



Deployment: Who will do it?

Preparing the Next Generation of Power & Energy Engineers



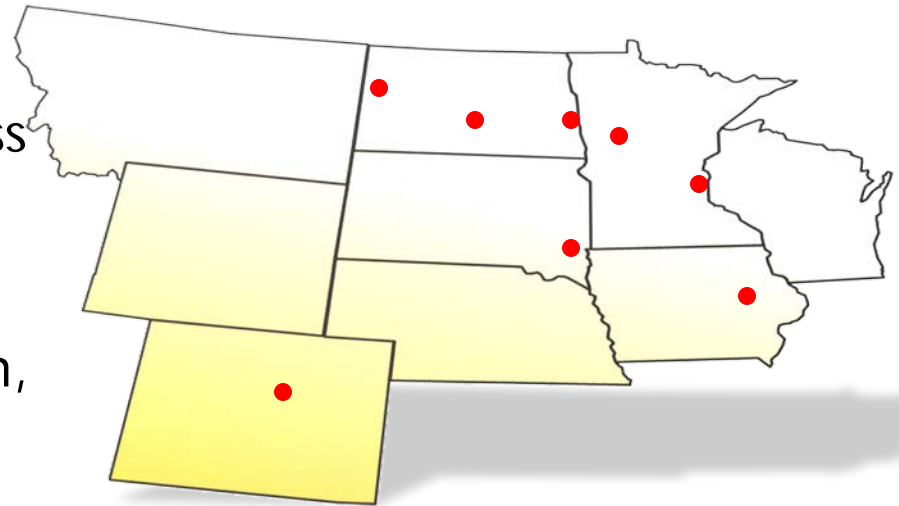
Jason Hoskins, PE

- + Region 4 Chair, IEEE/PES Scholarship Plus Committee
- + Ulteig Senior Vice President in Energy Services
- + More than 18 years of experience
- + Licensed in IA, MN, ND, NM, WI
- + Department includes transmission lines, substations, distribution, wind farms, and cellular communications sites



