

Federal Utility Partnership Working Group Meeting
November 19-20, 2008
Williamsburg, Virginia

Hosted by: Virginia Natural Gas
in Partnership with Energy Systems Group

INTRODUCTION

The Federal Utility Partnership Working Group (FUPWG) is a joint effort between the Federal Energy Management Program (FEMP) and the utility industry to stimulate the exchange of information among participants and foster energy efficiency projects in Federal facilities nationwide.

The Fall 2008 FUPWG meeting took place in Williamsburg, Virginia from November 19-20th. Virginia Natural Gas, an AGL Resources Company, hosted the meeting in partnership with Energy Systems Group. 159 individuals attended the meeting, 83 of which were either attending their first FUPWG meeting, or had not attended within the past four years.

Attendance Representation:

- 29 utility officials
- 5 FEMP representatives
- 60 other Federal agency representatives
- 13 National Laboratory representatives
- 52 representatives from energy-related organizations

(See Appendix 1 for full list of participants and organizations at the bottom of this report)

MEETING PRESENTATIONS

While most presentations can be found at:

http://www1.eere.energy.gov/femp/financing/uescs_fall08_agenda.html, some presentations are only available upon request of speaker.

APPENDICES AT BOTTOM OF THIS REPORT

Appendix 1: Meeting Participants List

Appendix 2: Meeting Registration Analysis PowerPoint

AGENDA

AGL Resources Welcome

FEMP Welcome and Washington Update

- Contracting with Utilities, Small Business Plans

- Demand-Response
 - National Overview of Demand-Response Programs
 - Mid-Atlantic Perspective
 - National Action Plan for Demand-Response
- Energy Security Panel
 - Roadmap to Secure Control Systems in the Energy Sector
 - Mandatory Reliability Standards for Critical Infrastructure Protection
 - Cyber Security -- An Electric Utility Company's Perspective
 - Partnerships with Industry to Secure Our Future and Restore Our Economy
 - Utility Grid Security
- Case Study: Robins Air Force Base
- Case Study: Tinker Air Force Base

DAY 1 – WEDNESDAY, NOVEMBER 19, 2008

WELCOMING REMARKS

Robert Duvall, AGL Resources

Robert Duvall, Vice-President and General Manager of Virginia and Maryland Operations welcomed attendees to the meeting, emphasizing four key areas:

- Natural Gas – Clean and Efficient
- Compressed Natural Gas (CNG) Vehicles
- Renewable Energy Opportunities
- VNG Conservation Programs

Mr. Duvall spoke about VNG's conservation efforts, including its partnership with utilities and others to form the Council for Responsible Energy, and VNG's participation in Virginia's CARE (Conservation and Ratemaking Efficiency) Act. See <http://www.comfortableresponsible.org>

To view Mr. Duvall's presentation, please visit:
http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_duvall1.pdf

FEMP WELCOME AND WASHINGTON UPDATE

David McAndrew, Chair of the Federal Utility Partnership Working Group, FEMP, Department of Energy

David McAndrew, FEMP's Project Lead for Utility Energy Service Contracts (UESC) and state energy efficiency incentive programs, gave the FEMP activity update:

- There are new UESC Enabling Documents with the final draft now available for review. They were updated to reflect new legislation and executive actions, legal opinions and agency guidance.

- Emergency Economic Stabilization Act of 2008 allows public utilities to use investment tax credits effective February 12, 2008.
- EISA Sect. 432 guidance update: designating energy managers and criteria for covered facilities and evaluations (audits). FEMP to establish a web-based tracking system, utilities must provide the information. Contact Chris Tremper or David McAndrew to join Working Groups establishing guidelines and benchmarking system.
- DOE/DOI Energy SmartPARKS: A MOU was signed between DOE/DOI/NPS.
- Hawaii Clean Energy Initiative Update: FY09 DOE commitment to provide technical support.
- UESC data collection: Demonstrates growth and viability of UESCs as a major financing vehicle.
- GovEnergy 2009 is in Providence, Rhode Island on August 9-12, 2009.

To view Mr. McAndrew's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_mcandrew.pdf

Richard Kidd, FEMP, Department of Energy

Richard Kidd, FEMP's Program Manager, outlined FEMP's future as well as utilities' role in helping customers meet their goals.

- FEMP's Future
 - Expand partnerships, programs, and lines of communication between Federal agencies and their servicing utilities. Renewed focus on customer service. Anticipate greater emphasis on FEMP under new Administration.
- Partnering with Local Utilities
 - FEMP looking to its utility partners to play important role in meeting mandated energy savings goals.
 - Provide information and training, streamline processes for Federal procurement practices and implementing technologies.
 - Capture successes via data collections efforts.
- How Utilities Can Help Federal Agencies
 - Utility Energy Service Contracts (UESCs)
 - Utilities have completed ~\$2 Billion in energy projects through UESCs with approximately \$135 million reported in FY 2007.
 - Need to increase the number of utilities involved.
 - Demand-Response
 - Demand response is win/win/win: customers paid for reducing demand, utilities avoid bringing on new generation and transmission, and resources are used more efficiently.
 - 45 states have some form of demand response/load management program.
 - Energy Security - increasing importance to Federal facilities.
 - Breaking Down the Barriers to Agency Retention of Utility Rebates
 - Programs in roughly 35 states provide \$3 billion annually in rebates and incentives for renewable energy and energy efficiency projects

- Need to make sure agencies can retain these funds, and funds stay local to either pay for the project or for more efficiency investments
- Power Purchase Agreements (PPAs) - expect to see considerable growth

CONTRACTING WITH UTILITIES, SMALL BUSINESS PLANS

Mark Ewing, General Services Administration

Mark Ewing, Director of GSA's Center of Energy Management, spoke about UESC and Subcontracting Plan requirements.

