




Annual Meeting 2019

Evolving Transmission, Distribution, and Customer System Coordination

**Wednesday, September 11 –
Thursday, September 12**
Austin, Texas



Physical System & Operating Essentials

Chris Villarreal, Moderator

Paul Duncan

Paul Alvarez

Lorenzo Kristov

Mark Knight

IOU Communication Networks: Recent Developments for Regulator Consideration

Wired Group

Unleashing Latent Value in Distribution Utility Businesses

National Council on Electricity Policy Annual Meeting

Austin, Texas

September 12, 2019

Preview

- Brief Introduction to the Wired Group
- PG&E's Communications Network & Investment Plan
- Developments in Public Network Capabilities
- Rhode Island PUC's Approach

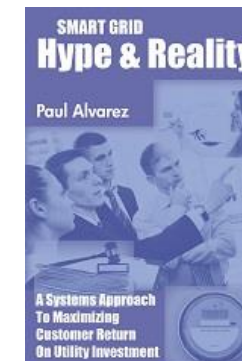
Intro to the Wired Group

- Leading Advocate experts on grid modernization plans & performance



- Comprehensive, objective evaluations of smart grid deployments
 - SmartGridCity™ for Xcel Energy (2010)
 - Duke Energy Ohio for the Ohio PUC (2011)
 - (California DRA, Southern California Edison, smart meters only, 2012)

- Findings:
 - Plans generally overstate benefits to customers
 - Plans always understate costs to customers
 - Benefits in excess of cost are difficult to secure in practice



PG&E's Comm Network; Investment Plan

- Rate Base: \$250 million (\$50 per customer)
 - AT&T: \$914 per US household (includes Direct TV)
 - Verizon: \$706 per US household
- Annual maintenance & ops: \$27.8 million minimum
- 2020 Rate Case Request: \$160 million for new FAN
- New FAN will only cover about 50% of svc area

New Public Network Technologies Available

- Low Power, Wide Area Network (LPWAN)
 - AT&T – NB-IoT
 - Verizon – Cat M1
- Based on 4G, but built for non-mobile devices
- Much lower cost than traditional cellular services
- Available everywhere 4G is available
- Fast (375 kbps+); low latency (<15ms); dedicated capacity available (“network slicing”)*

* AT&T has branded this as FIRSTNET, and offers it to police and fire depts

Rhode Island Public Utilities Commission

- National Grid proposes \$45 million grid mod plan
- \$9 million of plan dedicated to comm network
- PUC orders two versions of revised grid mod plan
 - Proprietary communications network
 - “. . . which will include an evaluation of shared communications infrastructure.”*

* RIPUC Docket 4780. Amended Settlement Agreement dated 8-10-18. p. 53

Thank You!

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Smart Grid Hype & Reality is available to NARUC members at no charge



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