The Brattle Group

LIPA Logistics: Exploring Restructuring Options

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- Summary of Brattle's 2011 Strategic Organizational Analysis
  - LIPA Cost Structure and Historic Performance
  - Rate Impact Framework
- Future View
  - Issues - Electric Utility Industry
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  - A Possible Model Going Forward

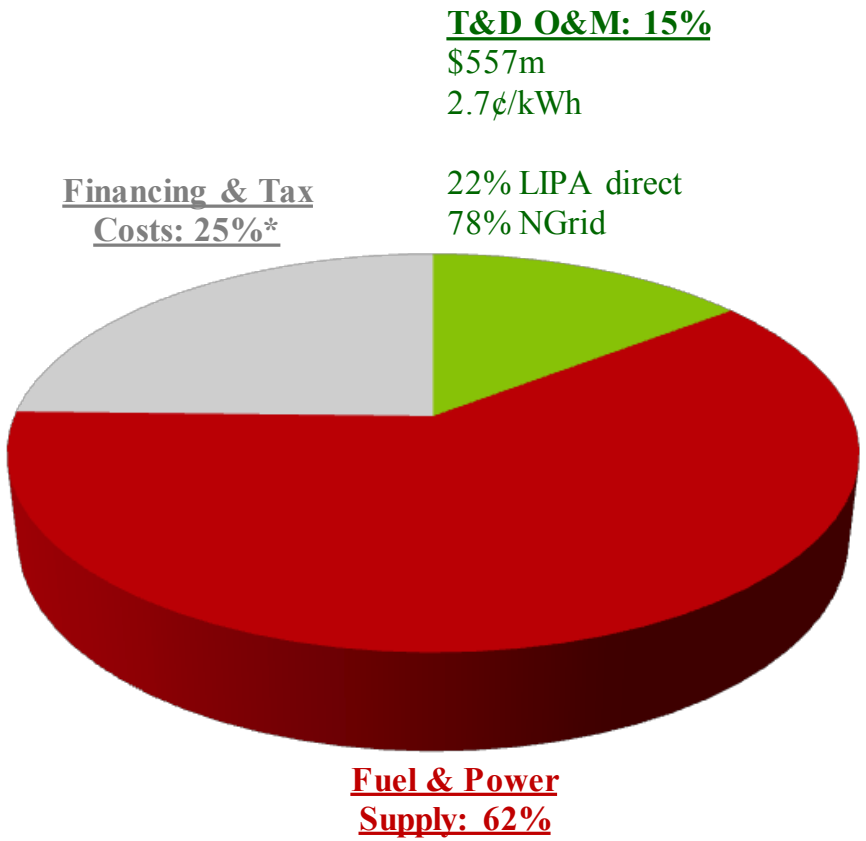
Study Guidelines

- Comparative ranking of costs and rate impacts among strategic organizational options
- Empirically based: Identified and segmented out actions and projected costs specific to Privatization, Muni and Servco options
  - Versus actions and costs that could be accomplished across any of the organizational options
  - Fuel and purchased power are not necessarily influenced by organizational structure and were not the focus of the study
- Estimated economic impacts via NPV savings; did not consider whether it was possible to privatize LIPA and have rates remain roughly at their current levels via changes in accounting or risk-bearing policies

LIPA Cost Structure

- Overall, roughly $3.7 billion revenue requirement (base case)
- Primary focus on T&D costs, taxes and costs of financing
- Larger power costs are subject to wholesale power markets and FERC oversight

2010 Baseline Cost Composition

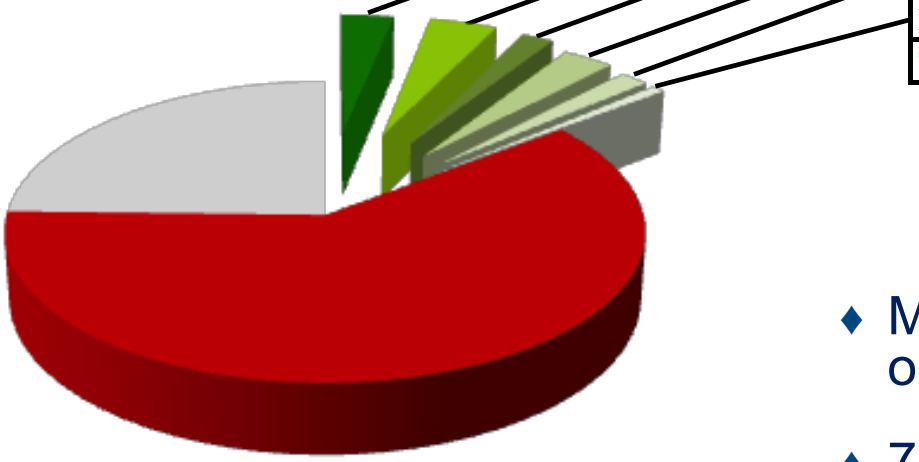


* "Other income" of -1% is not shown on the pie chart. Also, rounding of components result in sum exceeding 100%.