- The Federal Government purchases over \$14.5 billion of utility services from over 1000 utility service providers
- Utility Service characteristics include bundled and regulated utility service, connection charges, services offered through regulated tariffs, and energy management services in accordance with the terms of the contract
- Review of Utility Service Contract and Subcontracting Plan Requirements

To view Mr. Ewing's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_ewing.pdf

DEMAND RESPONSE IN THE U.S. - KEY TRENDS AND FEDERAL FACILITY PARTICIPATION

Phil Coleman, Lawrence Berkeley National Laboratory

Phil Coleman was the first of four speakers on the Demand-Response (DR) panel. He gave a national overview of DR programs.

- Definition: A short-term decrease in electrical consumption by end-use customers due to either a) increased electricity prices, or b) incentive payments. Participation can be either through load curtailment (short-term conservation) or self-generation.
- Status of DR: 37.5 GW (~ 5 % of grid peak) enrolled in 2006.
- Two main program types: reliability-based ("emergency" and "capacity") and price-based ("economic").
- Key Trends: More opportunities in "economic" programs, DR participation in capacity markets, dynamic/real-time pricing, and automated DR - triggered automatically by external signal.
- Why Federal participation is low: Unclear who benefits when a federal facility saves money with DR, and issues with how federal facilities can take the proceeds. Also lack of push in legislation or Executive Orders (EOs), ignorance, variable returns, and lack of proper retail tariffs or programs.
- Possible to increase federal participation by assuring savings retention, encourage EOs and legislation, education through FEMP training, and push against average cost pricing.

To view Mr. Coleman's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_coleman.pdf

OVERVIEW OF DEMAND RESPONSE – MID-ATLANTIC PERSPECTIVE

Susan Covino, PJM Interconnection LLC

Susan Covino is the Senior Consultant, Market Strategy at PJM. She previously served PJM as the Manager for Demand Side Response.

- PJM is different than local utilities – it does not own any transmission or generation assets, take ownership of the energy on the system, or directly serve any end use customers, and is not responsible for the maintenance on generators or transmission systems.
- PJM maintains “big picture” of the transmission system regardless of ownership and has operational control of the transmission system.
- PJM offers real time prices on grid. DR gives customers opportunities to see true costs, and change behavior.
- The two options to participate are Emergency versus Economic.

To view Ms. Covino's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_covino.pdf

NATIONAL ACTION PLAN FOR DEMAND-RESPONSE

Danny Gore, Federal Energy Regulatory Commission

Daniel Gore is with the Office of Energy Market Regulation at the Federal Energy Regulatory Commission. He discussed the statutory requirements of Demand-Response (DR), and solicited ideas for the development of a National Action Plan for DR.

- Statutory requirements - Section 529 of Energy Independence & Security Act (EISA) of 2007 requires FERC to conduct a National Assessment of DR (5-10 year outlook), develop a National Action Plan, and submit an implementation proposal for the Action Plan to Congress.
- Discussion of necessity for DR National Awareness Plan.
- Lessons learned:
 - Increase DR payments to 75% fixed up front, 25% for performance.
 - Reduce penalties (lesser future incentive).
 - Increase contract size 1-3-5 years, decrease number of DR events.
 - Increase customer awareness.

To view Mr. Gore's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_gore.pdf

DEFENSE ENERGY SUPPORT CENTER CONTRACTS

Larry Fratis, Defense Energy Support Center

Larry Fratis spoke about DESC's agreements to Demand-Response (DR) Curtailment Service Providers (CSPs) for federal facility utilization. Mr. Fratis' presentation is not available online.

- CSPs are interested in "agreements", not "contracts".
- Awarded 7 so far October-November 2008, with 3-4 still to sign and more in the future.
- Voluntary program to streamline DR efforts which facilitates terms and conditions to federal customers.
- Most useful where competitive markets for DR services.

VNG'S HAMPTON ROAD PIPELINE CROSSING

Robert Duvall, AGL Resources

Robert Duvall outlined Virginia Natural Gas's recent Hampton Road Pipeline project to add a second supply source.

- The Pipeline is 21 miles of 24" pipe, including 10 miles of water and island crossing.
- Some benefits are: it is a second supply which enhances the security of supply and delivery capacity for the southern region, an easier sourcing for transportation customers, and VNG can better manage its storage.

To view Mr. Duvall's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_duvall2.pdf

ACTIVITIES TO SECURE CONTROL SYSTEMS IN THE ENERGY SECTOR

Hank Kenchington, U.S. Department of Energy

Hank Kenchington is with DOE's Office of Electricity of Delivery and Energy Reliability. He spoke to the need for robust and secure Control Systems.

- No slack in transmission system grid today. Refineries are above 95% capacity.
- Cyber attacks are becoming more sophisticated.
- January 2006 published Roadmap as a framework for public-private collaboration - synthesis of critical control system security challenges, R&D needs, and implementation milestones.
- Roadmap is online interactive mapping tool to secure control systems. See <https://www.pcsforum.org/roadmap>.
- DOE National SCADA Test Bed (NSTB) Program - supports industry and government efforts to enhance cyber security of control systems in energy sector.

