

Building a Successful Demand Response Program

Ross Malme
President & CEO, RETX, Inc.
Chairman of PLMA



RETX



RETX Background



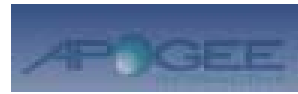
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Company Highlights

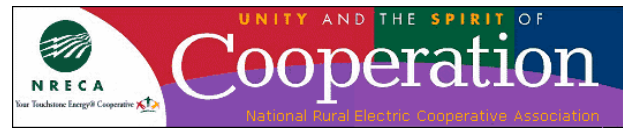
- Privately Held Company with HQ in Atlanta
- Business: market-based solutions to alleviate current energy supply shortage problems
- Over 100 combined years in the energy industry
- Created First Regional Negawatt Hub with ISO New England
- Pioneering Use of Load Response for Congestion Management



PLMA members



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UHR Technologies



Good Company ASSOCIATES



In the NARUC *Efficient Reliability* *The Critical Role of Demand-Side Resources in Power Systems and Markets* Study – it states that

Responsible estimates of the Demand-side potential concluded that as much as 40% - 50% of the nation's peak load growth over the next twenty years could be met through *energy efficiency, price-response, and load management* measures that would be less expensive than their supply-side substitutes.



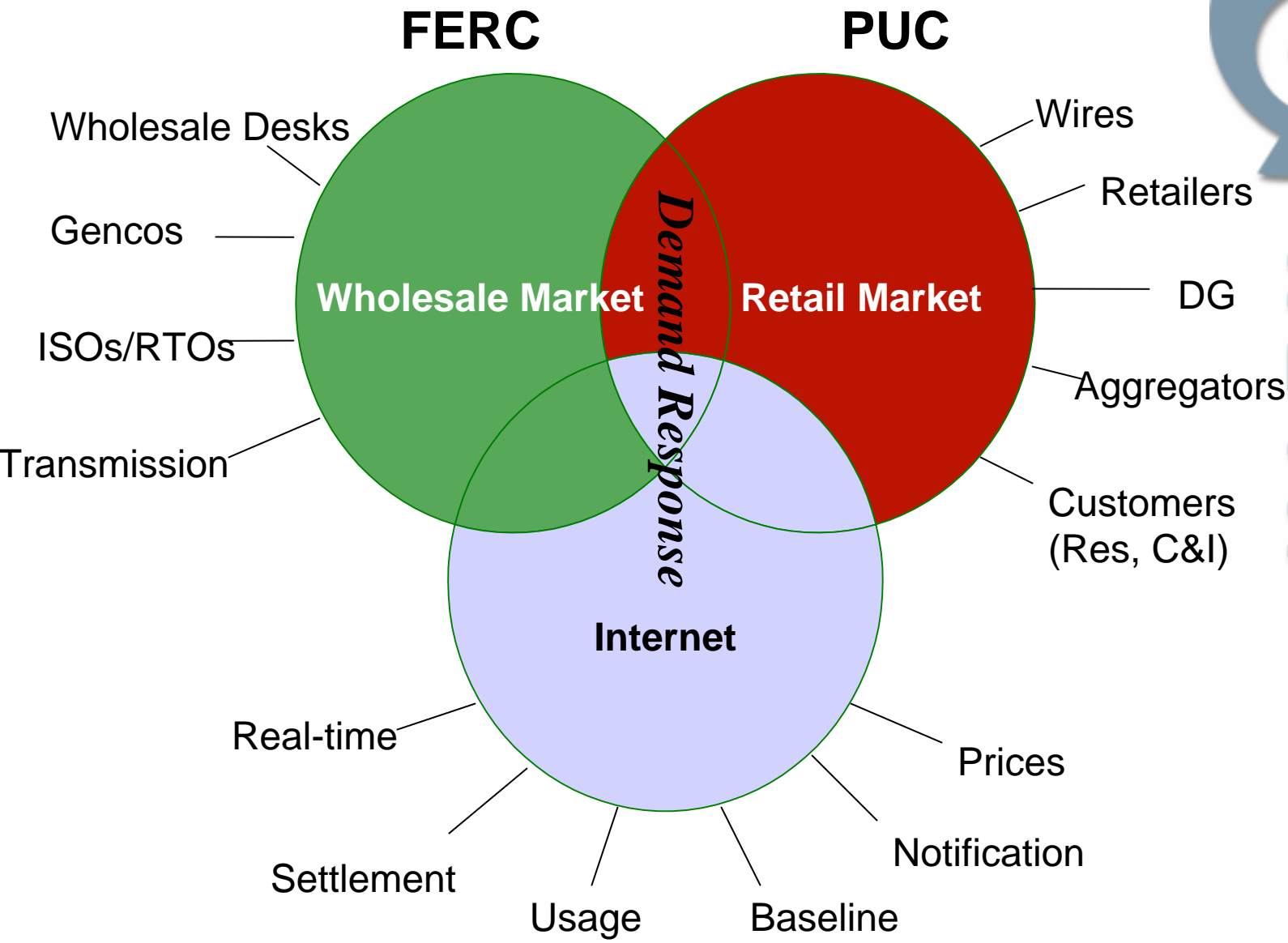
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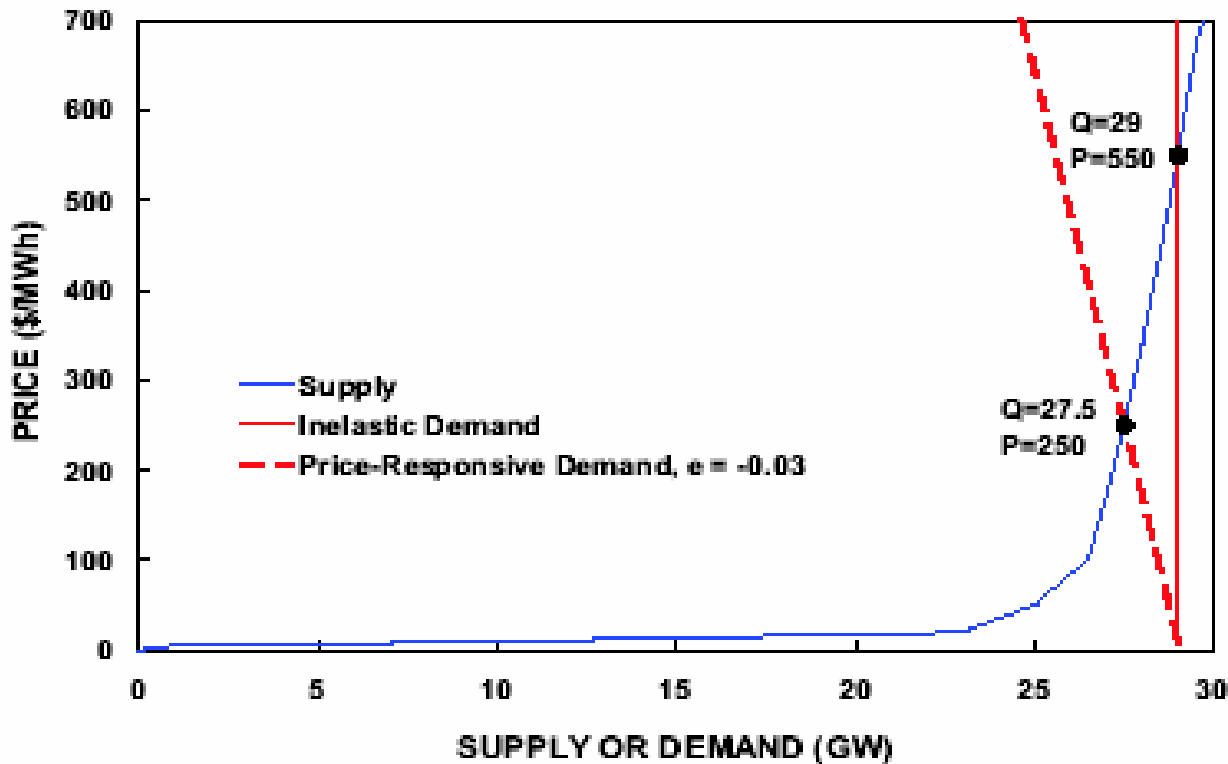
Demand Response Value Prop



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Wholesale Supply & Demand Curves



