v. CAA et al	15CECG 02779	Superior Court of CA, Orange County	P
73	2018/10/18	H	181002	Stephens	SESD v. Payson	180400994 PR	Utah Fourth District Court	D
74	2018/11/15	D	170803	Wall/Swenson	Bacon v. RMP	17-cv-00004	US District Court, Utah	P
75	2019/2/13	T	141204	Waddoups	Peterson v. Hyundai	16040165 7	Utah Fourth District Court	P
76	2019/4/9-10	D	170505	Feldman	Wood v. Entergy Arkansas and Entergy Services	45CV-17-126	Marion County, AR	P
77	2019/6/3	D	181202	Johnson	McMannama v. KCPL	17CA-CCC00204	Cass County, MO	P
78	2019/9/12	D	140705	Arzoumanian	Gonzalez v. SCE	BC580839	Los Angeles west district, CA	P
79	2019/12/17	D	180507	Schaefer	USA v. ICLP	3:17-cv-00391-CWD	US District Court, District of Idaho	P
80	2020/2/27	D	190605	Rahmeyer	Thornton v. Barry Electric et al	18BR-CC00088	Barry County, Missouri	P
81	2020/3/5	D	180502	Feldman	El-Jamaly v. DET, Kirco-Manix, et al	18-011226-no	Wayne County, Michigan	P

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