

# Abraham Ellis, PE, PhD.

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## PRESENT POSITION

Principal Member of Technical Staff, Photovoltaics and Grid Integration Department  
Technical Lead for PV Grid Integration, Sandia National Laboratories

## EDUCATION

- Ph.D. in Electrical Engineering, Power Systems, New Mexico State University (2000)
- Masters of Science, Electrical Engineering, Power Systems, New Mexico State University (1995)
- Bachelors of Science, Electrical Engineering, New Mexico State University (1993)

## PROFESSIONAL EXPERIENCE

- 2008 – Present: Sandia National Laboratories, Albuquerque, NM
  - Responsible for Sandia PV Grid Integration activities, transmission and distribution, and engaged more broadly on wind, hydro, and energy storage programs.
  - Distribution and transmission system modeling and simulation, performance analysis, power system operations, with emphasis on renewable energy integration.
  - Coordination of national efforts on PV and wind modeling, active participation in standards development within IEEE and NERC, engagement with technical activities at the international level, such as IEC TC88 WG27 (wind modeling), IEA Task 14 (high penetration PV)
- 2000 – 2008: Public Service Company of New Mexico, Albuquerque, NM
  - Principal Engineer in the Transmission Planning and Operations Department
  - Responsible for performing interconnection studies of proposed large-scale generation, particularly wind and solar, under FERC SGIP and LGIP.
  - Responsible for assessment of transmission grid performance for compliance with NERC and WECC reliability standards as part of long-term transmission planning process.
  - Responsible for special projects such as development of Phasor Measurement Unit (PMU), advanced load modeling; Member or chairman of several WECC task forces, including load modeling, SVC/HVDC, and renewable energy representation.
- 1995 – 2000: Southwest Technology Development Institute, Las Cruces, NM
  - Senior Engineer, responsible for developing custom hardware and software for monitoring of off-grid and grid-connected PV and wind systems. PV and wind plant performance analysis.

## ACADEMIC/PROFESSIONAL QUALIFICATIONS RELEVANT TO THIS PROJECT

- Over 15 years of direct utility experience with power systems, including transmission and distribution planning and operations
- Experience with leadership of technical working groups, standards development and strategic planning activities
- Technical expertise in system planning and operations, generator interconnection standards and procedures, model development and model validation, technology development and evaluation, and analysis of high penetration PV systems.

RELEVANT PUBLICATIONS: Over 30 publications in the area of PV and wind integration.

## SYNERGISTIC ACTIVITIES

- Chairman of the Renewable Energy Modeling Task Force of the Western Electricity Coordinating Council and chairman of US National Delegation to IEC WG27, TF 88 (wind models)
- Coordinator for Sandia's on-going PV integration collaboration with DERlab (European consortium of Renewable and Smart Grid laboratories), NEDO (Japan), and SIRFN/ISGAN.
- Chairman of the UVIG Distributed Applications Users Group ([www.uwig.org](http://www.uwig.org)).
- Scientific Committee Chairman, International Conference on Integration of Renewable and Distributed Energy Resources, Albuquerque 2010 and Berlin, 2012 ([www.conference-on-integration-2012.com](http://www.conference-on-integration-2012.com) and [www.4thintegrationconference.com](http://www.4thintegrationconference.com))