Short CV for:
ANDREW H. P. SWIFT, Jr.
July 2014
Professor of Civil and Environmental Engineering, and
Associate Director, National Wind Institute
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Summary of Activities is Wind Turbine Related Research

Dr. Swift completed his engineering graduate work obtaining a Doctor of Science degree at Washington University in St. Louis where he began conducting research in wind turbine engineering with a focus on the dynamics and aerodynamics of two-bladed wind turbine rotors. Dr. Swift has worked in wind energy research for over 30 years, has over one hundred published articles and book chapters in the area of wind turbine engineering and renewable energy, and in 1995, he received the American Wind Energy Society Academic Award for continuing contributions to wind energy technology as a teacher, researcher, and author.
As Director of the Wind Science and Engineering Research Center at Texas Tech University, Dr. Swift provided leadership in the wind energy area with oversight of approximately 9 million dollars of research and education funding. The research and education focused on the effects of great-plains wind events on the performance and reliability of utility scale wind turbines as well as the use of wind energy for inland desalination of brackish water for regional municipalities. Dr. Swift was also a founder of the Texas Wind Energy Institute for Wind Energy Education and Workforce Development initiatives at Texas Tech University. Texas Tech presently offers the only PhD in Wind Science and Engineering in the nation, as well as Technical and Managerial Graduate Certificates in Wind Energy and an Undergraduate Bachelor of Science in Wind Energy. He presently serves as the Associate Director for Educational and Workforce Programs for the newly formed TTU- National Wind Institute.

Professional Preparation

B. S. Mechanical Engineering and
B. S. Mathematics, Union College, Schenectady, NY (1968)
M.S. Mechanical Engineering, and
D.Sc. Mechanical Engineering, Washington University, St. Louis, MO (1981)
Dissertation: ***The Effects of Yawed Flow on Wind Turbine Rotors***

Appointments

- Professor, Civil and Environmental Engineering, and Associate Director, TTU National Wind Institute, January 2013 to present.
- Director, Texas Wind Energy Institute, Texas Tech University, 2009-2012
- Director, Wind Science and Engineering Center and Professor of Civil Engineering, Texas Tech University, September 2003 – June 2010
- Director, Center for Environmental Resource Management, U.T. El Paso, January-August 2003
- Dean, College of Engineering, U.T. El Paso, June 1996 – January 2003
- Interim Dean, College of Engineering, U.T. El Paso, June 1995- June 1996.
- Assistant Dean for Research 1990-1995.
- Professor, U.T. El Paso, 1993-2003.

- Associate Professor, U.T. El Paso, 1987-1993.
- Assistant Professor in Mechanical Engineering, University of Texas at El Paso, 1983-87.
- GS-12 Mechanical Engineer, U. S. Army Corps of Engineers, St. Louis District, 1981-83: Assisted in the design, implementation and analysis of energy conservation and alternative energy programs and hardware.

Registration: Registered Professional Engineer, Texas, Certificate Number 81356

Advisory Boards and Consulting

- King and Spalding, Wind Turbine Consulting, 2012-2013
- Weil, Gotshal & Manges, LLP, Wind Turbine Consulting, 2011 – 2013
- Department of Energy, Wind Energy Program Peer Review Panel, 2003-2005
- National Science Foundation, Review Panel, April 2007.
- National Science Foundation, Review Panel, July 2002.
- Center for Electro-Mechanics, University of Texas at Austin, 2002-present.
- OEM Development Corp., Analysis of the Canon Wind Eagle, 1996.
- Electric Power Research Institute, Palo Alto, California, 1995.
- Department of Energy, Wind Energy Program Peer Review Panel, 1991.

Reviewer-Editor:

- National Renewable Energy Laboratory, Technical Reviewer, USDA/9006. 2005
- Technical Editor, ASME Transactions: *Journal of Solar Energy Engineering*, 1997-2003
- ASME Transactions: *Journal of Solar Energy Engineering*
- ASME Wind Energy Symposium Proceedings
- Department of Energy, SBIR Program

Copyrights: The TEETER Code, A wind turbine design and analysis code for two-bladed, teetered wind turbine rotors, copyright, University of Texas, 1994.

Honors and Awards: American Wind Energy Association, Academic Award, 1995, for "continuing contributions to wind energy technology as a teacher, researcher and author."

RESEARCH AREAS: Participant providing Rotor Design Support and Analysis for the TTU-DOE Midsize Turbine Project; The effects of Great Plains wind phenomena on the performance and reliability of wind turbines; Two-bladed rotor technology; Wind driven water desalination; Smart wind farms using remote sensing; and yawed flow effects on wind turbine performance and turbine wake management.

ACTIVE PHD STUDENTS:

Neha Marathe; Effect of Yawed Flow on Wind Turbine Power Production and Wake Deflection

Anant Jain; Scaling, Calibration, Validation and Uncertainty Analysis of Model-Scale Tests for Floating Offshore Wind Systems

Rachit Mathur, LIDAR Enhanced individual Blade Pitch Control

Selected Publications

1. Hohenemser, K. and A. Swift, "On the Design of Horizontal Axis Two-Bladed Hinged Wind Turbines", ASME Transactions: *Journal of Solar Energy Engineering*, May 1984, Vol. 106, No. 2, pp. 171-176.
2. Reid, R., A. Swift, W. Boegli, B. Castaneda, and V. Kane, "Design, Construction and Initial Operation of a 3355 m^2 Solar Pond in El Paso", Solar Engineering - 1986, R. R. Ferber, ed., ASME Press, New York, NY 1986, pp. 304-315. Also, ASME Transactions: *Journal of Solar Energy Engineering*, November 1989, Vol. 111, No. 4, pp. 330-337.
3. Lu, H., A. Swift, H. Hein and J. Walton, "Advancements in Salinity Gradient Solar Pond Technology based on Sixteen Years of Operational Experience", ASME Transactions: *Journal of Solar Energy Engineering,* Vol. 126, pgs. 759-767, May 2004.
4. Storm, B., J. Dudhia,S. Basu, A. Swift, I. Giammanco, "Evaluation of the Weather Research and Forecasting Model on Forecasting Low-Level Jets: Implications for Wind Energy", Wind Energy Journal, Wind Energy. (2008), Wiley Interscience, (www.interscience.wiley.com) DOI: 10.1002/we.288.
5. Walter ,K., C. Weiss, A. Swift, J. Chapman, N. Kelley, "Speed and Direction Shear in the Stable Nocturnal Boundary Layer", Journal of Solar Energy Engineering, February 2009, Vol. 131 / 011013- pgs. 1 to 7
6. Walker, R., Swift, A., "Filling the Wind Industry Need for Trained Professionals", Presented as a poster at the American Wind Energy Association, Wind Power 2009, Chicago, Ill, May 2009
7. Swift, A., "New Roadmaps for Wind and Solar Research and Development", Published and transcribed Testimony before the Committee on Science and Technology, Subcommittee on Energy and the Environment, US House of Representatives, July 14, 2009, published by Office of the Clerk, HSY195.200
8. Walker, R., Mehta, K., Swift, A., Seger, K., "Development of Workforce for Industry", Proceedings of ASME 2010 4th International Conference on Energy Sustainability, ES2010, May 17-22, 2010, Phoenix, Arizona, USA, Number: ES2010-90348; 20
9. Swift, A., Editor: Wind and Water, Redeveloping Regional Resources for the New Economy, ISBN 0-9745756-1-5, 2005. Second Edition, 2006.
10. Walker, R. and Swift A., Textbook: "Wind Energy Essentials; Societal, Economic and Environmental Impacts", Under Contract, John Wiley, expected publication 2014