

UPS STATEMENT OF QUALIFICATIONS

3-27-2013

ABSTRACT

The following provides the qualifications of Utility Planning Solutions, PLLC (UPS) to perform projects in furtherance of sustainable distribution system efficiency possible with mutual sharing of energy efficiency techniques by all electrical industry participants. One of the UPS's goals is to train other consultants and electric utilities in the application of distribution system initiatives. UPS supports utilities to achieve and document savings, upgrades, and improved management practices to lower line losses, transformer losses, and end use consumption.

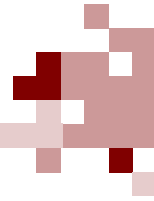
This document provides area of interest, summary of related experience, similar project experience, general manpower rate schedule, professional licensing, and professional references related to completed projects as required as part of the RTF Request for Qualifications March 17, 2011.

AREA OF INTEREST

Utility Planning Solutions, PLLC (UPS) is interested in performing professional engineering services in furtherance of the of sustainable distribution system efficiency in the area of efficiency measures applicable to small and/or rural electric utility distribution systems. UPS has interest in review of "Deemed Measures and Standardized Protocols" and to identify "Measures and Standardized Protocols" that are applicable to small and/or rural utilities. UPS has extensive expertise and experience to review, document, evaluate, test and develop efficiency measures and standardized M&V protocols applicable to electric utility distribution systems. In addition, UPS desires to support utilities achieve and document savings, plan for upgrades, and improved management practices to lower line losses, transformer losses, and end-use consumption through application of Voltage Optimization techniques.

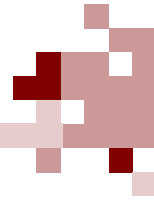
SUMMARY OF RELATED EXPERIENCE

UPS has experience with regional electric utility distribution system planning, engineering, design, and operations in the field of distribution system efficiency. The following is a summary of UPS professional engineering experience, and qualifications to perform selected projects (i.e., review, plan, evaluation, and development of efficiency measures and standardized M&V protocols for electric utility distribution systems.)



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1. UPS developed distribution system energy efficiency measures for regional electric utilities and helped create M&V Protocols for utilities to validate energy savings for system replacements (transformers, power factor, and lines).
2. UPS developed the first draft simplified voltage optimization M&V protocol using IPMVP guidelines and participated with BPA and regional utilities to gain utility acceptance and RTF approval. UPS worked with BPA as member of the Energy Smart Utility Efficiency program to perform development of VO guidelines.
3. UPS participated with RTF and BPA representatives to develop system improvement and voltage optimization inputs for the PTR system and assisted in determining statistical and economic analysis performance.
4. UPS developed standardized incremental cost data and cost-benefit economic analysis approaches for distribution efficiency measures for the EPRI Green Circuits program.
5. UPS performed thirteen distribution efficiency and voltage optimization studies and VO M&V Plans for electric utilities and BPA over the past three years. Studies document alternative implementation plan approaches to efficiency and include estimated energy savings and proposed M&V plan.
6. UPS performs distribution-engineering assessments consisting of CYME power flow analysis, metering engineering, ArcView and AutoCAD modeling, regulator modeling, system protection reliability modeling, and field measurement and verification applications. Engineering studies support utilities in achieving and documenting optimal distribution efficiency savings, cost effective planned efficiency upgrades, improved management practices and planning standards, lower line losses, lower transformer losses, and reduced end-use consumption through application of Voltage Optimization techniques.
7. UPS presented eleven regional distribution efficiency and voltage optimization utility workshops for NWPPA, BPA, and EUCI.
8. UPS provided leadership in development of the scope of work for the NEEA DEI Study (2001-2007) and assisted in statistical analysis formulations as part of the NEEA DEI technical advisory committee to determine impacts of change in voltage.
9. UPS has significantly contributed to the science of distribution efficiency and voltage optimization through the publishing of results of VO research and demonstration in IEEE technical transactions (in peer reviewed journals), industry journal articles, and IEEE/APPA engineering conference presentations.
10. UPS developed distribution system efficiency methodologies for EPRI on how to determine cost-effective optimal energy saving potential on distribution systems.
11. UPS has developed and proposed alternative Specific CVR/VO M&V Protocols for utilities document distribution efficiency savings for Public Utility Commissions.

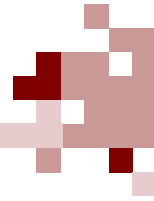


12. Dr. Robert H Fletcher. P.E. is owner of Utility Planning Solutions, PLLC. He is a registered professional electrical engineer in WA, OR, and MT with 40 years experience in the electric utility industry with EE B.Sc., EE M. Sc, and EE PhD degrees from the University of Washington. He has worked as System Protection Engineer for PacifiCorp, Portland, OR and System Planning for Snohomish PUD, Everett, WA.

