# Missouri Public Service Commission

## Electric & Natural Gas
## Roundtable Discussion Groups

## Record of Proceedings

# Demand Response Programs & Mergers

August 21, 2002
Governor Office Building
Jefferson City, Missouri

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# MEMORANDUM

TO: Electric & Natural Gas Roundtable Discussion Groups

FROM: Warren Wood WW

SUBJECT: Record of Proceedings

DATE: September 4, 2002

Thank you for attending the Commission's Electric and Natural Gas Roundtable session on **Demand Response Programs & Mergers** held in Jefferson City, Missouri on August 21, 2002. As promised, please find attached a bound compilation of the materials presented.

Our desire is to make these meetings as informative, beneficial, and effective as possible. Any ideas or suggestions you may have to help us toward that end are always appreciated. Feel free to contact me at (573) 751-2978 or e-mail me at wwood@mail.state.mo.us with any comments. We look forward to your attendance and active participation at future roundtable meetings.

Attachment

# Table of Contents

# 1

# Demand Response Programs & Mergers

## Electric & Natural Gas Roundtable Discussion Groups

## August 21, 2002 - 1:00 to 4:30 PM

**Governor Office Building, 4th Floor Ballroom,**
**200 Madison Street, Jefferson City, MO**

**12:30 Registration**
**1:00 Opening Remarks & Introductions**
Warren Wood, Energy Department Manager, MOPSC Staff

## Demand Response Programs

**1:05 Opportunities & Challenges**
Robert Brnilovich, Managing Director, KPMG Consulting
**1:30 Electric Utility Perspective**
Richard Voytas, Manager Corporate Analysis, Ameren Services
**1:45 Large Customer Perspective**
Maurice Brubaker, President, Brubaker & Associates Inc.
**2:00 Missouri Public Service Commission Staff Perspective**
James Watkins, Senior Economist, MOPSC Staff
**2:15 Break (15 Minutes)**
**2:30 Office of the Public Counsel's Perspective**
Hong Hu, Senior Economist, The Office of the Public Counsel
**2:45 Opportunities for Environmental Benefits**
Anita Randolph, Energy Center Director, Missouri Dept. of Natural Resources
**3:00 Open Discussion/Question Period for All Participants**
**3:15 Break (15 Minutes)**

## Mergers

**3:30 Why Utilities Merge**
Keith Stamm, President and COO, Global Networks Group, Aquila Inc.
**3:50 Missouri PSC Staff Approach & Concerns With Mergers**
Mark Oligschlaeger, Senior Regulatory Auditor, MOPSC Staff
**4:05 The Office of the Public Counsel's Approach & Concerns With Mergers**
Ryan Kind, Chief Economist, The Office of the Public Counsel
**4:20 Open Discussion/Question Period for All Participants**
**4:30 Closing Remarks & Adjourn**

# 2

# Robert Brnilovich

Partner
Washington DC

Tel: 703/962-3121
Fax: 703/962-2400

email:
Rbrnilovich@KPMG.com



**Summary**

Robert Brnilovich leads the Customer Technology Solutions practice of Andersen's Energy Industry Business Consulting practice in North America. In this role, he helps Energy companies create and execute CRM strategies and related technology enablers. In addition, Robert created and leads a task force at Andersen to help utilities develop new strategies for implementating demand management programs. Robert has been the engagement partner on many large electric and gas utility consulting assignments over the past 17 years. His experience includes consulting on strategy design and execution; design and implementation of CIS, CRM and ERP solutions; process re-engineering and organization realignment and a variety of other special projects.

Robert is based in the Washington, D.C. office of Andersen. He earned a Bachelor of Science degree from Miami University and an MBA from George Mason University. He is a Certified System Professional and a member of the Institute of Certified Computer Professionals.


## Relevant experience

- **Large Northwestern Gas and Electic Utility** – Assisted the company in determining how best to standardize and leverage meter information for Demand Management type programs.
- **Large Retail Energy Provider** – Assisted the Company in the consolidation of several CIS/Billing systems into a integrated solution using Excelergy's ABP3000.
- **Large Midest Gas Utility** – Assisted the Company with the implementation of a new CIS (SCT's Banner) as part of the merger of three distribution companies. Responsible for managing the Independent Quality Oversight team to ensure financial integrity and controls.
- **Large Midwest Gas and Electric Utility** - Assisted the Company in the indentification, review and resolution of key issues surronding a recent implementation of a new CIS. The project included the identification of risks and controls required to stabilize the customer service and billing operations.
- **Large Northwestern Gas and Electric Utility** - Assisted the Company in the strategic implementation of a new Customer Information System. The projects include system integration, process improvement and organizational realignment. Provided senior management recommendations on managing risks associated with achieving the critical success factors and expectations of sponsors/stakeholders.
- **Large Midwestern Gas Utility** - Quality Review and Advisory partner on a comprehensive engagement to develop and implement a Customer Information System and Gas Transportation System. Provided senior management with recommendations on risk mitigation and planning associated with operational recovery.
- **Midwestern Gas Utility** - Advisory partner on a engagement to develop and implement a Customer Information and Work Management solution. Provided senior management with risk analysis and alternatives to sustain impact of retail choice in their geography.

- **Large Midwestern Gas Utility** - Assisted the company in the development and implementation of a single Customer Information System solution for their various distribution companies. The project included the identification of a shared vision and assessment of the regulatory and cultural barriers. In addition, provided recommendations on how to enable the system and organization to support Retail Choice programs.

- **Midwestern Energy Service Provider** - Assisted the company in the development and implementation of a Billing System to accommodate retail customers. Provide senior management with advice on how to limit costs while getting to market quickly with various products and services.

- **Large Southeastern Gas and Electric Utility** - Advisory partner on a engagement to build a new Customer Information System that will meet the needs of the regulated business and address the capabilities required to support customer choice.

- **Technology Consulting** - Robert has extensive experience leading all phases of complex technology projects including design, selection, acquisition and implementation. He has expertise in implementation of CIS, Work Management and ERP systems. In addition, Robert has expertise in leveraging other technologies such as EAI/Middleware, IVR, Imaging, and Internet based solutions to provide end-to-end solutions for core business processes.

- **ERP Implementation** - Engagement Partner on a PeopleSoft implementation for a large property management company. Developed unique approach to phase functionality by each of the parent company's subsidiaries. The implementation included both HR and Financials. The scope of the project was full-lifecycle systems integration, including training and change management.

- **CIS Implementation** - Engagement Partner on a large Service 2000 implementation for a large multi-state Midwestern Gas Utility. Mobilized a team of over 100 resources to lead and execute all aspects of the implementation with the client. In addition to the core CIS implementation, the team rolled out new IVR (VRU and CTI) technologies, Document Management/Imaging, and real-time third party interfaces (via MQ Series). The scope of the project included Project Management, Interfaces , Outputs, Conversion, System Testing, Training, Communications and Change Management.

- **CIS Implementation** - Engagement Partner on a large ConsumerLinX implementation for a large Northwestern Gas and Electric Utility. Mobilized a team of over 150 resources from 12 different offices to lead and execute all aspects of the implementation with the client. The implementation included core CIS (Billing, A/R, Cash, Credit, Meter, Financial Reporting) functionality as well as Meter Management, Outage Management, and service order scheduling. The scope of the project included Project Management, Interfaces, Outputs, Conversion, System Testing, Training, Communications and Change Management. In addition to the core CIS implementation, the team integrated a complete set of multi-media and IVR (VRU and CTI) technologies for the access center. MQ Series and Mercator were used for most near time interfaces. A unique solution using Business event simulation was employed to reduce operation impacts and recovery.

- **Large Program Management** - Served as the Deputy Program Manager for a large system modernization program for the Federal Government. The program over saw multiple system integration and change management projects. Lead the definition of several key architectural building blocks for the Integrated Systems Architecture.

- **Telecommunication Management** - Designed, developed and implemented a system for the General Services Administration to help manage the pay-per-use (FTS2000) rollout of telecommunications services for the Federal Government. The scope of the project was full-lifecycle systems integration, including training and change management.

- **Telecommunication Management** – Developed processes and controls for the FTS2000 Service Providers (AT&T & US Sprint) during the FTS2000 transition planning and testing.

- **Telecommunication Management** – Designed, developed and implemented applications to manage Customer Records, Billing, Credit, Collections, Service Provisioning and Transponder Reservations for a provider of satellite based services. Projects included full-lifecycle system development, including training and change management.

- **Enterprise Application Integration Selection** - Engagement Partner on the implementation of a CIS for a large Northwestern Utility. As part of the implementation, a strategic platform analysis was conducted to simplify and standardize the approach for the 100+ interfaces to/from the CIS. MQ Series and Mercator were chosen and successfully implemented.

- **Enterprise Application Integration Selection** - Provided a software development firm, which is building a new CIS, with advice on evaluating and selecting an EAI solution to target as a partner in developing integration connectors/adapters. Vitria, STC, and TIBCO were reviewed.

- **E-Business Consulting** - Led this new service offering for a large consulting practice. Developed the foundation for the practice area to provide strategy, process and technical solutions for utility companies.

- **PeopleSoft Consulting** - Led the Energy PeopleSoft practice for a large consulting practice growing revenues to over $15 million (five-fold growth) in fees in one year. Provided full service consulting services to utility companies. In addition. worked on developing alliances with several PeopleSoft vendor alliances to provide complete solutions (HR,Finance, CIS, Asset Management, etc) to utility companies.

# *Maurice Brubaker, President*

Mr. Brubaker received the Degrees of: Bachelor of Science in Electrical Engineering from the University of Missouri at Rolla; Master of Business Administration (with a Major in Finance) and Master of Science in Engineering from Washington University in St. Louis.

Prior to entering the utility consulting practice in 1970, Mr. Brubaker was employed by Emerson Electric Company.

Recent engagements have concentrated on electric market restructuring, development of energy strategies, and competitive sourcing of power for customers.

He has extensive experience in virtually all aspects of regulated and competitive electricity and natural gas, and has presented testimony on more than 400 occasions before the Federal Energy Regulatory Commission, over 30 state regulating commissions and before various state courts, municipal regulatory bodies and state legislatures.

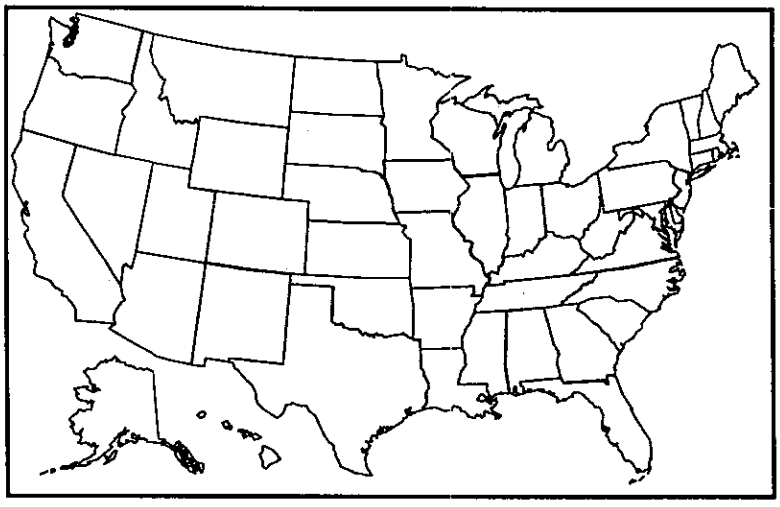
## *Project Work*

***Other Project Work***

- Federal Energy Regulatory Commission
- Guam
- Iceland

***Principal Advisor to:***

- Illinois Industrial Energy Consumers
- Louisiana Energy Users Group
- Missouri Industrial Energy Consumers
- United States Navy
- Utah Industrial Energy Consumers



***Areas of Expertise***

• Alternative Energy Supply Options • Ancillary Service Rates • Cogeneration • Contract Development, Evaluation and Negotiations • Cost of Service Studies • Customer Gas Supply Programs • Demand-Side Management • Economic Dispatch • Electric Retail Competition and Customer Choice • Fuel Cost Recovery

• Gas Transportation Rates and Policy • Interruptible Rates • Legislation and Public Policy • Marginal Cost Analysis • Market Power Analysis • Market Price Surveys • Market Structure • Merger Evaluations • Performance Based Rates • Performance Standards for Generation Units • Price Forecasts • Prudence and Used/Useful Evaluation • Purchase Power Contracts • Rate Design and Tariff Analysis • Real-Time Pricing • Request for Proposals • Resource Planning • Retail Access Pilot Program Design • Revenue Requirements • Site Selection and Evaluation • Standby Rates • Stranded Costs • Training Seminars • Transmission Pricing and Access • Utility Privatization Studies

**Hong Hu**

Hong Hu is a Public Utility Economist for the Office of the Public Counsel. She has a Master Degree in Economic from the University of Missouri - Columbia and is an ABD Ph. D. in Economics. Ms. Hu has been with the Office of the Public Counsel since 1997. She has filed cost of service and rate design testimonies in many gas, electric, telephone and water rate cases. Ms. Hu recently filed testimony proposing a pilot Time of Use program in the Ameren compliant case. Mr. Hu also administers the Public Counsel's web page.