To view Mr. Kenchington's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_kenchington.pdf

RELIABILITY AND THE FEDERAL ENERGY REGULATORY COMMISSION

Mike Peters, Federal Energy Regulatory Commission

Michael Peters is Energy Infrastructure & Cyber Security Advisor with the Federal Energy Regulatory Commission. He gave his personal opinions on critical infrastructure standards.

- FERC has three Strategic Plan goals: stimulate development of a strong, reliable, and safe energy infrastructure, support competitive markets, and prevent market manipulation.
- Discussion of Section 215 of Federal Power Act.
- FERC issued Final Rule – Order 706, approving CIPs. Some major modifications to Order 706. NERC & Industry have a CSDT 706 team currently working on modifications to the standards.
- Much of grid is vulnerable, but depends on company. Compliance does not equal security.

To view Mr. Peters' presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_peters.pdf

GRID RELIABILITY AN ELECTRIC UTILITY COMPANY'S PERSPECTIVE

Marc Butts, Southern Company

Marc Butts spoke about Southern Company's business continuity programs and efforts in respond to cyber and physical attacks/outages.

- Southern Company's Business Assurance Model is to protect infrastructure, prepare business continuity, and incident response.
- Working to identify and protect critical cyber assets. Project and team leader for each NERC CIP standard.
- Hurricane Katrina left 9000 broken polls, 2300 transformers damaged, and 192,000 out of service. It took 8 days to make a full recovery.
- Transmission Emergency Restoration Plan (TERP) is detailed company plans for all major disturbances/outages.
- 5 question to ask your utility:
 - Does your company have an overall Business Continuity Plan?
 - Have you identified your critical assets?
 - Do you have a cyber security program in place for your critical assets?
 - What is your response time to major outages like Hurricanes or Tornadoes?
 - What type of emergency plans do you have in place for Transmission and Distribution?

To view Mr. Butts' presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_butts.pdf

ARMY ENERGY SECURITY AND INDEPENDENCE

Don Juhasz, Headquarters, Department of the Army

Don Juhasz, Chief, Energy & Utilities Branch, with the Department of the Army, spoke about how the U.S. is out of balance because of transportation fuel, and oil production is peaking. Preparing for peaking will mitigate negative impacts.

- Army Energy & Water Strategy for Installations has five goals in a 25 year plan:
 - Eliminate energy waste in existing facilities
 - Increase energy efficiency in renovation & new construction
 - Reduce the dependency on fossil fuels by increasing the use of clean, renewable energy, reducing waste, increasing efficiencies and optimizing environmental benefits.
 - Conserve water resources
 - Improve security and reliability of our energy and water systems in order to provide dependable utility service.
- To achieve army goals includes adopting renewable and distributed energy technologies and resources, alternative fuels, completing 15 Net Zero Energy Installations by 2015 (building to 25 by 2025), and embracing alternative financing

To view Mr. Juhasz's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_juhasz.pdf

UTILITY SECURITY & RESILIENCY: WORKING TOGETHER

Laura Hussey, Edison Electric Institute

Laura Hussey, Manager, Security, Infrastructure and Operations with the Edison Electric Institute spoke about EEI's mission, EEI security objectives, and the Spare Transformer Equipment Program.

- EEI is a trade association representing investor-owned electric utilities. Its ~75 members represent about 70% of U.S. customers.
- Key security objectives include developing the next generation of leadership to address cyber security, ensure industry has a comprehensive approach to business continuity, and provide a trusted forum for sharing and developing effective security best practices
- The Spare Transformer Equipment Program is a binding contract between 49 utilities, initiated after the September 11th attacks to ensure spare Transformers will be shared in case of a significant attack on utility substations.

To view Ms. Hussey's presentation, please visit:

ROBINS AIR FORCE BASE CASE STUDY

David Dykes, Georgia Power/Southern Company

As part of the Utility Owned & Operated On-Site Panel, David Dykes, Federal Segment Manager with Georgia Power, presented on a successful project between Georgia Power and Robins AFB. Mr. Dykes' presentation is not available online.

- Warner Robins Air Logistics Center is the largest industrial complex in Georgia, and sought on-site generation. Georgia Power looking into new peaking capacity at the same time.
- The project took 3 years to complete. Georgia Power pays lease to Air Force. Now on-site two nominal 80 MW, dual fuel, combustion turbines.
- Mutual benefits: Robins AFB has right to first production in event of extended outage or power quality issues, and Georgia Power can own and operate the plant.

TINKER AIR FORCE BASE ON-SITE GENERATION

Steve Buchanan, Oklahoma Gas & Electric Corporation

Also on the Utility Owned & Operated On-Site Panel, Steve Buchan, Government Accounts Manager with OG&E, presented on a partnership with Tinker AFB. Installed in 1988, the 80 MW peaking generating station allows Tinker AFB to isolate itself off the system grid and go to "Island Operation". Mr. Buchanan's presentation is not available online.

- OG&E owns, operates and maintains plant. Tinker AFB provides long term ground lease at no cost. Tinker has first right of electrical power from plant.
- OG&E responsible for all electrical lines, connections, switches, metering, permits, pollution controls, and reporting.
- Benefits to Tinker AFB: Power during crisis or emergency, no upfront cost to Tinker AFB, confirms OG&E's commitment for reliable power to the base.
- Benefits to OG&E: Rate based peaking unit, regular operation for peak load periods, additional consideration for base electrical privatization.