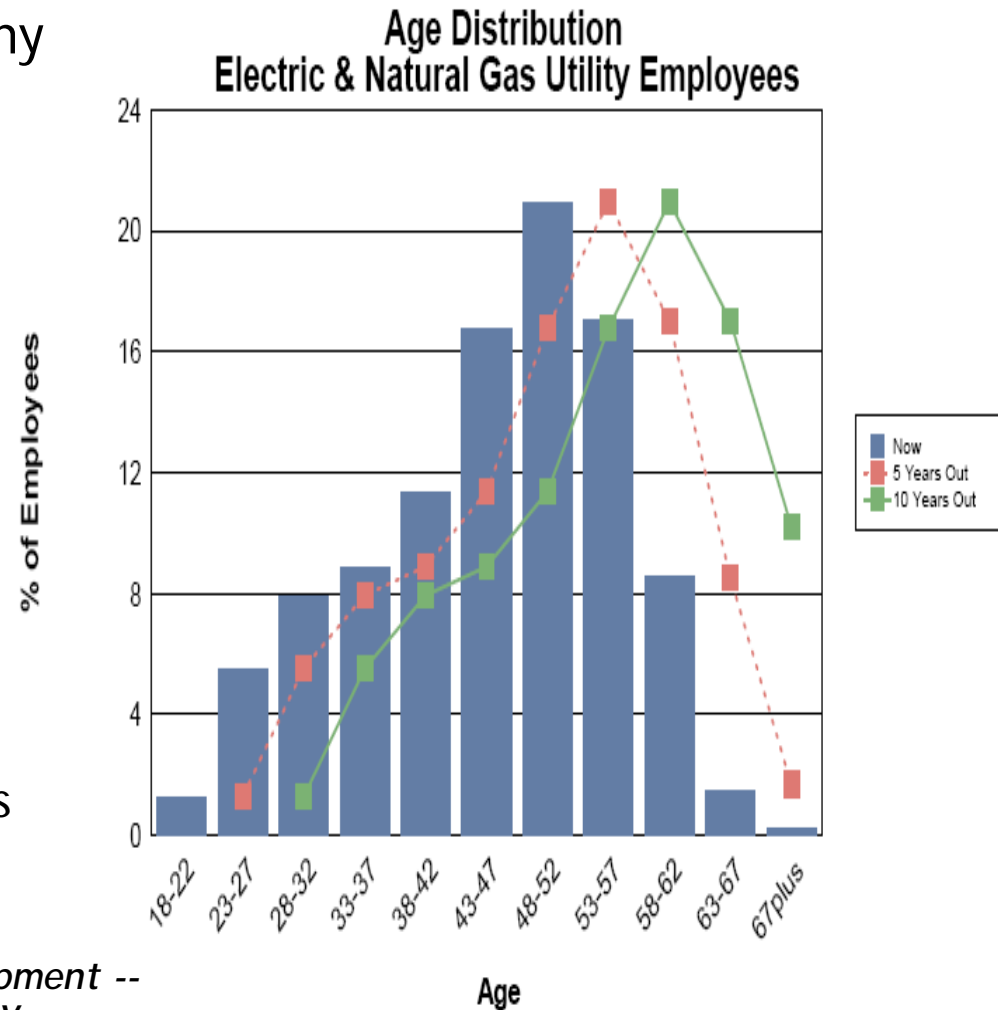
About Ulteig

- + Comprehensive engineering, surveying, and consulting services
- + Diverse range of government and private sector clients nationwide
- + 100% employee-owned
- + Understand the client's business and build relationships
- + Ranked #207 in ENR in 2011
- + Locations in Bismarck, Williston, and Fargo, ND; Sioux Falls, SD; Denver, CO; Detroit Lakes and Minneapolis, MN; and Cedar Rapids, IA.



The Problem

- + Over the next 5 years as many as 50% of engineers in the power industry could need replacing—mainly due to retirements
- + U.S. Workforce Survey: Age Distribution
 - 55 Electric & Gas Utilities
 - All Electric Cooperatives
 - ~ ½ of all US electric & combination utility employees



Source: Center for Energy Workforce Development --
Gaps in the Energy Workforce Pipeline Survey



The Need

- + A highly skilled workforce that:
 - Is excited about solving problems and working with new technologies
 - Is looking for a challenging and rewarding career
 - Is ready to meet the growing energy demands of our society
 - Has practical, hands-on career experience
 - Has skills necessary for success (basic electrical engineering, communications, computing, security, systems engineering, enterprise architecture, economics, interpersonal)



The Solution: IEEE PES Scholarship Plus Initiative™

Preparing the Next Generation of Power & Energy Engineers

- + Provide students:
 - Financial assistance
 - Hands-on career experience
- + Help industry recruit top candidates
- + Give young engineers the tools to connect with employers
- + Provide mentoring opportunities from current experts
- + Complement and not compete with existing programs

PES Scholarship Plus Initiative™

- + Receive up to \$7,000 in financial support before graduation:
 - \$2,000 1st year
 - \$2,000 2nd year
 - \$3,000 3rd year*
- + Assistance in getting up to 2 years of power engineering career experience before graduation
- + One free year of membership in the world's largest and oldest technical association - IEEE and its Power & Energy Society
- + Can participate in a mentoring program which connects students to experts

*For applicants awarded in their first year of college

PES Scholarship Plus Initiative™ Requirements

Applicants must be:

- + U.S. citizen or permanent resident
- + Enrolled at an accredited university or community college
- + Full-time undergrad student in the coming academic year
- + Working on (or planning to work on) an ABET-accredited electrical or computer engineering undergraduate bachelor's degree
- + Considering a career in power and energy engineering
- + Willing to participate in a career experience (internship, coop, summer research)
- + Attending a university/college that offers undergrad courses in power engineering
- + Planning to take at least three of these power engineering courses (total of nine+ credits)
- + Have a minimum GPA of 3.0 (B) at current college or university

The Importance of Career Experiences

- + Learn about the work of power and energy engineers and to get visibility to potential employers
- + Required for Scholarship renewal in years 2 and 3
- + Career Experience can be gained in a number of ways
 - Internships
 - Co-ops
 - Power-related summer research
- + The Initiative will assist individuals in their own efforts to find career experiences
 - PES Careers is a free IEEE PES online resource that connects power engineering students seeking career experiences with industry

Career Experience

- + Required for renewal
- + Can be arranged by awardee or through PES-Careers platform
 - + An online resource connecting students with industry for up to one year after graduation
 - + Assistance will provided to awardees having trouble finding career experiences*



The screenshot shows the IEEE PES website's 'Power Engineering Careers' page. The page features a navigation menu with categories like 'About PES', 'Technical Committees', 'Meetings & Conferences', 'Education', 'Publications', 'Chapters', 'Membership', 'Workforce', and 'Outreach'. The main content area is titled 'Power Engineering Careers' and describes the service as an online career service for power and energy engineering students. It includes sections for 'PES-Careers U.S. & Canada' and 'PES-Careers Global', both with links for 'Student Log-in and New Registrations' and 'Employer Log-in and New Registrations'. A sidebar on the right contains links for 'Society News & Events eNEWS UPDATE', 'RECENT ABSTRACTS', and 'Announcements'.