**Ryan Kind**

Ryan Kind is the Chief Energy Economist for the Missouri Office of the Public Counsel. He has been with the Public Counsel's office since 1991 and works primarily on gas and electric utility issues. Ryan's work at the Public Counsel's office has included testimony before the Missouri Public Service Commission, the Missouri Legislature, and the Federal Energy Regulatory Commission (FERC). He has testified on a wide range of energy issues including: transmission access and reliability issues, ISO and RTO formation issues, market power, supply and demand-side resource planning, class cost of service and rate design, and incentive regulation.

Ryan Kind was the public consumer organizations representative on the Midwest ISO's Advisory Committee for two years and is still an alternate consumer representative. Ryan currently serves on the Operating Committee of the North American Electric Reliability Council (NERC) as the small customer representative. He has both a master's degree and a bachelor's degree in economics from the University of Missouri-Columbia.

## MARK OLIGSCHLAEGER

Mark is an Auditor V with the Missouri Public Service Commission's Accounting Staff in the Utility Services Division.

Mark graduated from Rockhurst College in 1981, and has been employed at the Commission since September 1981. He has filed testimony in numerous electric, gas, water, telecommunications, and industrial steam proceedings; including rate cases, earnings complaint cases, accounting authority orders, and other types of cases. He has also filed testimony in a number of merger and acquisition applications involving electric utilities in Missouri. Mark was a member of the Stranded Cost Working Group within the Missouri Commission's Retail Electric Competition Task Force in the late 1990s.

**Anita C. Randolph, Director**
**Missouri Energy Center**

Anita Randolph was appointed Director of the Missouri Energy Center (formerly the Division of Energy) in July 1998. Prior to becoming the Energy Director, Anita was employed by the Missouri Department of Transportation in the Office of Transportation Planning and Policy Development. In this position, Anita worked closely with Missouri's Congressional Delegation, the Governor's Office and the Missouri General Assembly on legislative and appropriation issues affecting Missouri's transportation system.

Before being employed by MoDOT, Anita worked for the Missouri House of Representatives where she developed legislative approaches for environmental, energy and natural resource issues.

Anita was appointed by former U.S. Secretary of Energy Bill Richardson as a member of the State Energy Advisory Board, a federal advisory board to the U.S. Department of Energy, and she is a board member of the National Association of State Energy Officials. Anita also serves as Missouri Governor Bob Holden's representative to the Governors' Ethanol Coalition and she is on the Board of Directors of the Midwest Energy Efficiency Alliance.

Anita obtained a Masters Degree in Public Health, with a specialty in Environmental Management, from the University of Oklahoma. She received a Bachelor of Journalism degree from the University of Missouri.


## Keith Stamm

President and Chief Operating Officer, Global Networks Group, Aquila, Inc.
Chairman, United Energy (Australia)
Chairman, UnitedNetworks (New Zealand)
Kansas City, Missouri

Keith Stamm was appointed president and chief operating officer of Aquila's Global Networks Group in November 2001. Global Networks Group manages all the company's electric, natural gas and telecommunications network operations worldwide and includes 3,000 U.S. employees as well as network operations in Canada, Australia, New Zealand and the United Kingdom.

Stamm also is chairman of United Energy and UnitedNetworks. Aquila manages and owns 34 percent of United Energy, an Australian company that provides electric and natural gas service to more than a million customers in Melbourne. UnitedNetworks, New Zealand's largest electricity and natural gas lines company, managed and 55 percent owned by Aquila.

Prior to his appointment as president and COO of Aquila's Global Networks Group, Stamm was chief executive officer of Aquila's power trading group. Before joining Aquila, he was chief executive officer of United Energy and held various positions with Aquila since 1983.

Stamm is certified as a professional engineer and has a bachelor's degree in Mechanical Engineering from the University of Missouri and an M.B.A. from Rockhurst College in Kansas City. He has 19 years of experience in several facets of the energy industry, including strategic planning, risk management, utility operations and energy marketing.

Based in Kansas City, Missouri, Aquila operates electricity and natural gas distribution networks serving more than six million customers in seven states and in Canada, the United Kingdom, New Zealand and Australia. It is also is one of the largest wholesalers of electricity and natural gas in North America, provides risk management products and services, provides wholesale energy services in the United Kingdom and has a presence in Germany and Scandinavia. At March 31, 2002, Aquila had total assets of $12.3 billion and 12-month sales of $37.3 billion. More information is available at www.aquila.com.

**Richard A. Voytas**
**Manager – Corporate Analysis**
**Ameren Services**

**Rick's current position at Ameren services is Manager of the Corporate Analysis section of the Corporate Planning department. Primary responsibilities include: resource planning, market modeling, asset valuation, load analysis and forecasting, and load research.**

**Rick has enjoyed working at Ameren for 27 years. He is a graduate of the University of Missouri-Rolla with a B.S. in Mechanical Engineering. He is also a graduate of St. Louis University with a MBA. He is a registered professional engineer in Missouri.**

# 3.a

KPMG Consulting

Energy Solutions

# Demand Side Management
# Round Table Discussion

August 21 2002

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KPMG Consulting
Utilities + Energy

- A New Approach to DSM
- Where is the Business Case
- An Approach to a Solution

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KPMG Consulting
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- A New Approach to DSM
- Where is the Business Case
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## A New Approach to DSM

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- Recent Increased Focus on Demand / Response Programs
- META Group reports states:
  - "Utility companies and energy service providers that embrace demand response programs will be better prepared to deal with energy market volatility"
  - META Trend: "Information about energy and its uses, customers, and markets, etc., will become as valuable as the energy commodity itself..."
  - "Energy utilities should aggressively deploy demand / response programs to support their bottom line and position themselves for competition. Energy service providers and aggregators should design demand / response programs to challenge the strength of the incumbent utilities"

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## A New Approach to DSM

KPMG Consulting
Utilities + Energy

- Demand Response programs are increasingly being recognized as an important part of an efficient energy market.
  - Deregulation of supply has led to price volatility and unveiled underlying supply shortages
- Demand Response programs include:
  - Demand bidding
  - Real time (or time-of-use) pricing
  - Distributed generation
  - Load management
  - Energy efficiency
- Underlying each is an *economic decision* to respond to price signals, including:
  - shifts in time of energy use from more expensive to less expensive
  - reductions in overall use

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## Small changes in demand can impact prices

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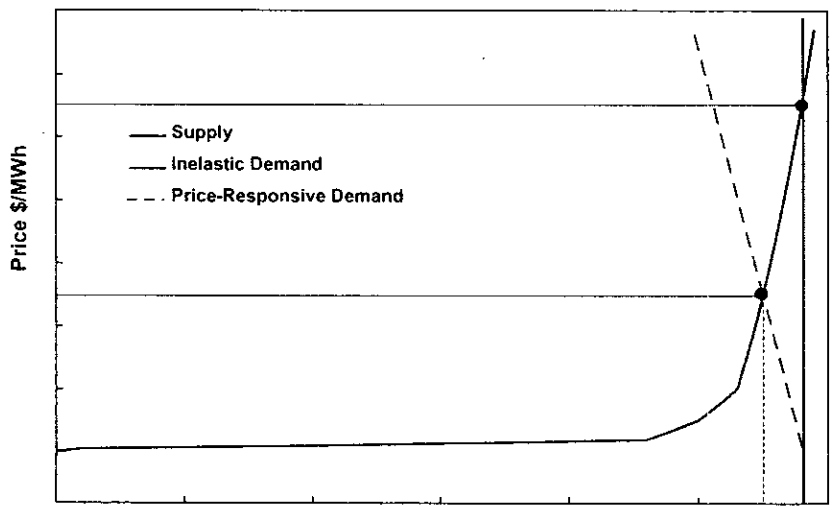


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## There are significant benefits to utility support of Demand Response programs

KPMG Consulting
Utilities + Energy

- Demand response programs can become tools that utilities can use to:
  - Mitigate supply shortages
  - Reduce exposure to price volatility
  - Shift price risk from the utility to consumers
  - Address regulatory concerns
  - Improve system reliability
- Demand Response programs can be more cost effective than supply side options
  - Compete with high-priced and inefficient generation at system peak
  - Reduce average prices for all customers
  - Reduce pollution from old and inefficient generating units

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## A New Approach to DSM

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- Give customers the capability, information, products and services to react to price signals and/or other market factors
  - Load Shaping
  - Load Curtailment
  - Energy Efficiency
  - Distributed Generation
  - Real Time Pricing
- Give utilities advantages through
  - Price Risk Distribution
  - Avoidance of Future Plant Costs
  - Ability to Minimize Exposure to Peaking Prices
  - Allowing Trading Operations to have Greater Flexibility During Peaks
- The most effective of these options being enabled through network communication and/or control capabilities

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## A New Approach to DSM

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- New demand response programs will be derived by using a combination of enabling technologies and regulatory strategies including:
  - AMR Technologies
  - Control Devices
  - Smart Home Technologies
  - Time of Use Pricing
  - Real Time Pricing
  - Curtailment

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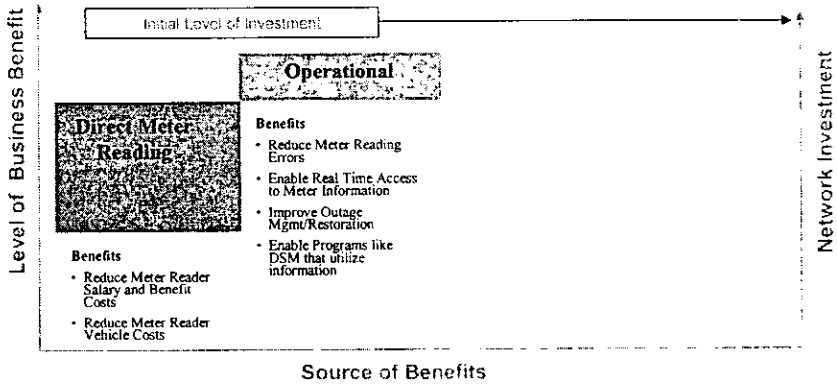
## Where Does the Business Case Reside?

KPMG Consulting
Utilities + Energy

- Initial investments in network meter reading or AMR have had difficulty living up to expectations.
- But the installed network has "option" value that should be considered in the business case

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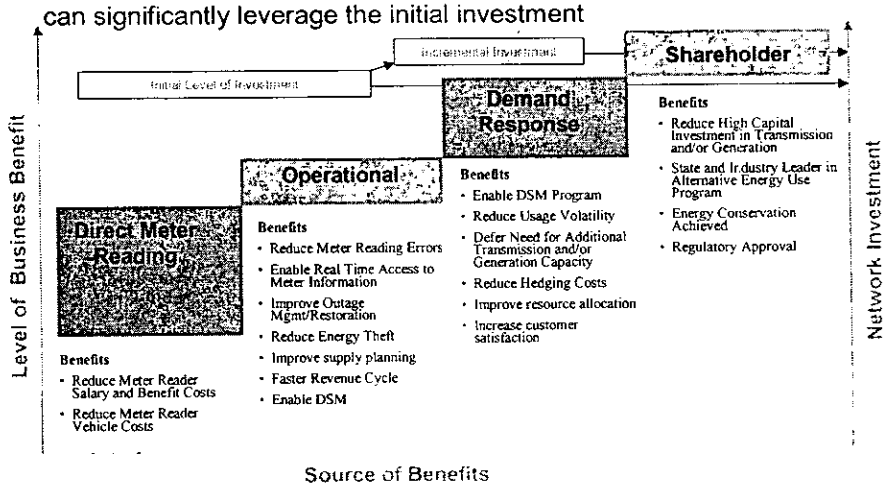
## Where Does the Business Case Reside?