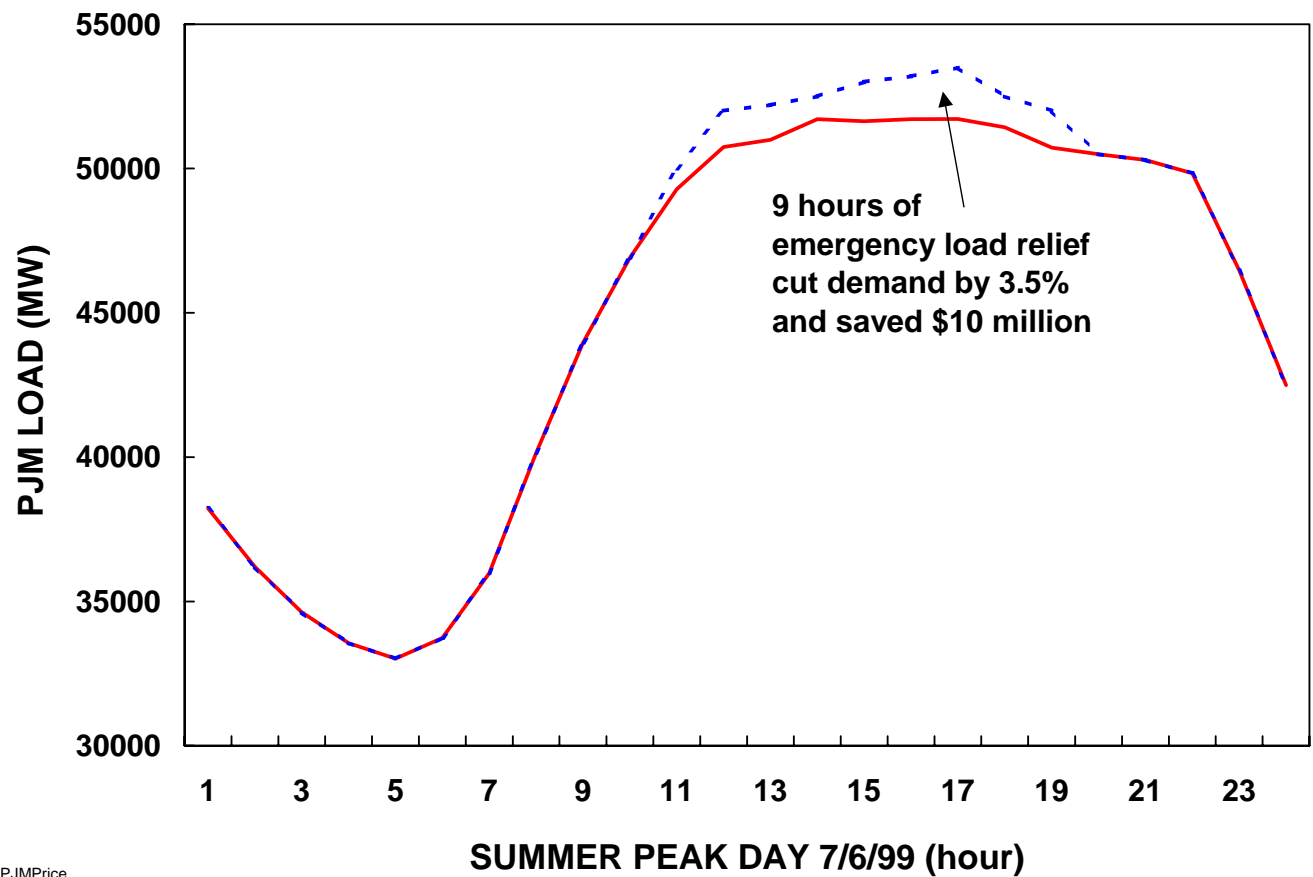
- *Consumers response to prices reduces demand by 5% and cuts the price by 50%*
- *This price-spike reduction benefits all customers, not just those with price-responsive demand*





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PJM LOAD RELIEF CUT ELECTRICITY COSTS BY \$10 MILLION



PJMPrice



Background of Demand Response Programs



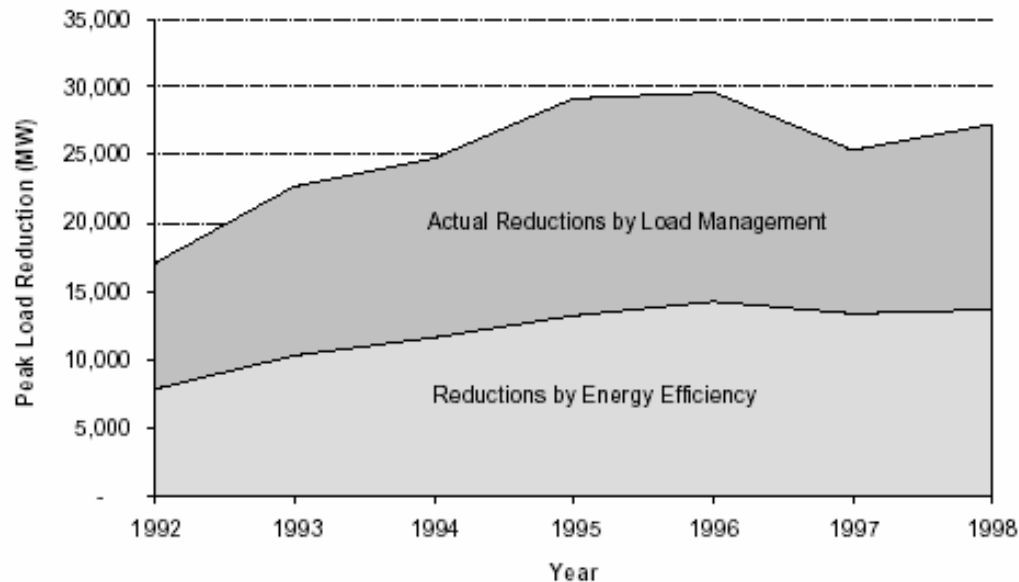
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- During 1985 – 1995 more than 500 US utilities developed DSM programs
- Successfully delivering 29,000 MW of savings nationwide
- About 3 cents per kWh saved