DAY 2 – THURSDAY, NOVEMBER 20, 2008

HOST SUCCESS STORY: NAVAL STATION NORFOLK, VA ENERGY CONSERVATION PROGRAM UESC PARTNERSHIP SUCCESS STORY

Lindsey Craft, Virginia Natural Gas, and Kevin Johnson, Energy Systems Group

Lindsey Craft, Industrial Account Executive at VNG, and Kevin Johnson, National Director, Utility Energy Services & Federal Business Development at ESG, presented on the long term UESC partnership between Naval Station Norfolk and VNG. Kevin Johnson presented on behalf of Arnold Agustin, NAVFAC.

- The Naval Station established a long term UESC partnership with VNG.
- Phase I implementation 2007 - 2009. \$5.7M Investment, with over \$750,000 per year in energy savings. Additional \$3.3M investment with added annual energy savings of \$450,000.
- Phase II estimated investment less than \$22 million, with annual energy savings of \$2.7 million.
- Partnership works because key personnel now understand the benefits of and how the UESC program process flows.

To view Ms. Craft's and Mr. Johnson's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_craftjohnson.pdf

FACILITATED GROUP DISCUSSION

BREAKING DOWN THE BARRIERS: AGENCY RETENTION OF UTILITY REBATES

Julia Kelley, Oak Ridge National Laboratory, Edward Thibido, NAVFAC SW, and Phil Consiglio, Southern California Edison

The three moderators presented an overview of the legal language which permits retention of utility rebates and led a facilitated group discussion exploring barriers to retention of rebates, incentives, and possible solutions.

- 10 USC 2913 encourages participation in gas or electric utility programs, can accept financial incentives, goods and services from utility.
- DOE legal opinion on rebates is that rebates can be issued directly to DOE.
- A 2007 Amendment struck down 42 USCA s 8256, now non-DOD agencies can retain 100% of energy and water cost savings from appropriated funds.
- At USCG had not been worth accepting rebates because of old 50% provision. Money placed in escrow account, a working capital fund. Most of government does not have access to that type of account.
- Civilian statute different from DOD. Agencies concerned they can't carry rebate over to next fiscal year. Can't keep appropriated dollars unless specific authority to do so.

Knowing where the money came from is really important. Need to establish an account for this.

- It is difficult to accept rebates if third party state program is distributing money. Must show funds were rate-based.
- Comptrollers have been a barrier to retention of rebates. Need to invite comptrollers to next FUPWG meeting.
- Solutions to overcome barriers:
 - Educate energy managers on available programs perhaps by making DESIRE more robust and allow utilities to update it
 - Work with EEI and other associations to create standard forms and application process

To view Ms. Kelley's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_kelley.pdf

DEPLOYING EMERGING TECHNOLOGIES IN ESPC

Charles Williams, Lawrence Berkeley Laboratory

Charles Williams gave an overview of FEMP's Emerging Technologies (ET) Matrix, how it has been used for ESPC projects, and explained its applicability to UESCs.

- Matrix is a tool to assist agencies and ESCOs identify ETs, provide information resources, save research time.
- Matrix: http://www1.eere.energy.gov/femp/docs/emerging_tech_matrix.xls
- Alliance to Save Energy Emerging Technology Report: http://www1.eere.energy.gov/femp/pdfs/emerging_technologies_ase_report.pdf

To view Mr. Williams' presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_williams.pdf

ENERGY EFFICIENT DATA CENTERS

Will Lintner, FEMP, Department of Energy

Will Lintner spoke about why it is necessary to address energy usage at Data Centers.

- Data Centers consume 10 to 100 times more energy per square foot than typical office building. Consumed 1.5% of all U.S. electricity in 2006.
- DOE and Green Grid MOU signed September 2007 to devise best energy management practices, create common assessment tools and metrics, and training.
- DC Pro tool to define baseline energy use at data centers and identify savings opportunities: <http://dcpro.ppc.com/>

To view Mr. Lintner's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_lintner.pdf

DEMONSTRATING LED AND FIBER OPTIC LIGHTING IN COMMISSARY APPLICATIONS

Joe Konrade, FEMP, Department of Energy

Joe Konrade gave an overview of a LED and fiber optic lighting pilot project with the Defense Commissary Agency. It was difficult to verify savings as locations had not been metered previously. After conclusion of pilot project, LED lights provided reasonable payback, and should be considered for ESPC/UESC project. Fiber optic lights could improve payback.

- FEMP lighting publications:
<http://www1.eere.energy.gov/femp/information/publications.html#lighting>

To view Mr. Konrade's presentation, please visit:

http://www1.eere.energy.gov/femp/pdfs/fupwg_fall08_konrade.pdf

SPECIAL SESSION

**ENERGY LAWYERS AND CONTRACTING OFFICERS WORKING GROUP: WORKING WITH YOUR LAWYERS – FINDING SOLUTIONS, NOT PROBLEMS!
FOCUS: RETENTION OF UTILITY REBATES AND INCENTIVES**

Premises:

- Government agencies can accept 100% of utility rebates.
- Agencies can accept rebates from states. What about grants?
- In Demand Response programs – 3rd party can pass rebate on to federal government.
- Even if rebates are accepted the Comptroller may spend it elsewhere.
- Unsure if rebates can be accepted through Fiscal Years.
- Need for alternative finance guidance documents.