KPMG Consulting
Utilities + Energy

- Significant benefits may be captured through incremental investments. The Demand Response opportunity enabled by the NMR investment can significantly leverage the initial investment

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- A New Approach to DSM
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## An Approach for a Solution – for example

KPMG Consulting
Utilities + Energy

- Use Rates Structures & Interval Data (e.g. Time-of-Use ---- Real Time) to:
  - Shift Load (On-Peak --> Off-Peak)
  - Promote Conservation
  - Management of Supply Risk
  - Inform customers, Address regulatory initiatives
- The success of these type of demand side programs will depend on many factors that are specific to a utility's regulatory, geographic and economic environment, such as its:
  - Service territory geography
  - Customer characteristics
  - Cost structure and financial situation
  - Supply arrangements.
- It is essential that a thorough evaluation of these factors and an evaluation of alternative solutions (metering infrastructure, software systems, program features, etc.) be conducted as part of establishing the business case.

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## An Approach for a Solution

KPMG Consulting
Utilities + Energy

Case Study: Puget Sound's Personal Energy Management (PEM) – Informational and Real Time Pricing (TOU)

- PEM is a program that combines a network metering system with a time-of-use information and/or pricing and effective customer communications to enable customers to manage their own energy use and bills. The PEM program has been successful in getting customers to shift usage to off-peak hours and to lower overall energy usage
- Through a carefully orchestrated and integrated campaign, PEM has grown into a lifestyle brand which incorporates leading edge technology, customer empowerment, social and environmental responsibility
- The adoption of PEM by PSE's customers and the approval of the program by the Washington State Utilities & Transportation Commission has been overwhelmingly positive

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## An Approach

KPMG Consulting
Utilities + Energy

- A typical DSM project will need to accomplish the following at a minimum:
  - Assess and Develop Business Requirements: Assess the business environment and evaluate the utility's needs, requirements, challenges and strategic goals. Develop a series of inter-related check points, or gates, between activities to assure tasks are completed efficiently.
  - CIS/Billing/Meter Evaluation: Identify the business requirements via a rigorous review and documentation of the utility's system architecture and capabilities. Investigate what changes or customization will have to be made to support and develop specifications.
  - Customer Channel Evaluation: Evaluate the needs and goals of various stakeholders and develop a program which addresses the utility's overall strategy that integrates the available and desired communication avenues.
  - Meter Data Warehouse Evaluation: Evaluate alternatives for warehousing the interval usage data and ensure that it's capable of recording and communicating interval usage data. In addition, to supporting load management, the system must be capable of time-of-use billing.
  - Detailed Implementation Plan and Cost Benefits Analysis: Data regarding program costs and benefits will be collected to understand the financial viability of alternative system configurations and financing mechanisms. This includes understanding key sources of project risk, and the key factors and milestones that must be met to assure success.

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# 3.b

**DEMAND RESPONSE ROUND TABLE**

**DISCUSSION**

**AMEREN'S PERSPECTIVE**

Richard A. Voytas
Manager, Corporate Analysis
Ameren Services
August 21, 2002



# Objective

- Limit discussion to residential time-of-use pilot development concepts

# Discussion Topics

- Infrastructure
- Transferability of Puget Sound Energy Residential TOU Program To Missouri
- Process For Developing, Implementing and Evaluating A Pilot Program

AmerenUE



# Infrastructure: MO Energy Policy Task Force Final Report, October 2001

*"...AmerenUE and Kansas City Power & Light Co. are uniquely positioned to offer these (RTP rates) since they currently have most of the infrastructure in place..."*

AmerenUE

# Infrastructure: CellNet Meter Reading Technology

- Single reading, one per month, anytime during a four-day window
- CellNet technology works well for monthly consumption reading
- Existing AmerenUE TOU meters often require more expensive metering and are often read manually

AmerenUE

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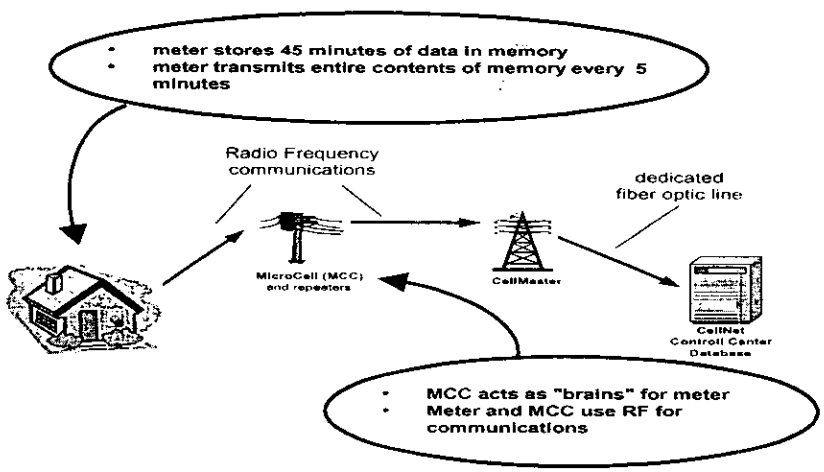
# Infrastructure: How CellNet Meter Reading Technology Works




AmerenUE

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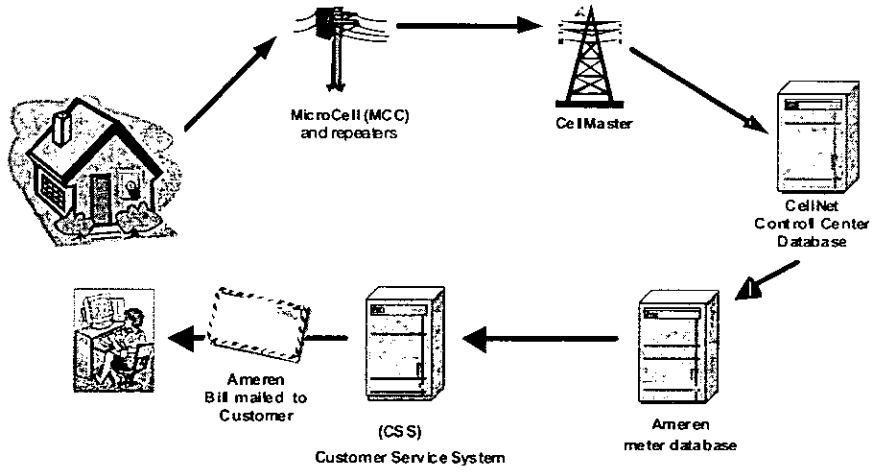
## Infrastructure: How CellNet Meter Reading Technology Works




Ameren UE

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## Infrastructure: Communication Problems Caused By...

Communication problems can be caused by many things including:

- Radio interference
- Meter transmittal problems
- Difficult locations - basements, remote locations etc.
- Physical obstructions in the path of a signal

Ameren UE

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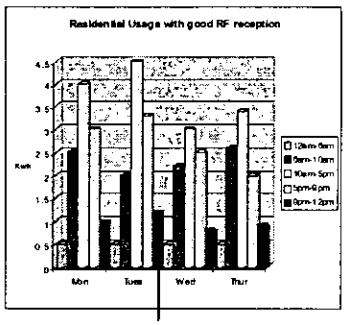
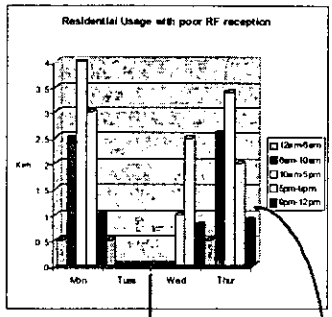
# Infrastructure: Missing Data




"Clean" data. No gaps.




An example of a meter w/ 18 hours of missed readings by the network.

The MCC would have 15 kW of usage it can not allocate to the individual TOU time bins within the two days

AmerenUE

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# Infrastructure: Options To Meet More Advanced Metering Requirements

- Processes/procedures to estimate missing data
- Use of "smart" form of metering
- Other forms of communication

AmerenUE

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## Infrastructure: Conclusions

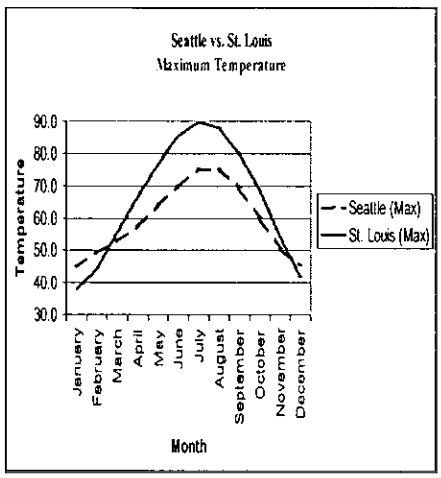
- TOU requires more consistent, reliable RF communications on a daily basis
- TOU requires changes to current systems in order to support new billing and metering functions

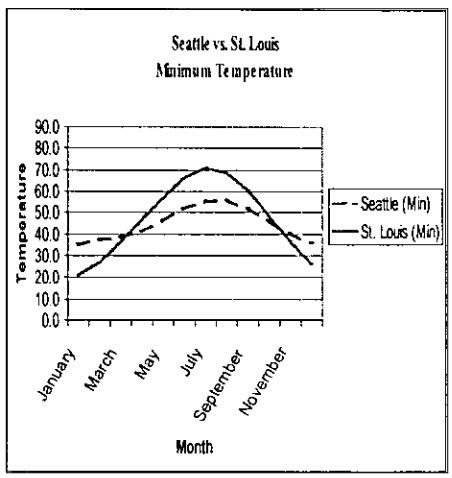


## Transferability

Puget Sound Energy's Residential TOU Program To Missouri

# Transferability: Weather Differences Between Washington State and Missouri

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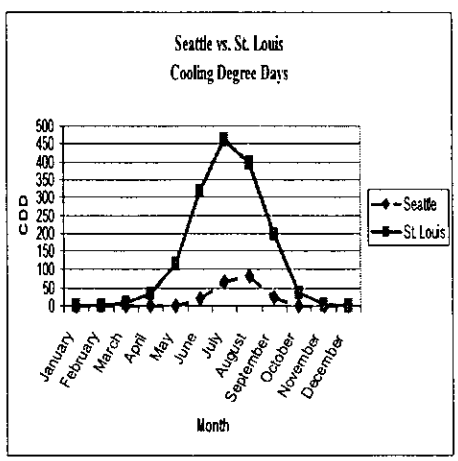
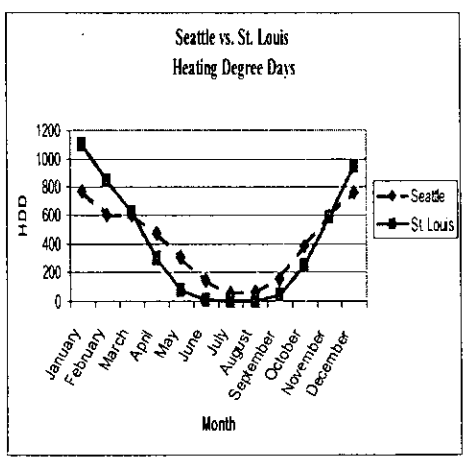
# Transferability: Weather Differences Between Washington State and Missouri

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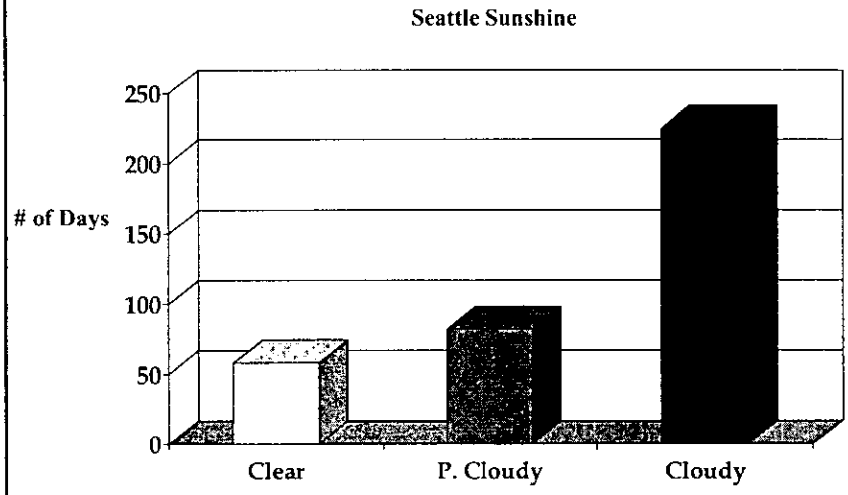
# Transferability: One Final Weather Slide

