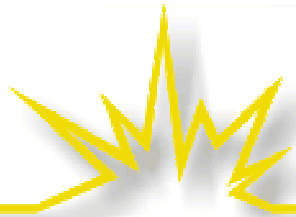


Transmission 101: The System, its Rules and Resources

NASEO Annual Meeting
Richard Sedano
September 29, 2004

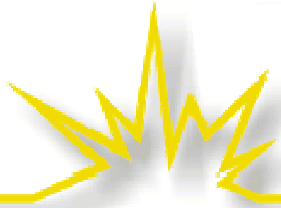


The Regulatory Assistance Project

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Introduction

Regulatory Assistance Project

RAP is a non-profit organization, formed in 1992, that provides workshops and education assistance to state government officials on electric utility regulation. RAP is funded by the Energy Foundation, the US EPA and the US DOE.

Richard Sedano was Commissioner of the Vermont Department of Public Service, 1991-2001, and presently serves on the Montpelier Planning Commission

All Energy Issues



**Your
Responsibilities**

Energy Regulation



Transmission is about reliability and commerce

- Conventional wisdom: The U.S. is severely under-invested in transmission... NO!
 - ❖ Significant investment in 70s and 80s has enabled relatively lower levels to support significant load growth
 - ❖ Planning is revealing system needs in greater numbers now
 - ❖ Alternatives to transmission are available



Elements of Reliability

➤ Adequacy

❖ Is there enough power?

➤ Stability

❖ Is the grid capable of delivering stable service to customers even if the most important element of the system fails? (The N-1 criterion)

Risk is a permanent feature of energy systems.

Managing risk is a permanent part of government policy.



Elements of Commerce

- Moving low cost electricity
 - ❖ Across utility and state boundaries
- Locational pricing
- Day ahead markets
- Same day markets (multi-settlements)
- Transmission loading relief (TLR) curtails theoretically economic trades



Regional Transmission Organization

- Focal point of transmission planning
- Role on resource acquisition unresolved
 - ❖ Rules on cost recovery
 - ❖ Provider of last resort
 - ❖ Financial capacity



Important Electric Grid Issues

- Reliability Measures
- Siting
- Alternatives
 - ❖ Need
- Customer Resources
 - ❖ Maintain larger safety margins, resilience
- Development of Natural Resources
 - ❖ Wind, Coal
- Regional Coordination, Collaboration



State Energy Office Interests

- Promote sound energy policy
- Promote Energy Efficiency and Renewable (Clean) Energy
- Promote state economic health

**Reliability is a function of
Supply, Demand and Transmission**




Resources

- National Council, RAP
 - ❖ [Dimensions of Reliability: Electric System Reliability for Elected Officials](#)
<http://www.ncouncil.org/reliability.pdf>
 - ❖ Electric Transmission for Policymakers: A Primer (forthcoming, also at www.ncouncil.org)
- New England Demand Response Initiative
 - ❖ http://www.raonline.org/showpdf.asp?PDF_URL=%22Pubs/General/FinalNEDRIREPORTJuly2003.pdf%22
- Efficient Reliability (NARUC, RAP)
 - ❖ <http://www.raonline.org> or www.naruc.org

Resources

Primary Sources

- MISO Transmission Plan
 - ❖ http://www.midwestiso.org/plan_inter/expansion.shtml
- New England Transmission Plan
 - ❖ http://www.iso-ne.com/smd/transmission_planning/Regional_Transmission_Expansion_Plan/
- New York Transmission Plan
 - ❖ http://www.nyiso.com/services/documents/planning/pdf/ferc_form_715_filing/ferc_2004_715_report.pdf
- PJM
 - ❖ <http://www.pjm.com/planning/planning.html>



What Energy Offices Can Do

- Energy offices provide “retail” services to energy consumers
 - ❖ Target consumers that provide reliability value
 - ◆ Customers in growing areas with new transmission on the horizon
 - ◆ Customers already in constrained areas
 - ◆ Customers with compatible end uses
 - ❖ Channel financial resources for customer resources
- Energy offices can help govs and emergency responders correctly diagnose system problems and assist with forming responses.