Discussion:

- DOD needs special account set up to receive the money. Brad Hancock, Karen White, and others are working on this.
- Fiscal authority exists to accept money, but need an account to put it in.
- Need to get comptrollers in room to help come up with a solution

Action Items:

- Invite comptrollers to FUPWG – target high level comptrollers
- FEMP going to work on authorities and other legal issues
- FEMP send out proposed energy legislation

APPENDIX 1

Federal Utility Partnership Working Group Meeting November 19-20, 2008 Williamsburg, Virginia

ATTENDEES

| Utility | | |
|-----------------------|-------------|--|
| Joanne | Abrams | AGL Resources |
| Ed | Anderson | Florida Power and Light |
| Gene | Beck | Florida Power and Light |
| Joe | Bosco | Mississippi Power Company |
| John | Bowman | Davis H. Elliot Company Inc. |
| Jeffery | Brown | Sandhills Utility Services, LLC |
| Steve | Buchanan | OG&E Electric Services |
| Marc | Butts | Southern Company |
| Bud | Clark | American Electric Power |
| Phillip | Consiglio | Southern California Edison |
| Jim | Cotton | American States Utility Services, Inc. |
| Lindsey | Craft | Virginia Natural Gas |
| David | Dykes | Georgia Power/Southern Company |
| Bill | Eisele | South Carolina Electric & Gas |
| Roger | Farzaneh | Pacific Gas & Electric Company |
| Tim | Gravitt | Georgia Power Company |
| Mark | Hillman | Florida Power and Light |
| Terrance | Holt | Duke Energy |
| Scotty | Hutto | Gulf Power Company |
| Kevin | Johnson | Vectren / ESG |
| Art | Kwerneland | Xcel Energy |
| Victoria | Mansfield | Virginia Natural Gas |
| Patricia | Melton | Georgia Power Company |
| Florence | Pinigis | Southern California Edison |
| Andrew | Saleh | Gulf Power Company |
| Gary | Sanchez | AGL Resources |
| Jim | Stevens | Progress Energy |
| Mark | Tabert | Progress Energy Carolinas |
| Oanh | Tran | Washington Gas |
| Daniel | Tunncliff | Southern California Edison |
| Dean | Yobs | AGL Resources |
| Federal Agency | | |
| Allison | Ackerman | Department of Veterans Affairs |
| Arnold | Agustin | Department of Defense - Navy |
| Mike | Aimone | Department of Defense - Air Force |
| Christine | Bond Jawish | DLA, Defense Energy Support Center |
| Diane | Breithaupt | U.S. Coast Guard |
| Robert | Buchanan | Federal Deposit Insurance Corporation |
| Richard | Butterworth | General Services Administration |

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|---------|-------------|---|
| Robert | Charles | National Aeronautics and Space Administration |
| Linda | Collins | General Services Administration |
| Anne | Crawley | Department of Energy |
| Doug | Culbreth | Department of Energy |
| Vicki | Davis | Department of Defense - Air Force |
| Steven | Dumont | Department of Defense - Air Force |
| Brian | Eaton | Department of Defense - Navy |
| Mark | Ewing | General Services Administration |
| Ronda | Ford | U.S. Department of Agriculture |
| Dorothy | Fowler | Department of Defense - Navy |
| Larry | Fratis | DLA - Defense Energy Support Center |
| Danny | Gore | Federal Energy Regulatory Commission |
| Leo | Grassilli | Department of Defense - Navy |
| Brad | Gustafson | Department of Energy |
| Jeffrey | Hamrick | Department of Defense - Army |
| Brad | Hancock | Office of the Secretary of Defense |
| Mary | Heying | Department of the Interior |
| Amy | Hudson | General Services Administration |
| Don | Juhasz | Department of Defense - Army |
| Lucky | Jumbo | Department of Defense - Army |
| Richard | Ker | U.S. Coast Guard |
| Henry | Kenchington | Department of Energy |
| Richard | Kidd | Department of Energy |
| Paul | Kistler | Department of Defense - Navy |
| Linda | Koman | General Services Administration |
| Pamela | Komer | U.S. Coast Guard |
| Joe | Konrade | Department of Energy |
| Regina | Larrabee | Department of Veterans Affairs |
| Will | Lintner | Department of Energy |
| Allen | Lotz | U.S. Coast Guard |
| Stephen | Mamakos | Department of Defense - Air Force |
| David | McAndrew | Department of Energy |
| Gary | Meredith | Department of Defense - Army |
| Alfred | Moreau | Department of Defense - Army |
| Sandy | Morgan | U.S. Department of Agriculture |
| Cynthia | Obermeyer | Department of Defense - Air Force |
| Michael | Peters | Federal Energy Regulatory Commission |
| Aisha | Robins | Department of Defense - Air Force |
| Ann | Scott | Army and Air Force Exchange Service |
| Lariza | Sepulveda | General Services Administration |
| Randall | Smidt | Department of Defense - Army |
| Greg | Snider | General Services Administration |
| Jim | Snook | Department of Defense - Air Force |
| David | Snyder | Department of Defense - Air Force |
| John | Spiller | Department of Defense - Army |
| Phyllis | Stange | U.S. Coast Guard |
| David | Struck | U.S. Coast Guard |