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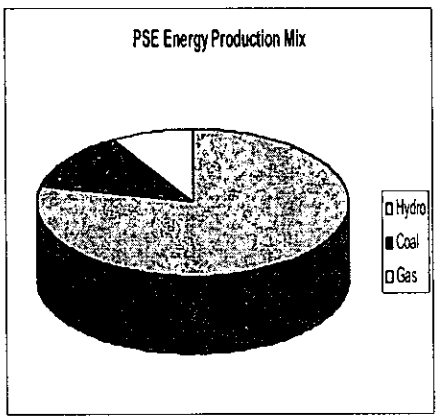
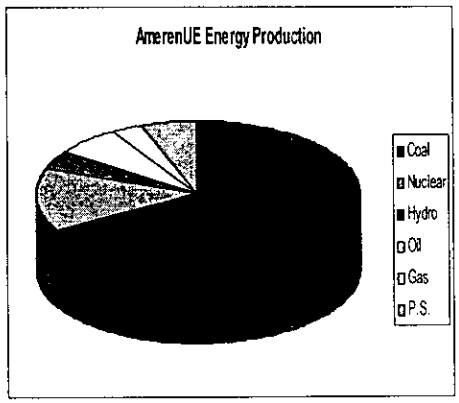
# Transferability: Capacity Mix

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# Transferability: Washington State Water Supply

Puget Energy 10-K Report:

*"The February 15, 2001 seasonal water supply forecast published by the National Weather Service indicated that the total forecasted runoff into the Grand Coulee reservoir for the period January-July 2001 would be only **61%** of average. PSE therefore expects that total annual generation from the Mid-Columbia projects, and PSE's owned hydro-electric projects, will be below normal in 2001."*



# Transferability: Purchased Electricity Expenses

(Note that PSE purchases 75% of its energy requirements)

Puget Energy 10-K Report:

*"Purchased electricity expenses increased $986.5 million in 2000 when compared to 1999 and $28.0 million in 1999 when compared to 1998. The increase in 2000 was due primarily to greater volumes and much higher prices for non-firm power purchases from other utilities and marketers due to skyrocketing prices in the volatile West Coast power market."*

# Transferability: Energy Crisis Management In Washington State

- Issue energy alerts
- Appeal to public for conservation
- Require 10% reduction of energy use in public buildings
- Increase electric rates
- Implement curtailment/buyback programs
- Gain government funded large scale media campaigns for conservation
- Businesses respond to appeals in force
- Coordinate between states via Governor to Governor partnerships in OR and WA
- Change hydro operations (to the detriment of salmon)



# Transferability: Energy Crisis Media Coverage In Washington State

Seattle Post-Intelligencer

"SHOCK TO THE SYSTEM: SUMMER BLACKOUTS POSSIBLE"

*Growing power demand and rain shortfall make it likely crunch will continue and electricity cost will rise*

Thursday, February 15,2001

**THE OREGONIAN**

"SUMMER TAKES STAGE FOR LONG HOT, DRY RUN"

JUNE 21, 2001

The Seattle Times

"This summer could be one of the driest ever"

Wednesday, February 21,2001

## Transferability: Energy Crisis Management Results In Washington State

- Load reduced by 20%
- Energy prices stabilized
- Winter supply outlook improved

**But…**

- Economic cost: $$ drained out of state; layoffs; business closures
- Costs to salmon recovery efforts
- Air quality impacts of short-term diesel generation



## Transferability Conclusions

- ***Missouri is not Washington State***
- Missouri weather is nothing like Washington State. Puget Sound Energy is winter peaking, most Missouri utilities are summer peaking.
- Missouri generating resources are nothing like Washington
- Missouri IOU's do not import 75% of their power requirements
- Missouri is not in an energy crisis mode

# Process

To Design, Implement, and Evaluate An Experimental Residential TOU Pilot Program



# Process: Preliminary Screening

- Identify costs (electric utility perspective)
  - » Meter reading
  - » Meter installation/removal
  - » Infrastructure modifications
    - TOU meter reads database
    - Missing data estimation process
    - Billing system changes
    - Web site for customers
    - Personnel requirements
  - » Program design
  - » Program implementation
  - » Program evaluation

## Process: Preliminary Screening

- Identify costs (electric utility perspective - con't)
  - » Environmental
  - » On-going program costs including costs to encourage customers' long-term commitment to investment in conservation and energy efficiency



## Process: Preliminary Screening

Identify benefits (electric utility perspective)

- Deferral of need to build peaking capacity
- Demand reduction ‡ supply (capacity equivalence)
- Benefits to transmission and distribution systems

# Process: Key Questions To Be Answered By Pilot

- Do residential TOU benefits exceed costs?
- Will Missouri residential customers respond to TOU pricing?
- Opt-in rate or opt-out rate (PSE pilot premise)?

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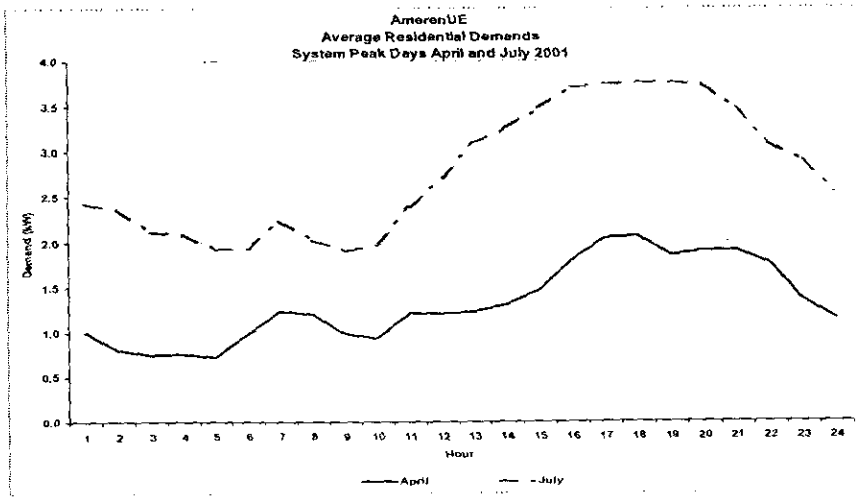
# Process: Determining The Demand Reduction Benefit

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## Process: Pilot Program Design

Assuming the benefit/cost ratio is positive

- Define residential load shape and residential customer response objectives
- Select potential TOU options to meet objectives
- Estimate customer response
- Evaluate long-term response vs. short-term response
- Develop marketing strategy

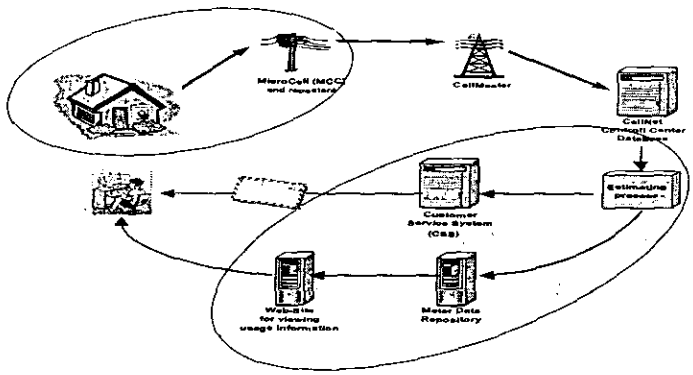


## Process: Pilot Program Implementation

- Full-time project manager(s)
- Billing support
- Metering support
- Customer service support
- IT support

# Process: Implementation of Infrastructure

**Areas in the meter reading infrastructure that would need to be added or changed to facilitate a small commerical and residential TOU rate**

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# Process: Evaluation

- Process
  - » How can the pilot program delivery mechanism be improved?
- Impact
  - » How much demand reduction was achieved?

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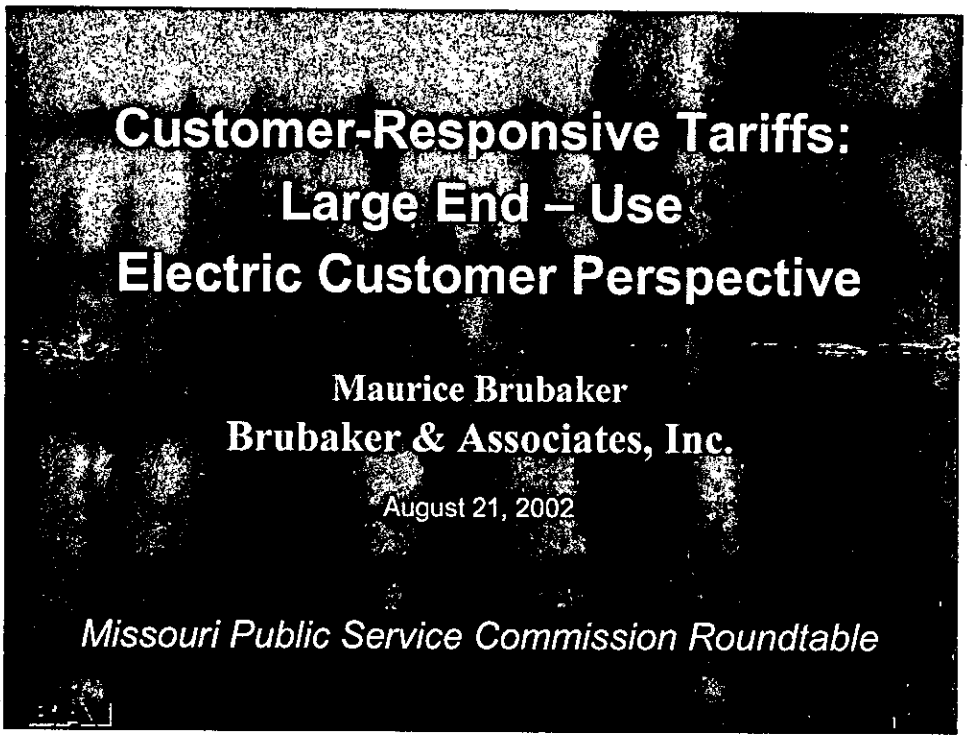
## Process: Conclusions

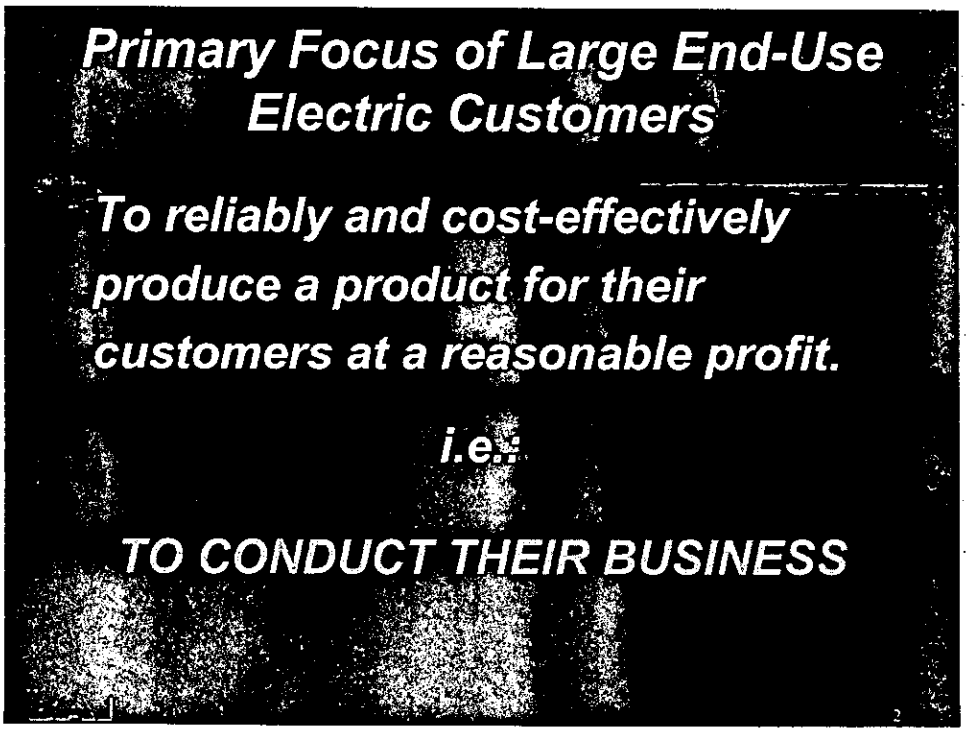
- Intense effort requiring significant levels of support from many functions within utility and from collaborative team
- Significant level of development, implementation, and evaluation costs
  - » Cost recovery??
- Best-designed pilot programs may not attract customer participation. How to attract customers to an opt-in pilot in a non-energy crisis environment?