Alternatives:

Non-regulatory Opportunities

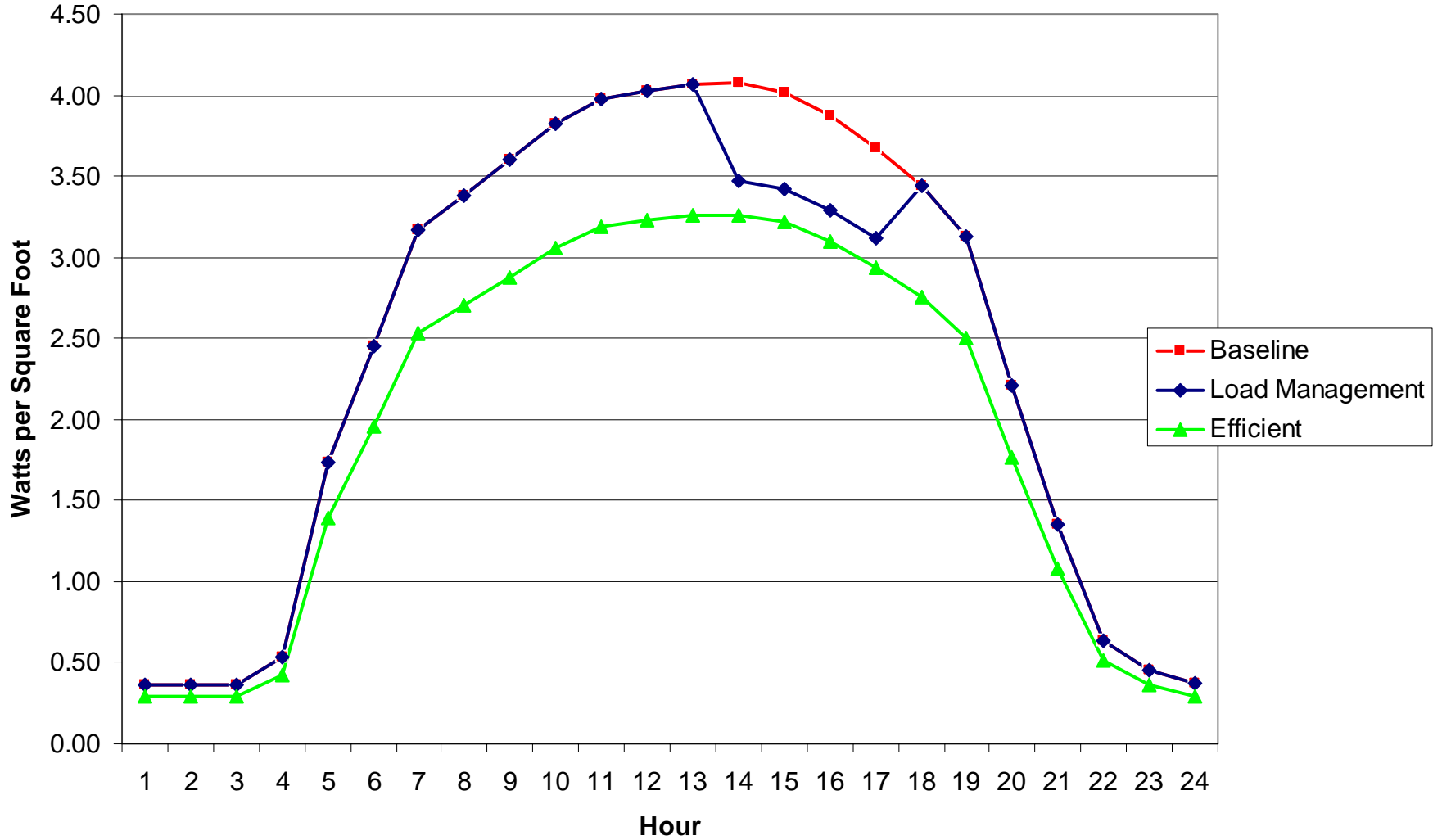
- Manufacturing customers can overhaul energy systems, deploy CHP, efficiency, and participate in demand response
- Codes and Standards
- Mass participation in key load control end uses (e.g., radio controlled)

Alternatives:

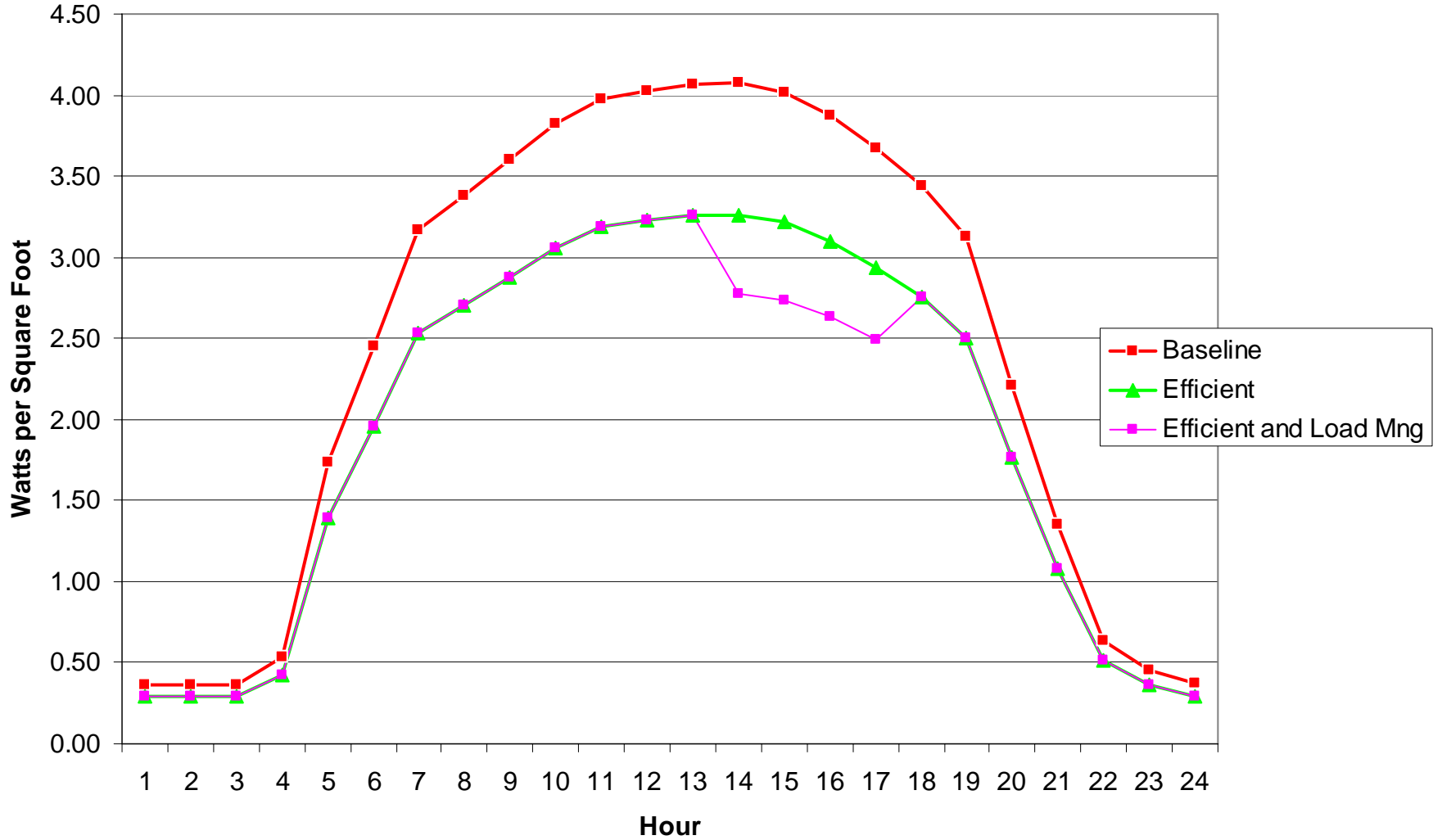
Regulatory Opportunities

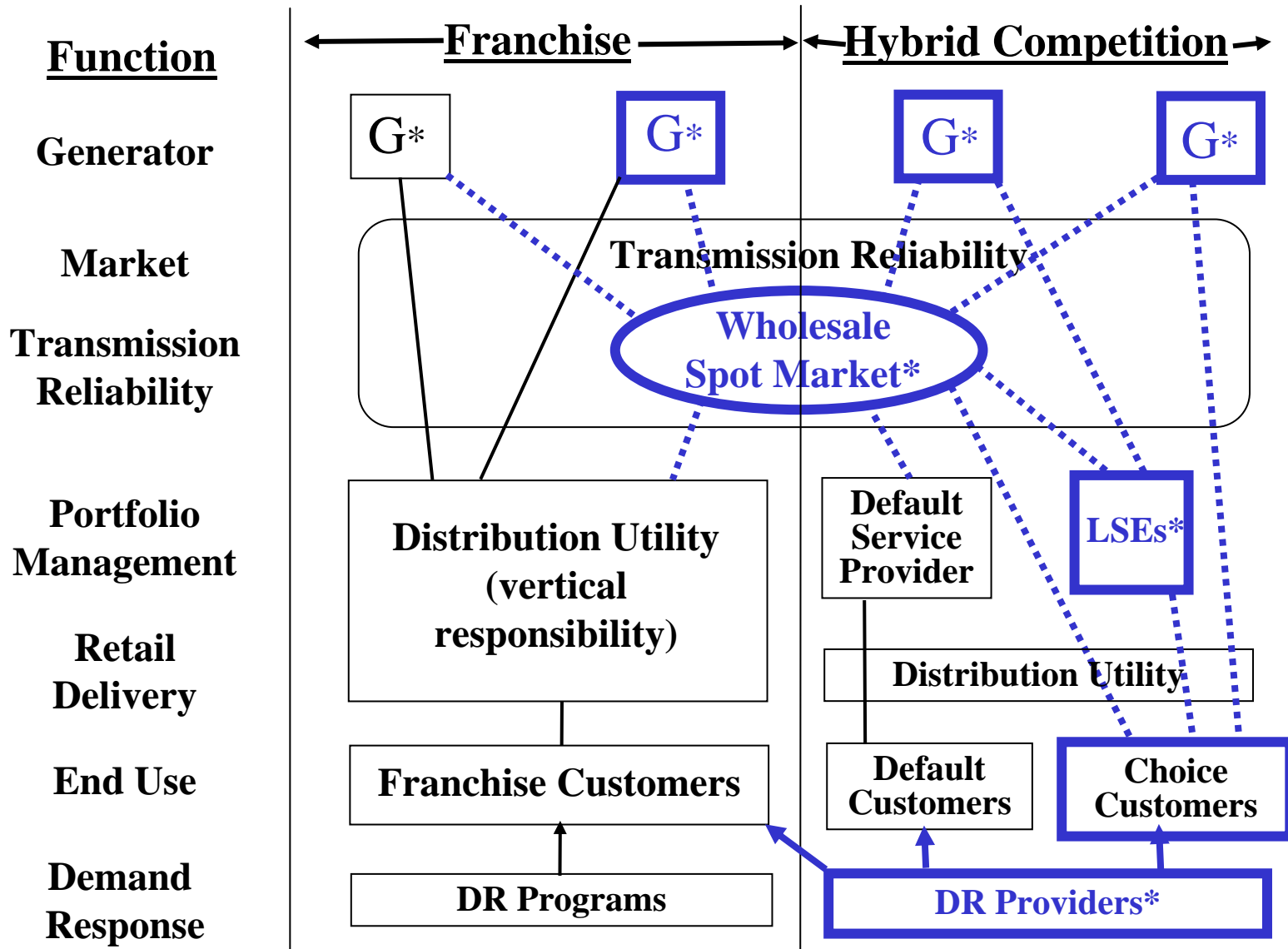
- Credits for customer resources in a reliability problem zone
- Address DG barriers (interconnection, stand-by rates, etc.)
 - ❖ Emission regulation: advantage of output basis
- Quality of demand response programs
- Significant consumer-funded EE
- Siting as a Last Resort

Combined Commercial Cooling and Lighting Loadshape Baseline, Load Management (STDR), and Energy Efficiency



Combined Commercial Cooling and Lighting Loadshape Baseline, Load Management (STDR), and Energy Efficiency





* Bold objects and lines designate activities functioning in a competitive environment.



Thanks for your attention

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❖ RAP Mission: *RAP is committed to fostering regulatory policies for the electric industry that encourage economic efficiency, protect environmental quality, assure system reliability, and allocate system benefits fairly to all customers.*