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|----------------------------|-------------|--|
| Paula | Teague | Department of Defense - Navy |
| Edward | Thibodo | Department of Defense - Navy |
| Ming | Truong | Department of Defense - Navy |
| Kimberly | Ullmann | Department of Defense - Air Force |
| Karen | White | Department of Defense - Air Force |
| Thomas | White | Department of Defense - Air Force |
| Cassandra | Walbert | U.S. Coast Guard |
| Michael | Winton | Department of Defense - Air Force |
| Robert | Zinkwich | Department of Defense - Army |
| National Laboratory | | |
| Deb | Beattie | National Renewable Energy Laboratory |
| John | Christensen | National Renewable Energy Laboratory (subcontractor) |
| Phil | Coleman | Lawrence Berkeley National Lab |
| Doug | Dixon | Pacific Northwest National Lab |
| Roger | Hill | Sandia National Laboratories |
| Julia | Kelley | Oak Ridge National Laboratory |
| Bill | Sandusky | Pacific Northwest National Laboratory |
| Chandra | Shah | National Renewable Energy Laboratory |
| Karen | Thomas | National Renewable Energy Laboratory |
| Mike | Warwick | Pacific Northwest National Lab |
| Charles | Williams | Lawrence Berkeley Lab |
| Energy Related | | |
| John | Adams | Profile Systems LLC |
| Bessma | Aljarbou | First Solar |
| Sterling | Ashby | Leftwich & Ludaway, LLC |
| Wayne | Bader | 2rw Consultants, Inc. |
| David | Base | Chervon |
| Phil | Beirne | BSI Engineering |
| Jeff | Beiter | Capstone / E-Finity Distributed Generation |
| Jay | Bhalla | Willdan Energy Solutions |
| Steven | Boyle | Pepco Energy Services |
| Thomas | Brisbin | WILLDAN |
| Steven | Chuslo | Hannon Armstrong Capital, LLC |
| Carl | Costello | Greening America |
| Susan | Courtney | Energetics, Inc. - Subcontractor |
| Susan | Covino | PJM Interconnection LLC |
| Julie | Denton | Constellation Energy |
| John | Dierkes | Schneider Electric |
| Lee | Earhart | CoBank |
| Richard | Eppley | Guggenheim Capital Markets |
| Jesse | Feinberg | Energetics Incorporated |
| Samantha | Felix | Willdan Energy Solutions |
| Peter | Flynn | Bostonia Partners LLC |
| Scott | Foster | Hannon Armstrong |
| Steven | Ganzer | BBS Consulting |
| Mark | Hamilton | The PMA Group |

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|-------------|-------------|-------------------------------------|
| John | Heering | Honeywell Inc. |
| Christian | Hensley | BSI Engineering |
| Lou | Hrkman | Siemens |
| Laura | Hussey | Edison Electric Institute |
| Rich | Kaelin | The PMA Group |
| Beth | Lachman | RAND Corporation |
| Michael | LaGatta | First Solar |
| Jon | Lewis | Honeywell |
| Jesse | Maestas | USCG - Contractor |
| Joe | Maranto | Constellation Energy |
| Frank | Napoli | ConEdison Solutions |
| Rudy | Nessel | Interface Incorporated |
| Leslie | Nicholls | Energetics Incorporated |
| Michael | Paesani | Honeywell |
| Christopher | Pimentel | Daylight Technology |
| Aaron | Rittenhouse | ConEdison Solutions |
| Bryan | Ryscavage | First Security Leasing |
| John | Saams | NORESCO |
| Natasha | Shah | Siemens Building Technologies, Inc. |
| Beth | Shearer | Beth Shearer & Associates, Inc. |
| Bill | Stein | Siemens |
| William | Stermer | Energy Systems Group |
| Scott | Trotier | Northrop Grumman |
| Kevin | Vaughn | TAC Americas |