# THANK YOU!

# 3.c


Customer-Responsive Tariffs:
Large End – Use
Electric Customer Perspective
Maurice Brubaker
Brubaker & Associates, Inc.
August 21, 2002
Missouri Public Service Commission Roundtable
1


Primary Focus of Large End-Use
Electric Customers
To reliably and cost-effectively
produce a product for their
customers at a reasonable profit.
i.e.:
TO CONDUCT THEIR BUSINESS
2

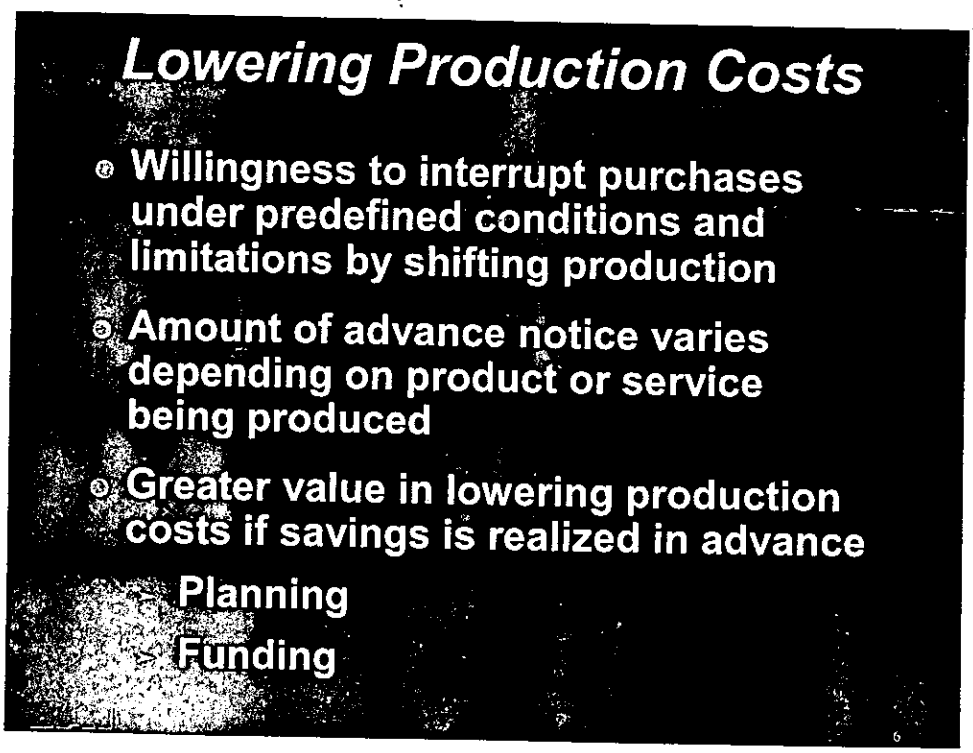
## Factors Affecting Ability to Respond To Price Signals

- Type of process
  - Batch
  - Continuous
- Ability to substitute for current production
  - Inventory
  - Spot Market
- Nature of price / cost structure
  - Avoidable (or reducible) costs
  - Lead time to adjust production
- Other

## Production Cost Containment

- Lower electricity costs to produce product or service are desirable
- A willingness to forgo electricity purchases when savings exceed margin on lost production


Commodity Conversion
Applicable to those producing commodities available on a spot market basis
Deliveries to their customers can be met by producing commodity or spot market purchases of the commodity
Will interrupt if savings from foregoing electricity purchases exceed spot market commodity costs including any transportation difference
Better situated for short-notice interruptions


Lowering Production Costs
Willingness to interrupt purchases under predefined conditions and limitations by shifting production
Amount of advance notice varies depending on product or service being produced
Greater value in lowering production costs if savings is realized in advance
Planning
Funding

## *Limitations on Length and Frequency of Interruptions*

- Ability to shift production without adversely impacting deliveries to their customers
- Ability to alter purchases without adversely impacting environmental restrictions

7

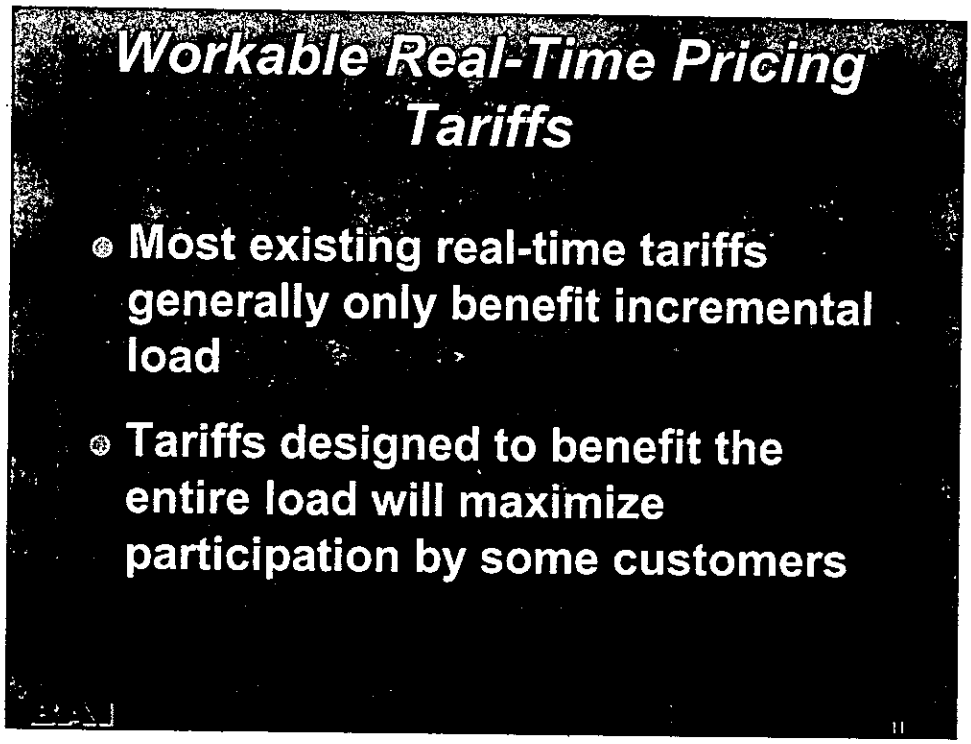
## *More Options Desired*

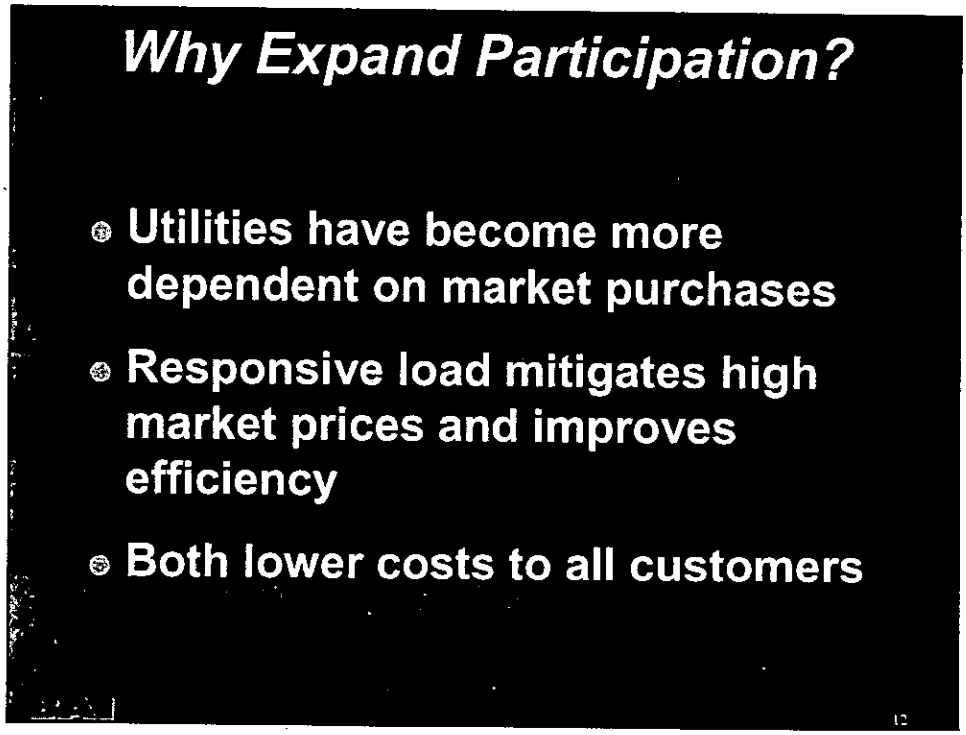
- Traditional interruptible service with negotiable interruption duration and frequency conditions
- Options for firm customers to resell or return their purchases at market prices
- Workable real-time pricing tariffs

8


Traditional Interruptible Tariffs
Not all products and services being produced have the same limitations
Flexibility is needed in establishing terms and conditions to maximize the ability for load to participate
These contracts are highly desirable because they lock-in lower production costs for products and services


Resale Options
Some produce commodities that can be readily replaced through spot purchases
Participation of these types of loads can only be maximized by allowing resale or return of power at market prices
Sufficient notice is necessary to allow these customers to compare their production costs versus spot commodity prices


Workable Real-Time Pricing Tariffs
Most existing real-time tariffs generally only benefit incremental load
Tariffs designed to benefit the entire load will maximize participation by some customers
11


Why Expand Participation?
Utilities have become more dependent on market purchases
Responsive load mitigates high market prices and improves efficiency
Both lower costs to all customers
12

# 3.d

# Demand Response Programs Of Missouri's Regulated Utilities

By
James Watkins, Economist
Missouri Public Service Commission Staff

## Types Of Programs

- Capacity
  - Interruptible on Request by Utility
  - Reduces Need for Installed Capacity
- Energy
  - Voluntary
  - Reduces Need for High-cost Purchases

## Capacity

- Conditions Under Which Load May Be Interrupted
  - System Reliability
  - Peak Load Conditions
  - Restricted to Season and Hour of the Day
- Minimum Interruptible Load
  - Highest Minimum 10,000 kW
  - Typical Minimum 500 kW

## Capacity

- Payment
  - Related to Capacity Cost of Peaking Unit
  - Not Related to Frequency or Duration of Interruptions
  - Penalties May Apply for Customer's Failure to Interrupt When Requested

## Capacity

- Measurement
  - Generally Interval Data Metering
  - Verification That Load During Interruption Period Does Not Exceed "Firm Power Level"
  - No Measurement/Estimation of Actual Load Reduction
    - May Not Result in Any Actual Load Reduction in Some Instances

## Energy

- Conditions Under Which Load May Be Interrupted
  - Voluntary Load Curtailments
  - No Restrictions on Season or Hours of the Day
- Minimum Interruptible Load
  - No Minimum
  - Generally Available to Non-Residential Customers With Demands of 100 kW or More

## Energy

- Payment
  - No Standards for Utility Offer Prices
  - Generally Relate to Wholesale Energy Prices
  - No Payment Unless Customer Participates in a Load Reduction
  - No Penalty for Non-participation

## Energy

- Measurement
  - Generally Interval Data Metering
  - Verification That Load During Interruption Period Is Reduced From "Previous Daily Peak"
  - Measurement/Estimation of Actual Load Reduction Based on Comparison of Load During Interruption to Average Load During The Corresponding Hours Over The Last Several Days

## A Look To The Future

- Union Electric's 200 MW Demand Response Program
  - Collaborative Committee of Interested Parties to Oversee Program Design, Implementation, and Evaluation
  - May Include Interruptible Load and Customer-Owned Generation