SIMILAR PROJECT EXPERIENCE

The following is a selection of five example projects performed by UPS similar to NWPCC-RTF's annual Work Plan in the area of efficiency measures applicable to small and/or rural electric utility distribution systems.

1. UPS developed the first draft simplified voltage optimization M&V protocol using IPMVP guidelines based on the results of the field results 2000-2007 NEEA DEI Study. The protocol was tested using two years of hourly data (on/off status) from 30 circuits. The project was completed on July 13, 2009. Later, UPS participated with BPA, NW utilities, and RWB to gain utility acceptance of the proposed protocol and get RTF approval of a Simplified VO M&V Protocol. The protocol was adopted by the RTF on May 4, 2011.
2. UPS developed M&V Plans for regional electric utilities Cowlitz PUD and Tillamook PUD with a step-by-step approach for measuring and verifying distribution system energy efficiency once system improvements are completed sometime in 2012. The M&V Plan includes the development of Excel Templates for inputting measurements and other required data and calculates (verifies) energy savings. A typical M&V Plan for distribution system efficiency verification is available upon request.
3. UPS performed thirteen distribution efficiency and voltage optimization scoping and/or detail studies for national and regional electric utilities. The studies apply the Simplified VO M&V Protocol to determine the impact of lowering the distribution primary voltage using revised voltage control strategies. Northwest Regional distribution efficiency studies performed include BPA, Tillamook PUD, Cowlitz PUD, Lakeview L&P, Wells REC, and Flathead Electric Cooperative, Pacific Corp, and Northwestern Energy. National distribution efficiency studies were performed for EPRI (13 utilities) and Philadelphia Electric Co (PECO). A typical example of a detailed VO Study to estimate potential distribution energy savings from lower voltage application is available upon requests.



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4. An example project was performed for Philadelphia Electric Co. (PECO) to evaluate demand impacts of voltage reduction on distribution systems and was completed on September 5, 2011. This work was presented to Pennsylvania Public Utility Commission. The report is available upon request.
5. A statistical study was performed for EPRI Green Circuits program, which described a method to determine the number of potential customers with service voltages lower than the ANSI voltage guidelines. The impact of operating with lower voltage on the distribution system has the risk of the potential for some end-use customers to have lower than ANSI C84.1 voltage range guidelines (e.g., > 114V at customer's meter). In addition, the EPRI work included a host of distribution system efficiency assessments, simulations, economic evaluations, and process development. The secondary assessment statistical analysis is available upon request.

GENERAL MANPOWER RATE SCHEDULE

The general manpower rate schedule is \$200.00 per hour to perform work. Travel rate is \$80.00/hour for transportation up to a maximum of 4 hours per day. Travel expenses include: personal mileage, airfare, car rental, and lodging.

LICENSING AND TAX ID

Washington State Professional Electrical Engineering License – PE 18501
Oregon State Professional Electrical Engineering License – PE 10166
Montana State Professional Electrical Engineering License – PE 20996
Washington State Department of Licensing – Business ID # 602 891 441
Federal Tax Identification No. 26- 4257226

PROFESSIONAL REFERENCES

Steve Brooks

Energy Efficiency Program Manager
Bonneville Power Administration
PO BOX 3621
Portland, OR 97208-3621
sabrooks@bpa.gov
(503) 230-4423

Cowlitz Public Utility District
961 12th Avenue
P.O. Box 3007
Longview, WA 98632
wamondson@cowlitzpud.org
(360) 577-7537

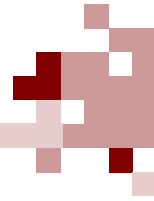
Wayne Amondson, P.E.

Manager of T&D Engineering

Tom Short, PhD, P.E.

Program Manager

Robert H. Fletcher, PhD, P.E.
Professional Electrical Engineer



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PDU Business Sector
ELECTRIC POWER INSTITUTE, INC
PO BOX 10412
Palo Alto, CA 94303
TShort@epri.com
(518) 374-4699 x14

Distribution Engineering Supervisor
Tillamook People's Utility District
P.O. Box 433
1115 Pacific Avenue
Tillamook, OR 97141-0433
gshaw@tpud.org
503-842-2535

Gail Shaw, P.E.

UPS CONTACT INFORMATION

Robert H Fletcher, PhD, P.E. is Owner/Manager of UPS and will be directly responsible for performing RTF projects. He has over 40 years of experience with regional electric utility distribution system planning, engineering, design, and operations in the field of distribution system efficiency.

Robert H. Fletcher, PhD, P.E.
Principal Investigator/Owner
Utility Planning Solutions, PLLC
3416 Bell AVE.
Everett, WA
[Utility Planning Solutions, PLLC
mailto:fletcher.ups@comcast.net](mailto:fletcher.ups@comcast.net)
(425) 330-0628