APPENDIX 2

FUPWG Meeting Registration Analysis PowerPoint



U.S. Department of Energy
Energy Efficiency and Renewable Energy

federal energy management program

Federal Utility Partnership Working Group

Fall 2008 Registration Analysis

**Williamsburg, Virginia
November 19-20, 2008**

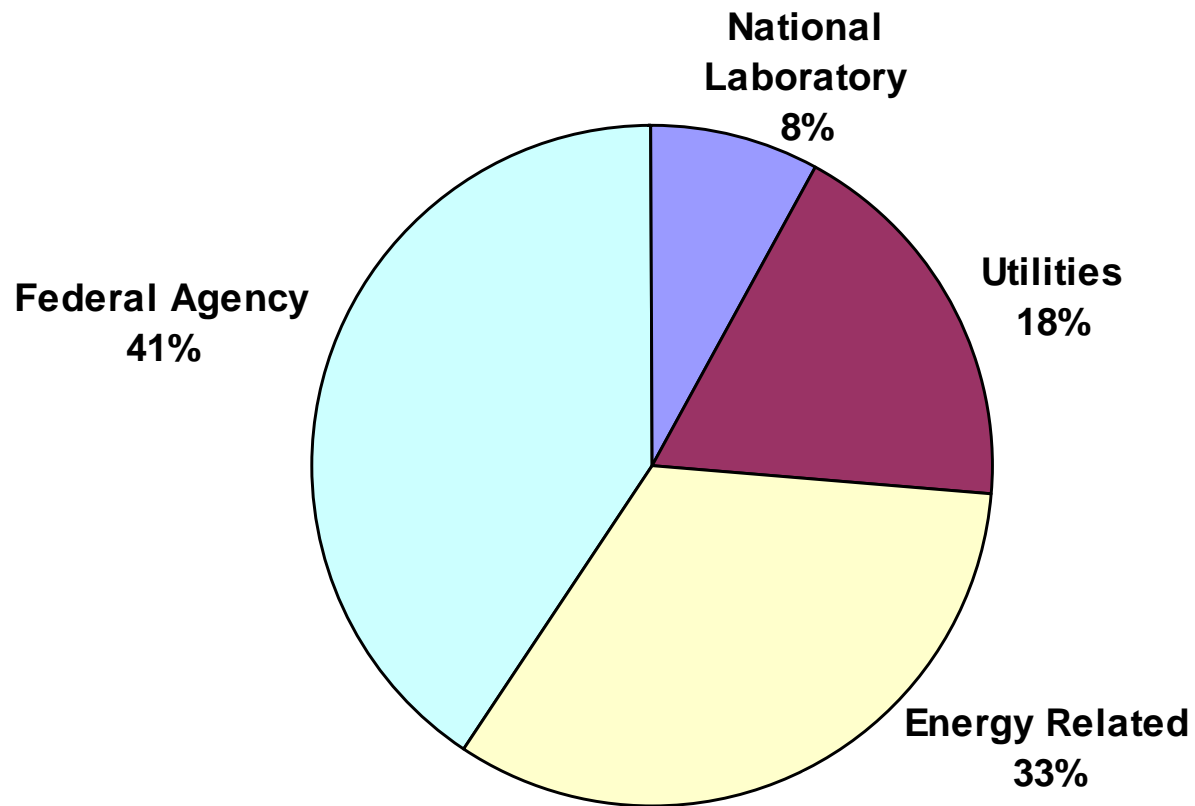


Summary

- 159 attendees
- 83 (52%) first FUPWG meeting, or had not attended within the past four years.
- Representation: (individuals, not agencies)
 - 29 utility
 - 5 FEMP
 - 60 other Federal agency
 - 13 National Laboratory
 - 52 other energy-related organizations