## A Look To The Future

- Technology May Enhance/Enable Participation of Smaller Residential and Non-Residential Customers
  - Metering
  - Internet Applications
  - Distributed Generation
  - Control Devices
  - Wholesale Markets

# 3.e

# Demand Response Programs

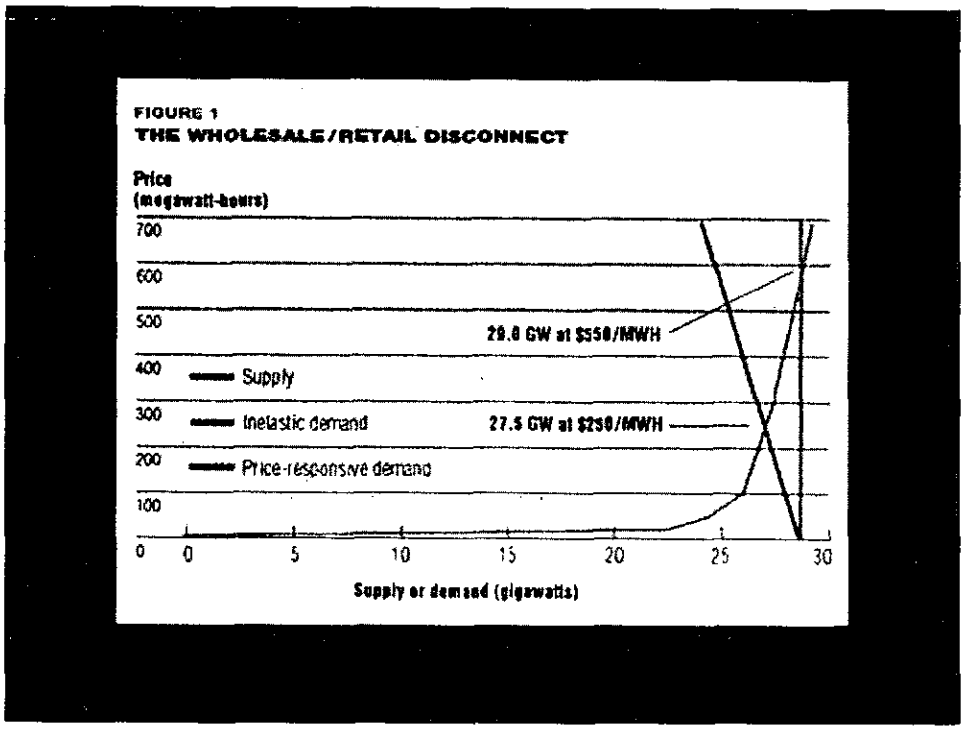
## What Do They Mean to the Small Consumers?

# Problems in the Electric Power Market

- Price Spikes
- Declines in Reliability
- Market Power

# Solutions for Problems in the Electric Power Market

- Conventional Solutions
  - Wires and Turbines
  - Reliability Standards with Enforcement Authority
  - Market Power Mitigation
- Demand Side Solutions
  - Demand Reduction in Wholesale and Retail Markets



## Demand Response Programs

- Wholesale Level - ISO/RTO
  - Reliability Programs
  - Emergency Programs
  - Integrating Demand Response in Wholesale Market
- Retail Level Demand Response
  - Partipation in wholesale markets directly or through aggregators
  - Certain End-use Efficiency Programs

## Retail Level Pricing Structure

- Energy-only Pricing
  - Flat
  - Block
  - Seasonal
- Energy and Demand
- Time-of-use Pricing
- Real-time Pricing - same day or day ahead

## Retail Level Demand Response Programs - Benefits

- Long Term Benefits
  - Economic Efficiency
  - Fairness
  - Environmental Impacts
  - Higher System Load Factor, Smaller Peaks, Price Stability and Cost Savings
- Short Term Benefits
  - Interruptibility
  - Load Shifting
  - Reduced Wholesale Price Volatility

## Retail Level Demand Response Programs– Costs

- Cost of Advanced Metering
- Utility Revenue Loss
- Cost of Information
- Cost of Education
- Billing and Collection
- Customer Risk Aversion & Inertia
- Elasticity of Loads

## Examples – Puget Sound Energy

- Personal Energy management residential TOU rate
  - Started May 1, 2001
  - 300,000 participants
  - Opt-out
  - Four-period TOU: Overnight and Sunday, Morning, Midday, Evening
  - Advanced Electric meters
  - AAO for refund of overcollection of revenue

## Examples – Puget Sound Energy

- Result
  - Customer Participation
    - 99.3% chose to stay on the TOD rates
    - 2,183 customers opted out
    - 18,570 customer phone calls and emails
    - significant number of customers asked to be add to the program
    - 56% noticed a lower bill

## Examples – Puget Sound Energy

- Result
  - Customer Survey
    - 821 customers
    - 88% find it easy to understand the TOD bill
    - 99% understand the TOD time periods
    - 91% have taken some action to alter energy use
    - 85% are satisfied
    - 90% would recommend the TOD program to a friend
    - 33% have a more favorable opinion toward PSE as a result of the program (3% less favorable)

## Examples – Puget Sound Energy

- Result
  - Load Impact
    - preliminary analysis done by the Brattle Group
    - June and July 2001
    - control group receives usage info but not TOD rates
    - average consumer decreased 5% during peak periods, 2% in midday period, and increased 5% during the lowest price period
    - more energy consumption than control group
  - Capital and operations cost per consumer $1.5 per month

## Examples – Puget Sound Energy

- What is in the Future?
  - Filed rate case in Nov 2001
  - Extension through September 2003
  - TOD rates become option for all customers
  - Proposed new pricing options
    - fixed and adjustable rate options
    - adjustable rate moves up or down daily on electric accounts and monthly on natural gas accounts, depending on market conditions

## Examples – Gulf Power

- Advanced Energy Management (AEM) - Good Cents Select
- Residential Variable Service Program
  - TOU pricing with a real-time component
  - Times and Rates are set for low, medium, and high rating periods
  - Rate is set for the Critical period but times at which it occurs depend upon circumstances in the wholesale market

## Examples – Gulf Power

- Standard customer charge $8.07
- RVSP participation charge $4.53
- Energy charges
  - Low (27%) $0.035/kWh
  - Medium (53%) $0.046/kWh
  - High (19%) $0.093/kWh
  - Critical (1%) $0.29/kWh
- Standard Residential Rate $0.056/kWh

## Examples – Gulf Power

- Superstat – a small electronic module to program the operations of the end-uses
  - Customers program their cooling and heating systems, water heating, and pool pumps to automatically respond to varying prices

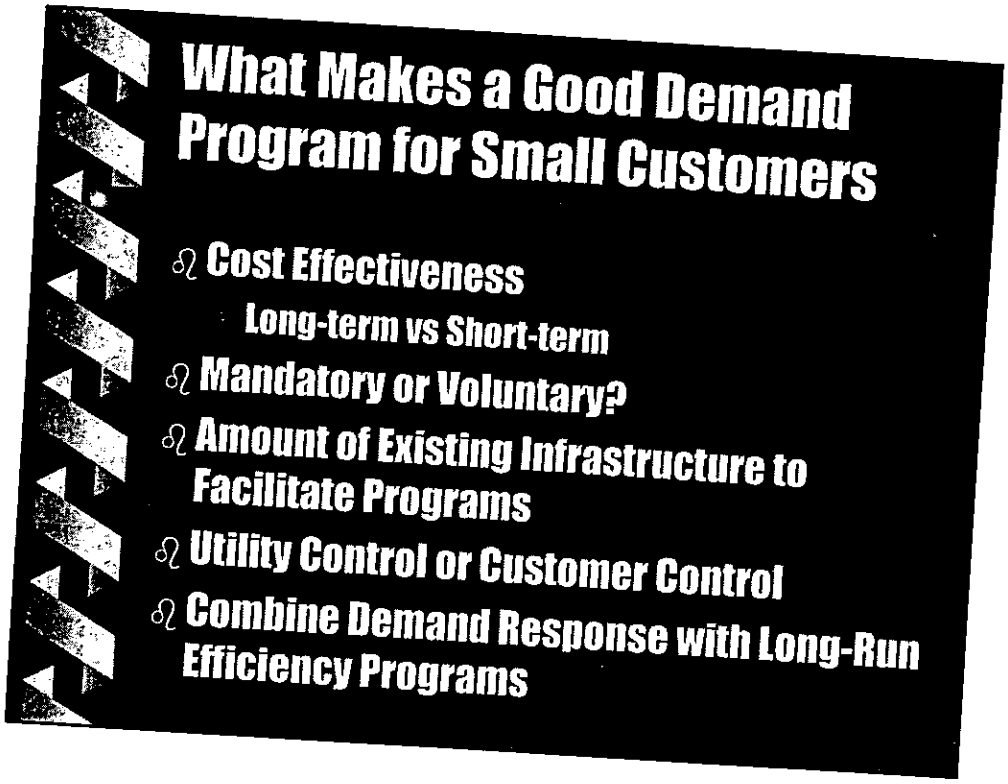
## Examples – Gulf Power

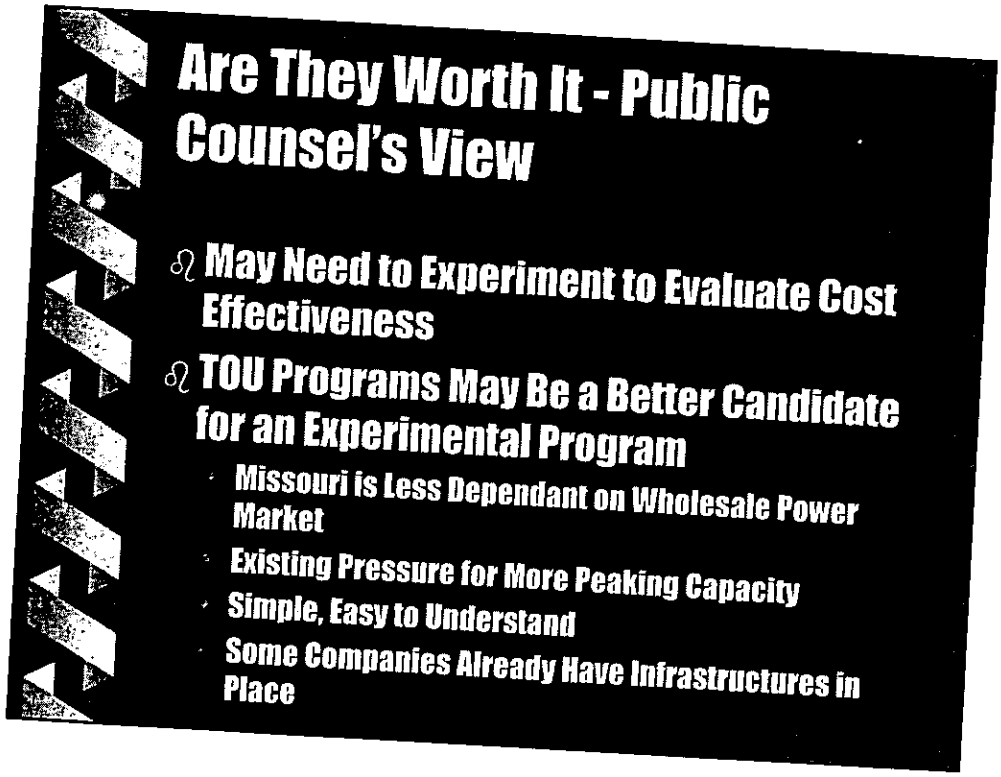
- Average load reduction
  - 2.10 kW/house in summer
  - 2.73 kW/house in winter
- Average Annual Consumption Change

| | |
|---|---|
| Low Price | 11.75% |
| Medium Price | -4.9% |
| High Price | -21.9% |
| Critical Price | -41.7% |

## Examples – Gulf Power

- Average cost savings
  - Annual Bills without AEM Program $1,254
  - Annual Bills with AEM Program $1,067
  - A 14% saving


What Makes a Good Demand Program for Small Customers
Cost Effectiveness
Long-term vs Short-term
Mandatory or Voluntary?
Amount of Existing Infrastructure to Facilitate Programs
Utility Control or Customer Control
Combine Demand Response with Long-Run Efficiency Programs


Are They Worth It - Public Counsel's View
May Need to Experiment to Evaluate Cost Effectiveness
TOU Programs May Be a Better Candidate for an Experimental Program
Missouri is Less Dependant on Wholesale Power Market
Existing Pressure for More Peaking Capacity
Simple, Easy to Understand
Some Companies Already Have Infrastructures in Place

# 3.f

# Demand Response Programs

## Opportunities for Environmental Benefits

Missouri Department of Natural Resources Energy Center
Anita Randolph, Director

August 21, 2002

## What is Demand Response?

- Finding ways to
  - use less electricity from the grid when demand or prices are high; and
  - lessen the overall growth for needed electricity.