www.ieee-pes.org/workforce/pes-careers

*In certain cases the requirement may be waived

Commitment For Student

- + Willingness to explore power and energy engineering as a career
- + Obtain relevant career experiences
- + Take course work on power and energy engineering subjects
- + Look for opportunities to learn about the industry (such as through industry presentations and mentoring)
- + No penalties if the student decides not to pursue a power and energy engineering career
- + Seeing the exciting opportunities in power and energy engineering

Selection Criteria

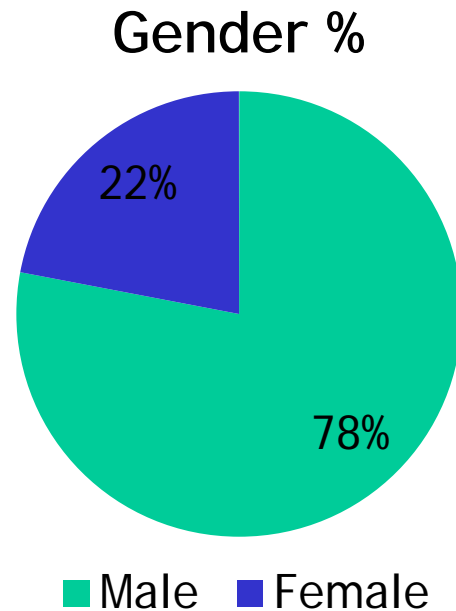
- + Academic performance
- + Alignment of technical and personal interests with the power engineering field
- + Personal strengths, such as:
 - Volunteer activities
 - Work experience
 - Endorsement letter
- + Strength of academic program (based on the institution's overall power engineering courses and the courses you may take)

Where & When to Apply

- + Applying is easy at www.ee-scholarship.org
- + Deadline for applications and renewals is June 30, 2012
- + Awardees will be notified in September 2012
- + The application period is March 1 to June 30

2011 PES Scholars

- + 700+ students from 107 different U.S. universities participated in the application process
- + 93 PES Scholars from 51 U.S. Universities
 - + 33 Seniors
 - + 36 Juniors
 - + 24 Sophomores
- + \$186,000 distributed



What PE Scholars are saying about the program

- + “I was searching for scholarship opportunities and found information on the PES Scholarship Plus Program. That motivated me to take a serious look at the power industry.”
- + “I am very fond of the career oriented aspect of the Scholarship Plus Initiative. This program is unmatched by most other scholarship initiatives I have seen.”
- + “I look forward to working with PES & IEEE throughout my collegiate and professional careers in the Power Engineering Field.”

PES Scholars by School

Arizona State University

California Polytechnic State University

California State Polytechnic University
Pomona -

California State University Fresno

Cleveland State University

Drexel University

Embry Riddle Aeronautical University
Daytona Beach

Idaho State University

Illinois Institute of Technology

Iowa State University

Kansas State University

Kettering University

Michigan Technological University

Mississippi State University

Missouri University of Science and
Technology

New Mexico State University

North Carolina State University

Northern Arizona University

Ohio State University

Polytechnic Institute of New York University

Portland State University

Rose-Hulman Institute of Technology

Seattle Pacific University

Seattle University

South Dakota School of Mines and
Technology

South Dakota State University

PES Scholars by School

State University of New York at Buffalo

Temple University

Texas A&M University

University of Alaska Anchorage

University of Central Florida

University of Colorado at Boulder

University of Colorado at Denver

University of Connecticut

University of Houston

University of Idaho

University of Illinois at Urbana-Champaign

University of Kentucky

University of Minnesota -Duluth

University of Missouri - Kansas City

University of North Carolina Charlotte

University of Pittsburgh

University of Tennessee Chattanooga

University of Utah

University of Washington

University of Wisconsin Madison

Valparaiso University

Virginia Polytechnic Institute and State
University

Washington State University

Western New England College

Worcester Polytechnic Institute

Action: Help Make it happen

Funding

- + Created the PES Scholarship Plus Initiative Fund
- + PES provided \$1,000,000 in seed funding
- + Target goal of \$10M in philanthropic donations over first 2 years
- + Intended to supplement, not replace, current university funding

Career Experience Opportunities

- + Organizations post career opportunities on PES Career website
- + Students post their details

Mentoring Opportunities

- + Sign up to be a Mentor

More Information

www.ee-scholarship.org

e-mail info@ee-scholarships.org with questions