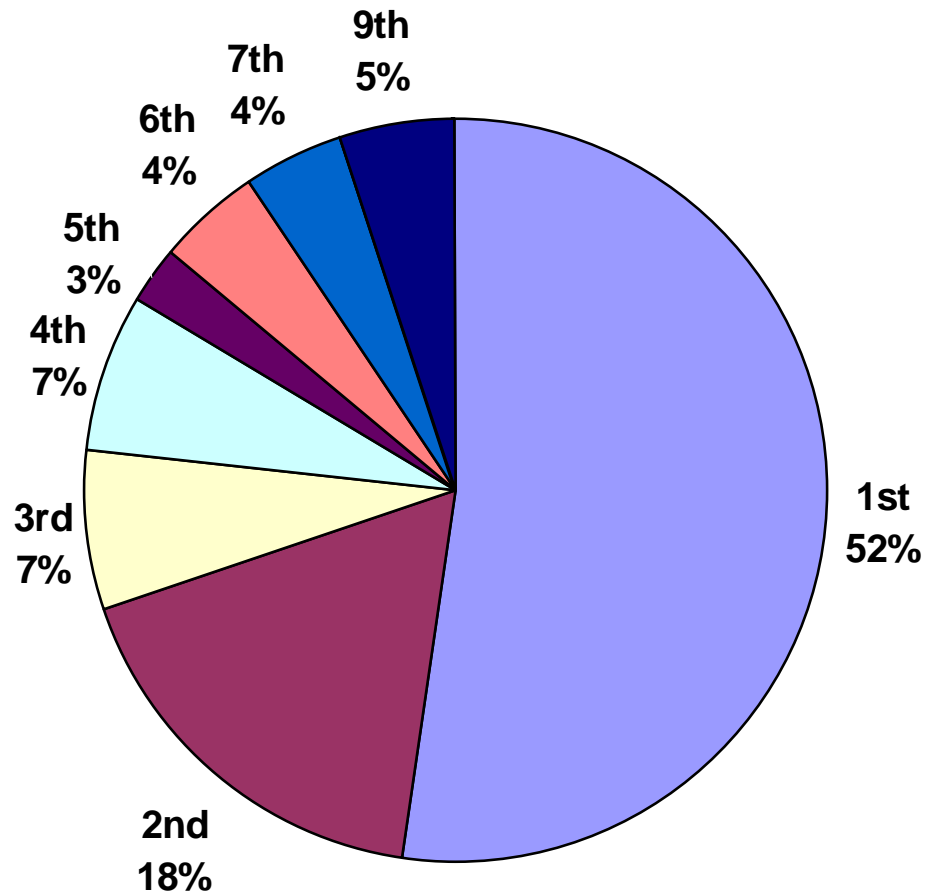


Organization Type



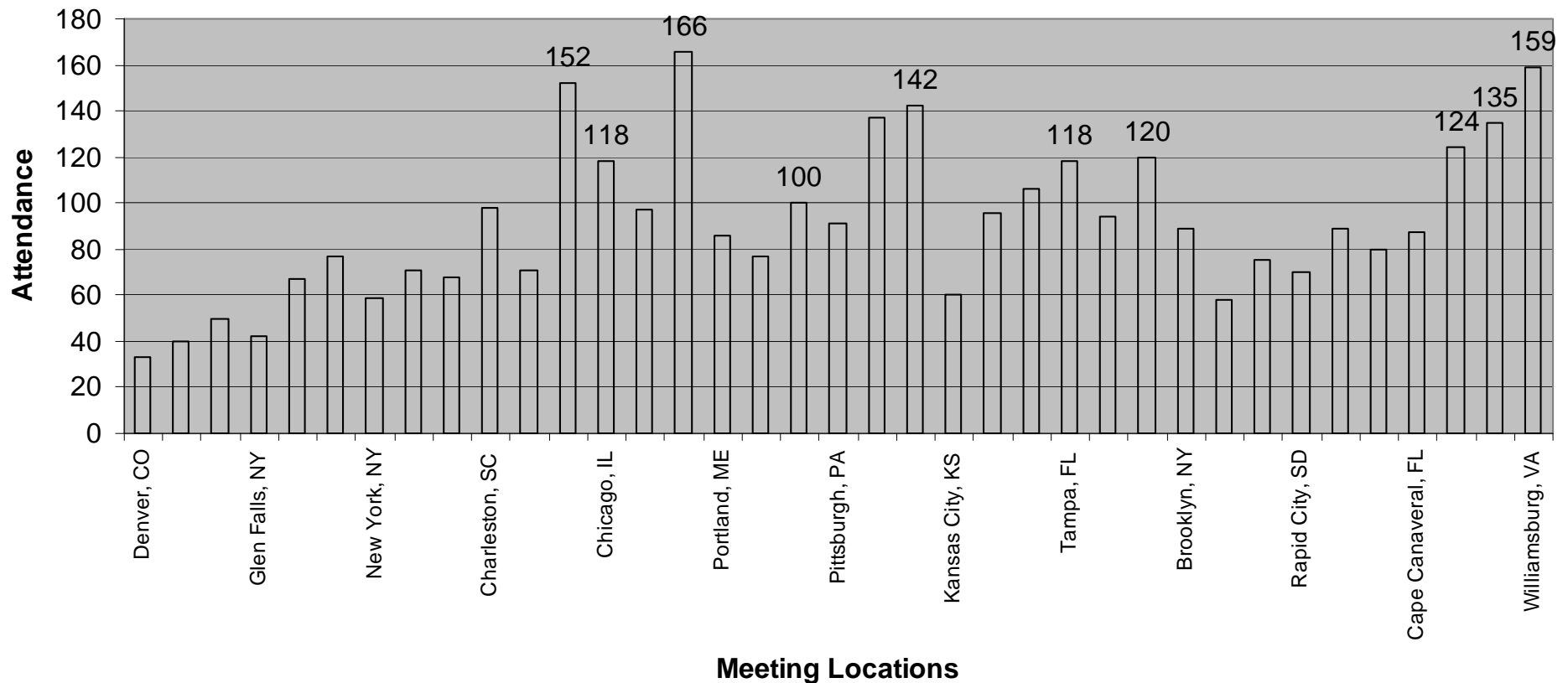


Previous Meetings (As of Fall, 2004)



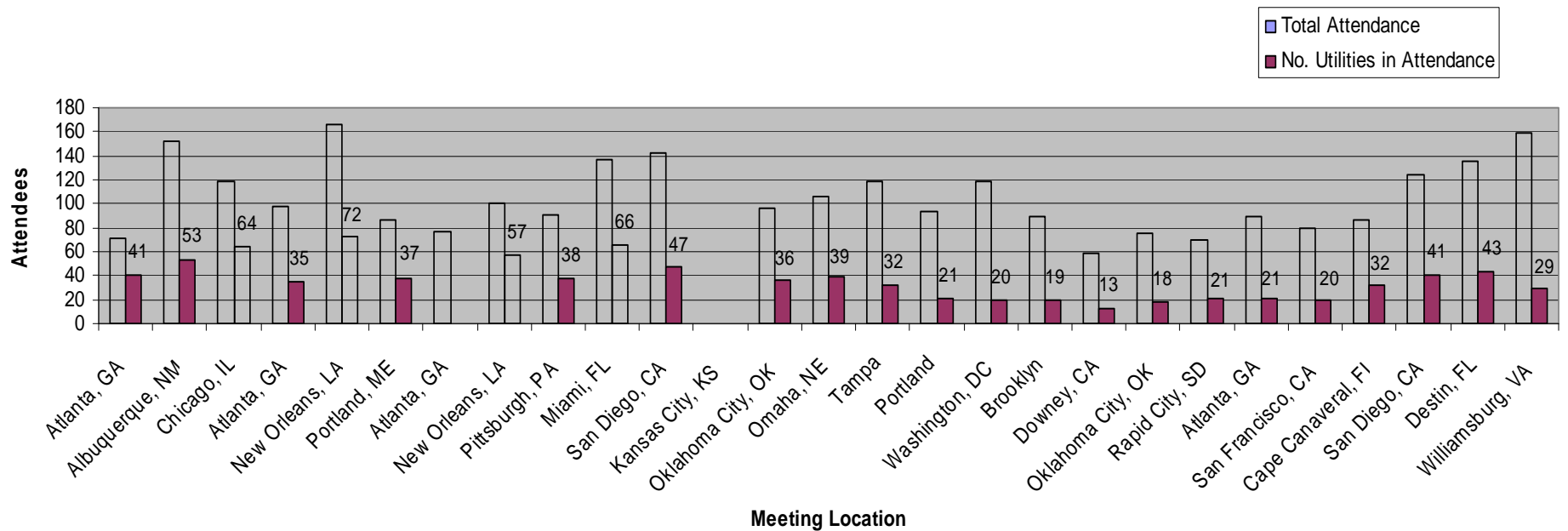


Attendance Trends 1993-2008





Utility Attendance 1996-2008





Percentage Utility Representation 1996-2008