## Demand Response Programs

- Load Management
- Energy Efficiency
- Clean Distributed Generation

## Integrated Public Interest Goals

- Integrate energy and air quality goals into demand response program designs to
  - Improve environment and public health
  - Improve power system reliability
  - Provide economic benefits

## Environment and Public Health

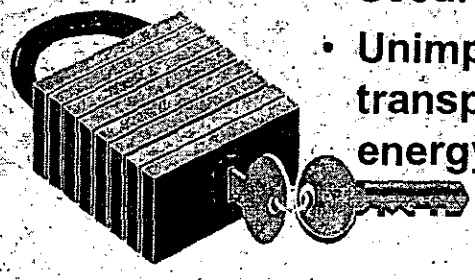
- The problem - ambient air emissions
  - nitrogen oxides (N0x)
  - sulfur dioxide (S02)
  - particulates and air toxics
  - mercury
  - volatile organics
  - carbon monoxide
  - carbon dioxide

## Environment and Public Health Impacts

- Damage to ecosystems
- Nitrates in drinking water
- Natural habitats disrupted
- Urban and rural ozone pollution
- Respiratory distress and disease
- Mercury contamination in fish
- Climate change

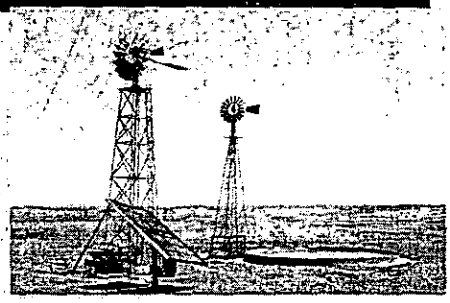
## Power System Reliability

- Uninterrupted power
- Secure supplies
- Unimpeded transportation of energy supplies



## Economic Benefits

- Missouri spends $12 billion on energy needs each year
- More than 98% of Missouri energy is imported from outside the state



- Reduced energy use and diversified resources = dollars kept within Missouri

## Benefits of Energy Efficiency Programs

- Moderate demand and reduce the need to invest in new power plants and transmission upgrades
- Reduce pollutants
- Save money for consumers and businesses and increase productivity
- Lower the wholesale electricity market prices paid by all consumers

## MO Energy Efficiency Potential

- 20th largest energy consuming state overall (1999)
- MO utilities' total DSM savings were 0.06 percent of total electricity sales compared to the national average of 1.74 percent (1998)
- Ranked 5th highest in terms of potential total energy savings and 5th highest in potential energy savings per home (Alliance to Save Energy, 1998)

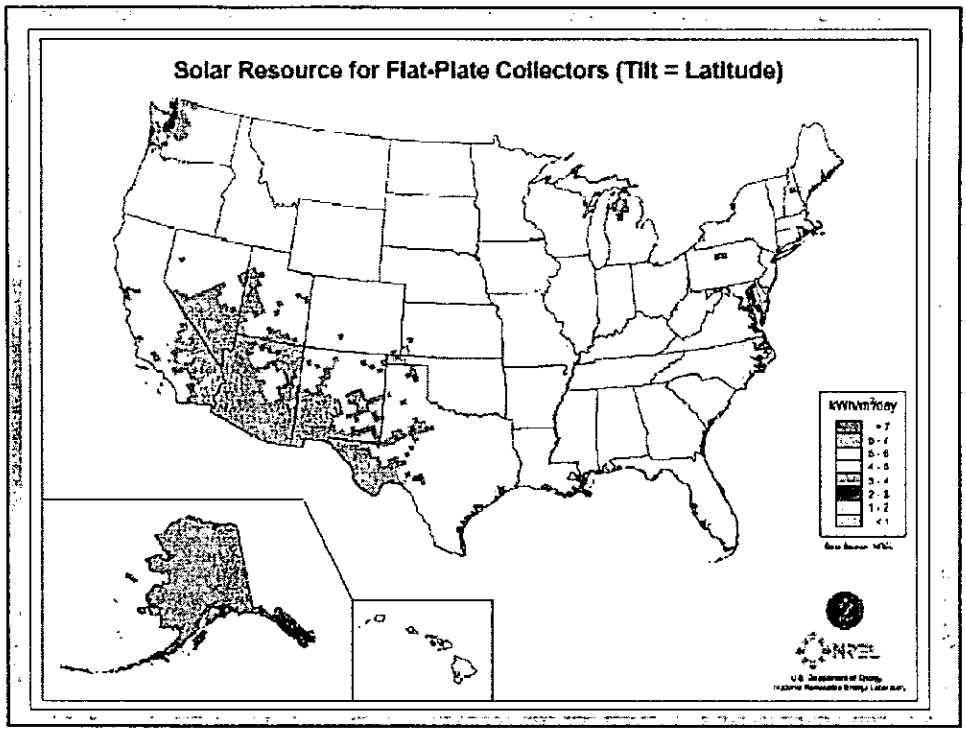
## Benefits of Clean Distributed Generation

- On-site generation helps relieve transmission congestion
- Reduces pollutants
- Diversified energy sources improve reliability
- No ongoing fuel costs (solar and wind)
- Domestic alternatives keep dollars in MO
- Business opportunities for new industries and employment

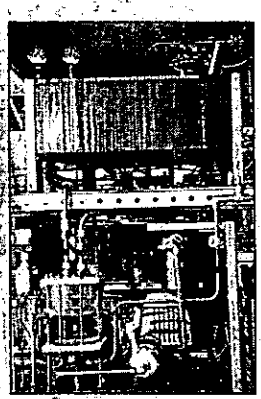
## Distributed Generation from Renewable Energy

- Diversified supply
- Smaller generation sites closer to end user
- Renewable supplies
- Increased efficiency of network

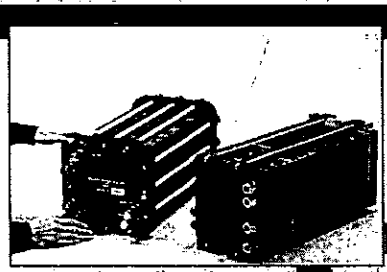
- System more resilient under market stresses



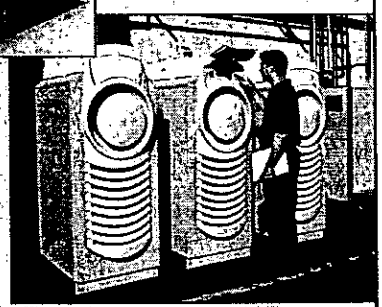

# New technologies



Fuel cells for electric generation



Fuel cells



Microturbines

## Approaches Promoting Demand Response

- Marketing & Education
- Pricing & Incentives
- Taxation
- Mandates
- Regulatory Standards

## Policy Strategies

- Marketing & Education
  - Generation source disclosure & labeling standard
- Pricing & Incentives
  - Loans & grants
  - Green energy pricing

## Policy Strategies

- Taxation
  - Systems benefits charge
  - Tax credits
- Mandates
  - Renewable portfolio standards
  - Specific funding requirements for demand response programs

## Policy Strategies

- Regulatory Standards
  - Emission limits (output based emission standards)
  - Interconnection, access and net metering
  - Reasonable utility exit fees for CHP and self-generators
  - Supplemental environmental projects
  - Resource planning processes

## New York's Demand Response Programs

- Permanent Reductions
  - energy efficiency
- Callable Reductions
  - load management
  - distributed generation
- State, New York ISO and IOU Utility Reductions

## SW Connecticut Demand Response Pilot

- Implementation began June 2002
- FERC load pocket of 51 towns 2,800 - 3,500 MW demand 2,000 MW capacity
- Overlaps with severe ozone non-attainment
  - Initial response (diesel DG) hurt air quality

## SW Connecticut Demand Response Pilot

- Objectives -
  - Develop new energy efficiency and clean distributed generation programs & incentives targeted to peak power use
  - Tie incentives to efficiency, clean energy, clean DG and combined heat and power
  - Develop policies and regulations to restrict use of dirty on-site generators

## SW Connecticut Demand Response Pilot

- Elements -
  - State office buildings
  - Target clean energy funds
  - Education, outreach and marketing
  - Develop a clean energy siting map/tool
  - Other-water efficiency, a/c rebates, pay-as-you save

## CA Demand Response Successes

- June-September 2001 - 2,600 MW of peak demand savings
- Rebates, incentives, education
- Consumer actions -
  - turn off lights, tv and other
  - use a/c less and shift energy use to off-peak
  - installed compact fluorescent bulbs, energy efficient appliances

## Thank you

Missouri Department of Natural Resources Energy Center

(573)751-3443 or

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# 4.a

Aquila

# Aquila, Inc.

## Presentation for the Electric & Natural Gas Roundtable

## August 21, 2002

## Utility Mergers and Acquisitions

Aquila

# Aquila's Acquisition Strategy

Kansas Public Service – 1984
Peoples Natural Gas – 1985
West Virginia Power - 1986
Northern Minnesota Utilities – 1986
Liberal Gas Company – 1988
Michigan Gas Utilities – 1989
West Virginia Gas - 1990
West Plains Energy – 1991
Minnegasco (Nebraska) – 1993
Arkla (Kansas) – 1994
St. Joseph Light and Power – 2000

- Currently suspended
- Dates back to 1984 – still sound strategy
- Designed to provide low cost, efficient and reliable service
- Enhances values to all stakeholders –
  - ✓Employees
  - ✓Customers
  - ✓Shareholders
- Achieved through diversification by –
  - ✓ Product
  - ✓ Region
  - ✓ Climate
  - ✓ Jurisdiction

2

Aquila

# Diversification by Product

**Purpose** – to spread financial risk by balancing winter peaking gas and summer peaking electricity

**Benefits** – cash flow consistency reduces short term debt;
stable earnings - not dependent on one quarter;
more efficient staffing;
balanced workloads;
reduced costs

3

Aquila

# Diversification by Region

**Purpose** – to spread economic risk by diversification into different geographical areas

**Benefits** – not dependent on regional economies;
not dependent on single large customer;
economies of scale;
reduced costs

4

Aquila

# Diversification by Climate

**Purpose** – **to spread weather risk by distributing assets among multiple regions**

**Benefits** – **less subject to regional weather incidents**
**use internal resources to address weather events**
**improved response to weather related incidents**
**reduced costs**

5

Aquila

# Diversification by Jurisdiction

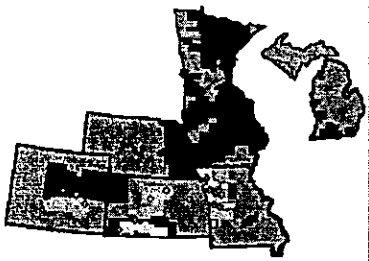
**Purpose** – **to spread regulatory risk by operating in different states**

**Benefits** – **increased awareness of regulatory solutions; somewhat insulated from restrictive approaches; recently instituted credit rating agency criteria focuses on regulatory risk of utilities**

6

Aquila

# Strategy Results



- Electric Service
- Gas Service
- Combination
- Generation Assets

| | 1984 | 2002 |
|---|---|---|
| Electric customers served … | 140,713 | 433,978 |
| Gas customers served ..... | 59,539 | 880,182 |
| Total customers served..... | 200,252 | 1,314,160 |
| Generation MW..... | 912 | 2,115 |
| Networks: | | |
| Pole Miles ..... | 7,000 | 21,000 |
| Pipe Miles ..... | 193 | 20,000 |
| Total Miles..... | 7,193 | 41,000 |
| Assets managed..... | $.4 billion | $2.5 billion |
| Employees..... | 894 | 2,554 |

- Larger Balance Sheet
- Customer Growth
- Employee Opportunity
- Customer Savings
- Diversification of Risks