Demand Response decline

- Total utility DSM spending has declined by about 50% since 1993
- According to EIA, utility spending for all DSM totaled \$2.7 Billion in 1993
- From 1993, spending has dropped to \$1.5 Billion (a decline of 45% over the next four years)



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Today's Demand Response Programs



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ISO New England, California ISO, PJM, New York ISO

Electric Utility DR Programs:

Reliability-Based Programs		Market-Based Programs	
Direct Load Control	Emergency Response	Variable Pricing	Demand Bidding
BG&E	Allegheny Energy	Cinergy	Ameren
Black Hills Power	BG&E	Dominion Virginia Power	Cinergy
Exelon (ComEd)	Cinergy	FirstEnergy	Con Edison
Con Edison	ComEd	Georgia Power	Duquesne
Florida P&L	Con Edison	Gulf Power	Entergy
Florida Power	Dominion Virginia Power	Illinois Power	Georgia Power
Georgia Power	GPU	KCP&L	GPU
GPU	Idaho Power	Penn P&L	Idaho Power
LIPA	KCP&L	Puget Sound Energy	Otter Tail Power
LG&E	Nevada Power	Tuscon Electric	PG&E
MidAmerican	PG&E	Wisconsin Public Service	Pacificorp
PEPCo	Pacificorp	Xcel Energy	Portland General Electric
PSE&G	PEPCo		Wisconsin Electric
Reliant	Portland General Electric		Xcel Energy
SCE	Penn P&L		
Wisconsin Public Service	PSNH		
Xcel Energy	PSE&G		
	Puget Sound Energy		
	San Diego G&E		
	Sierra Pacific Power		
	SCE		
	Tampa Electric		
	Texas New Mexico Power		
	Tuscon Electric		
	Utilicorp		
	Xcel Energy		

Demand Response looks favorable to...

- Cost of New Generation
- Increasing Demands on Transmission Network
- Cost of Consequences of Overloaded Distribution Network
- Fuel Supply Costs and Conflicts
- Environmental Costs of “Wires and Turbines” Reliability



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Efficient Reliability: The Critical Role of Demand-Side Resources in Power Systems and Markets; Richard Cowart, Regulatory Assistance Project, for the National Association of Regulatory Utility Commissioners (NARUC)



FERC view

At the PLMA Spring Conference held in Dallas at the end of April – Commissioner William Massey stated that

FERC initially believed Demand Response was in the domain of the retail markets and therefore it was the responsibility of each individual state PUC. NOW FERC believes that they can't create an efficient wholesale market without a robust demand-side market thus Demand Response falls under FERC's responsibility.



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FERC Standard Market Design Principles

- #5 Energy and transmission markets must accommodate and **expand customer choices**. Buyers and sellers should have options which include self-supply, long-term and short-term energy and transmission acquisitions, **financial hedging opportunities, and supply or demand options**.
- #6 Market rules must be **technology- and fuel-neutral**. They must not unduly bias the choice between demand or supply sources nor provide competitive advantages or disadvantages to large or small demand or supply sources. **Demand resources** and intermittent supply resources should be able to **participate fully in energy, ancillary services and capacity markets**.
- #8 **Demand response** is essential in competitive markets to **assure the efficient interaction of supply and demand**, as a check on supplier and locational market power, and as an **opportunity** for choice by wholesale and **end-use customers**.