7

Aquila

# Realizing Benefits

- Transactional Dependencies
- Shareholder Approval
- Management Execution
- Short-term Regulatory Environment – create value
- Long-term Regulatory Environment – opportunity to earn

| State | Test Period | Rate Base | Fuel/PGA Adjustment | Alternative Reg./Clauses | Case lag | Interim Rates | Premium Recovery |
|---|---|---|---|---|---|---|---|
| Colorado (E) | H | YE | FP | RQE, P, Q, R, F | 8 | N | Y |
| Colorado (G) | H | YE | F | Q | 8 | N | N |
| Iowa | H | AVG | F | F, DSM, C | 10 | Y | Y |
| Kansas (E) | H | YE | FP | DSM | 8 | N | Y |
| Kansas (G) | H | YE | F | F, WNC, C | 8 | N | Y |
| Michigan | PF | AVG | F | - | OPEN | Y | N |
| Minnesota | FF | AVG | F | DSM | 9 | Y | N |
| Missouri (E) | HT | YE | N | F | 11 | N | N |
| Missouri (G) | HT | YE | F | F | 11 | N | N |
| Nebraska | FF | AVG | F | C | 8 | Y | Y |

Favorable
Neutral
Unfavorable

8

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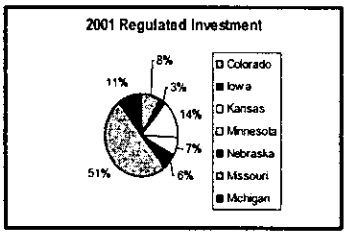
# Lessons Learned




- Capable of delivering synergies
- Focus on original strategy
- Favorable state precedent
- Understand long-term regulatory risk



Aquila

# Conclusion

# 4.b

# Utility Mergers and Acquisitions in Missouri

**Mark Oligschlaeger**

Test for Commission approval: "**no detriment to the public**.": "A property owner should be allowed to sell his property unless it would be detrimental to the public."

- "**Public**" primarily considered to customers of the utility.
- "**No detriment**" test means the utility does not have to prove benefits will result from the proposed transaction.

In reviewing merger applications in the past, the Commission has considered the following:

- The applicant's experience in the utility industry
- The applicant's history of service difficulties

- The applicant's general financial health
- The applicant's ability to absorb the proposed transaction
- The applicant's ability to operate the assets safely and efficiently

## Recent Electric M&A Activity in Missouri

- **Union Electric/Central Illinois Public Service**
  - Agreement August 1995
  - Approved February 1997
  - Closed December 1997
- **Western Resources/Kansas City Power & Light**
  - Agreement March 1998
  - Approved September 1999
  - Terminated January 2000

- **UtiliCorp United/St. Joseph Light & Power**
  - Agreement March 1999
  - Approved December 2000
  - Closed December 2000
- **UtiliCorp United/Empire District Electric**
  - Agreement May 1999
  - Approved December 2000
  - Terminated December 2000

## Typical Staff Concerns in Merger Investigations

- **Financial Impacts**
  - Credit Ratings
  - Capital Structure
- **Market Power**
  - Horizontal: Market Power Studies
  - Vertical: RTO Membership
- **Customer Service**
  - Call Center Indices
  - Storm Restoration Indices

- **Preservation of Missouri Benefits**
  - Fuel/Generating Costs
  - Jurisdictional Allocations
- **Preservation of Income Tax Benefits**
- **Treatment of Merger Costs**
  - Acquisition Adjustment/Merger Premium
    - No Recovery
  - Transaction Costs
    - No Recovery
  - Transition Costs (Costs to Achieve)
    - Ten/Twenty Year Amortization

## Reasons for Staff Opposition to Premium Recovery

- Transactions Primarily Intended to Benefit Shareholders
- Cost/Benefit Analysis: Savings Cannot be Measured or "Tracked"
- Below-the-Line Treatment Consistent with "Negative" Premium Treatment
- Below-the Line Treatment Consistent with Gain/Loss Treatment
- Some Portion of Premium May be Related to Non-Regulated Benefits

## Staff Approach to Merger Costs/Savings

- **Rely upon Regulatory Lag**
  - Moratoriums
  - Incentive/Sharing Plans
  - Informal Approaches
- **Approach Used Should Not Differentiate Between Merger and Non-Merger Savings and Costs**
- **Formal Moratoriums and Incentive Plans Require Agreement of All Parties; Commission Cannot Impose Them**
- **Typical Merger Stipulation**
  - Agreement on Moratorium or Sharing Plan
  - Below-the Line Treatment of Merger Costs
  - Customer Service Standards Established
  - Market Power and Financial Concerns Addressed

## Commission Approach to Mergers (based upon UtiliCorp Merger Orders)

- No Rate Decisions in Merger Applications/"Regulatory Plans" Rejected
- The Possibility of Future Cost of Service Increases Does Not Constitute Detriment
- Will Not Impose Requirements on Merging Companies that do not Apply to Non-Merging Utilities
- Concerns About Safety Impacts of Employee Reductions

# 4.c

# Electric and Gas Utility Mergers: Motivating Factors and Regulatory Concerns

Missouri PSC Roundtable
August 21, 2002

Ryan Kind - Chief Energy Economist
Missouri Office of the Public Counsel

## Topics Covered

- Merger motivating factors (generic and situation specific) for the acquirer and acquiree.
- Merger benefits for the utility arise from merger synergies and/or other sources.
- Merger review standards at the state and federal level.
- Consumer risks from mergers.

## Merger Motivating Factors

- Earnings Growth (percent growth in EPS and percent growth in year to year earnings).
- Diversification/growth to spread earnings risk and/or obtain new earnings opportunities.
- Increase chance of success in adapting to changes and exploiting opportunities associated with restructuring of the electric and gas industries.

3

## Merger Motivating Factors (cont.)

- Growth in size to achieve minimum sustainable scale, deter hostile acquisition or growth for growth's sake.
- Value of parts of acquired utility greater than whole so acquire and disaggregate and sell portions.
- Acquisition to prevent neighboring utilities from growing in your back yard.
- Increasing management depth or acquiring technical expertise.

4

## Merger Motivating Factors (cont.)

- Leverage utility assets to increase the scope and/or profitability of non-regulated operations. Utility assets that may be leveraged include:
  - right of ways
  - telecommunications infrastructure
  - gas and electric wholesale marketing capabilities
  - gas retail marketing capabilities
  - generation and gas procurement capabilities
  - accounting and corporate services

5

## Motivating factors for the utility being acquired.

- Merger premiums that range from 10% - 30% provide immediate windfalls for the acquired utility's shareholders.
- Former SJLP shareholders have seen how this windfall can evaporate if they do not convert their shares to cash shortly after the merger.

6

## Potential Synergies That May Lead to Earnings Growth

- Customer billing and service
- Joint dispatch of generation
- Purchasing and transport of fuel and other supplies.
- Utility and non-utility assets useful in the provision of telecommunications and cable TV services.
- Access to customers for selling non-regulated services.

7

## Sources of earnings growth unrelated to synergies

- Gaining unearned competitive advantages.
- Transfer of jurisdiction from state to federal regulatory agencies.
- Affiliate transactions that favor non-regulated activities.

8

## Federal and State Merger Approval Regulation

- Federal level
  - Securities and Exchange Commission (SEC)
  - Federal Energy Regulatory Commission (FERC)
- State Level- State Regulatory Commissions (PSCs and PUCs)

9

## Federal regulation of mergers

- PUHCA regulation by the SEC - SEC perceived by many as a toothless tiger with broad congressional mandate but little enthusiasm for effective regulation.
- FERC oversight- Section 203 of Federal Power Act requires FERC to find mergers are consistent with the public interest before approval. Basic analysis looks at costs not exceeding benefits and the need to mitigate market power impacts.

10

## State regulation of mergers

- Different states use different standards for approval ranging from "beneficial to the public interest" to "not detrimental to the public interest."
- Different states have different jurisdiction and/or assert jurisdiction differently regarding mergers between corporate entities above the utility operating company level (e.g. at the holding company level).

11

## MO PSC Merger Approval Standard

- Not detrimental to the public interest standard
- In recent UtiliCorp/SJLP merger, Commission found that risk of future detriment from increased financing cost was not grounds for denying merger.
- OPC respectively disagrees with Commission view that "if the company's [future] cost of debt is unreasonable, appropriate adjustments can be made to protect the ratepayers."
- Future Commissions may be hesitant to disallow high financing costs to an already struggling utility.

12

## MO PSC Jurisdiction at the Utility Parent/Holding Company Level

- Many utilities have restructured their corporate organization to create a holding company structure where utility operating companies are subsidiaries.
- The Commission has generally declined to assert jurisdiction at the holding company level so when mergers occur at this level they have not been reviewed in Missouri.

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## MO Juris. At HoldCo Level (Cont.)

- RWE (a German Company) owns Thames Waterworks (an English Co.). Thames is acquiring American Waterworks which owns a Missouri utility (Missouri American).
- This recent water company merger proposal has been reviewed by other states, some of which imposed conditions, but the MO PSC has declined to assert jurisdiction.
- OPC has already experienced difficulty evaluating the service company allocations from American Waterworks affiliates to MO American. Merger can only make this worse.

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## Public Counsel recommended changes in merger review process

- Legislative change in merger approval standard to "beneficial to public interest."
- Public Counsel respectively disagrees with the Commission's interpretation of its jurisdiction at the holding company level. Perhaps legislation to further clarify the PSC jurisdiction in this area would be desirable.

15

## Risks to Consumers From Mergers

- Declines in service quality.
- Increases in rates.
- Increase in risk of subsidizing non-regulated activities.
- Difficulties accessing and compiling the information needed to monitor affiliate transaction and audit the regulated costs of service.
- Market Power

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## Possible Decreases in Service Quality

- Utilities are under pressure to show that a merger is accretive (increase in EPS) to shareholders immediately or in short run.
- This adds additional pressure to cut costs. At some point costs are "cut to the bone" and further cuts lead to declines in service quality.

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## Risk of Rate Increases

- Utilities in Missouri and throughout the country seek to recover merger premiums from ratepayers.
- If the acquirer's credit ratings are below those of the acquiree, this may lead to increases in rates for the acquiree's customers if the higher debt or equity costs are allowed in rates.

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## Subsidization of non-reg. activities

- Mergers tend to add additional complexity to corporate structures.
- Mergers tend to increase the quantity and magnitude of affiliate transactions.
- Mergers can provide opportunities for disputes regarding the ratemaking treatment that was or was not implied by a decision to approve the merger (e.g. the recent dispute over UE's Joint Dispatch Agreement).

19

## Difficulties accessing and compiling information

- Acquiring information from the parent, service company, and utility affiliates needed to perform cost of service audits and monitor affiliate transactions can be a huge task as affiliate relationships grow and become more complex.
- Affiliate rules can help offset this risk.

20

## Market Power Risks

- Has this issue died for now with the greatly decreased prospects of retail competition?
- No. First of all, who says the expansion of retail competition is dead forever?
- Second, Missouri electric utilities continue to choose to rely to some extent on wholesale markets and the latest FERC initiative to salvage wholesale competition (SMD) offers both risks and opportunities.

21

## Summary

- Mergers and their regulatory implications are likely to remain hot topics in the gas and electric industries.
- Public Counsel encourages the Commission to continue its careful scrutiny of merger applications and the increase in affiliate transactions that often result from these mergers.

22

# 5

# Missouri Public Service Commission
# Electric & Natural Gas Roundtable
# August 21, 2002

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| Joe Schulte | Pace Local 5-6 | 314-721-8448 |
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| Barb Temm | Pace Local 5-0194 | 314-231-9398 |
| Jason Archer | Dept. Economic Dev. | 751-5097 |
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| Cary Featherstone | Rick Campbell | Roberta McKiddy |
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| Ken Nichols | Bob Berlin | Rosalla Schad |
| Mike Proctor | Wess Henderson | Bob Schallenberg |
| Toni Messina | Henry Warren | Lena Mantle |
| Nathan Williams | Bob Quinn | James Watkins |
| John Kiebel | Debbie Bernson | Denny Frey |
| Leon Bender | Greg Macias | Connie Murray |
| Jolie Mathis | Steve Gaw | Steve Dottheim |
| Bryan Forbis | Kelvin Simmons | Janis Fischer |
| Sheila Lumpe | | |