*FERC Working Paper on Standard Transmission Service
and Wholesale Electric Market Design*



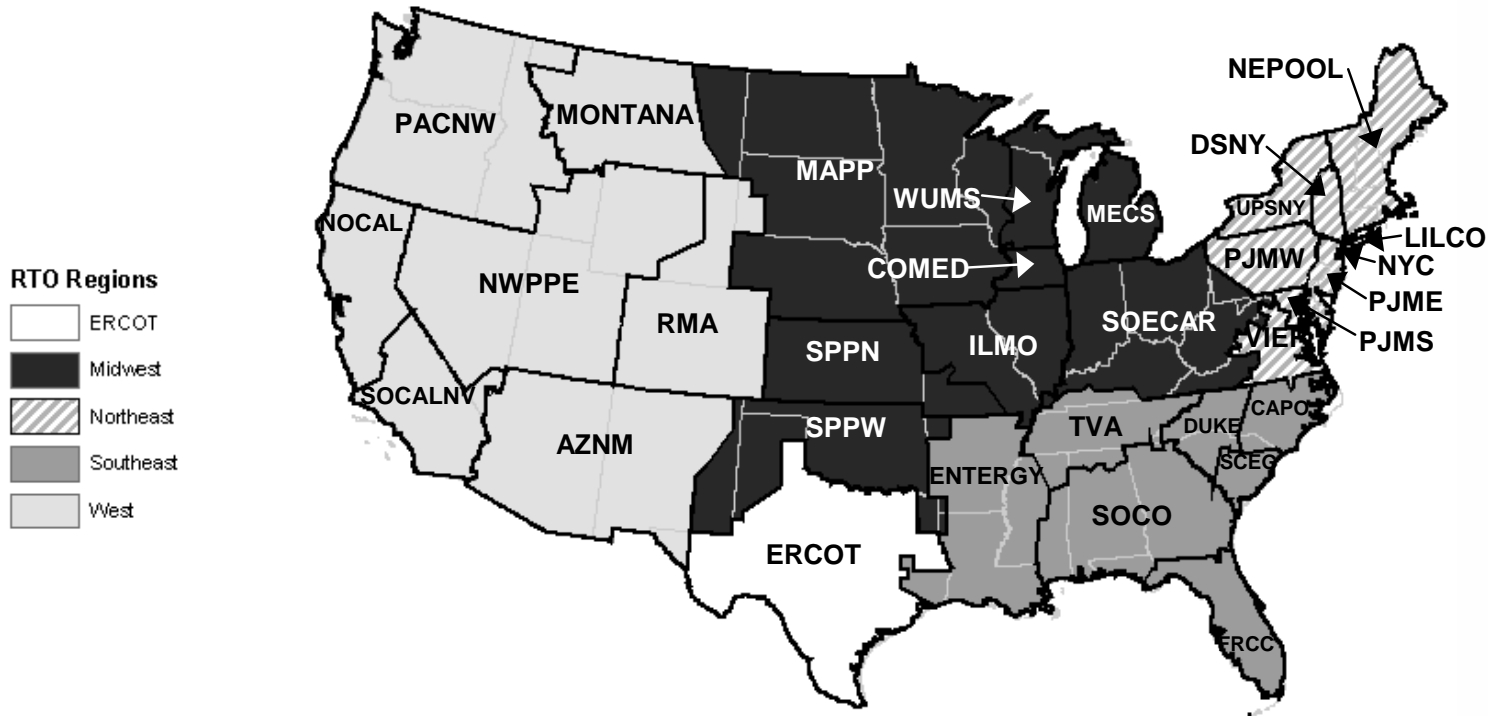
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Possible Configuration for the RTO Scenarios



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Economic Assessment of RTO Policy; ICF Consulting; March 26, 2002



US Energy Bill

- Senate approved (88-11) in the last week of April
- Includes \$14 billion in tax incentives to create or save power
- *Reshape the US energy policy for the first time in more than a decade*



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What is needed

- Long Term View on Demand Response
- Consistent Business Rules across Regions to Encourage Investment
- Demand Response is Essentially an Insurance Product
- Quantify “Multiplier Effect” of Demand Response:
 - Energy
 - Capacity
 - Transmission
 - Distribution
 - Risk Management
 - Reliability
 - Mitigation of Market Power
 - Environmental
 - Enabling DG
 - Time to Market



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- **Steve Whitley, Vice President of Operations, ISO NE and Ross Malme, CEO, RETX will be featured on WICC morning news program called “Town Meeting on 600AM or www.wicc600.com.**
- **The radio broadcast will discuss ISO NE LRP 2002 and the the last 30 minutes of the program will be open question and answers.**

www.retx.com

www.peaklma.com

www.naruc.org

http://www.eren.doe.gov/electricity_restructuring/ferc.html

www.icfconsulting.com/