Potential Cost Impacts

- "Operational," mainly T&D and A&G (expected to decrease under privatization)
  - Improvements in efficiencies (towards best practices)
  - Gains from consolidation and synergies (scale and scope)
- Financing costs due to change in taxable status (expected to increase under privatization)
  - WACC
  - Income taxes
- PILOTs and property taxes
  - Very high compared to many other utilities
  - But, conceptually, should be indifferent across organizational options

O&M + A&G Costs



	$MM	¢/kWh
LIPA-direct, 3%	$120	0.6
T&D, 4%	$155	0.7
Cust. Svc., 2%	$72	0.3
A&G, 3%	$116	0.6
Add'l Benefits, 2%	$65	0.3
MSA profit, 1%	$29	0.1
T&D O&M, 15%	**$557**	**2.7**

- Majority of costs are currently outsourced
- 75% of FTEs are T&D and customer service personnel
- LIPA: direct functions and contract oversight (5% of total FTEs)

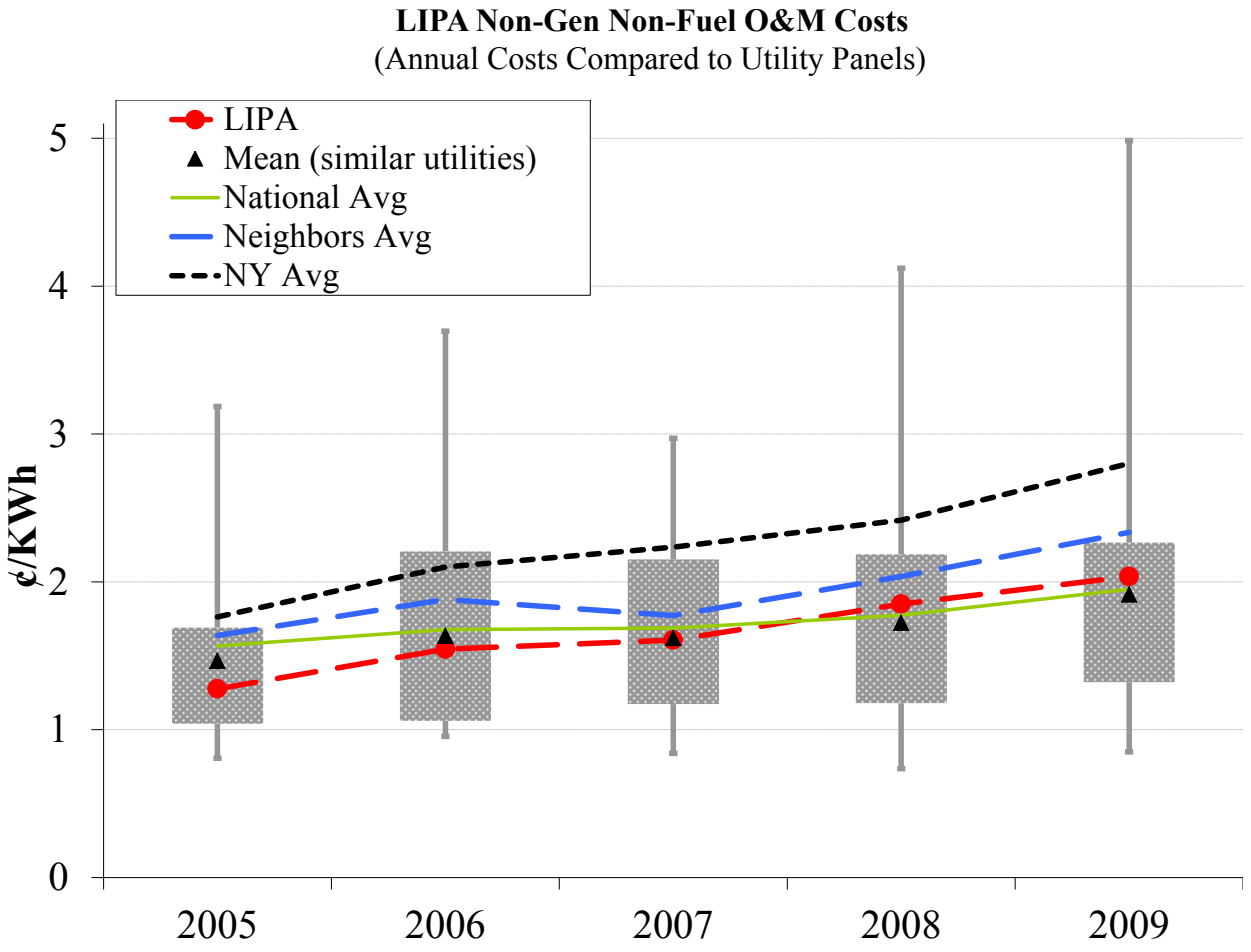
Impacts: Potential T&D + A&G Savings

- Gains to be realized from improvements to inefficient operations
  - Case Study: Thatcher-era privatization successes, enabled by overstaffing under previous public system
  - No empirical evidence that public power is less efficient than IOUs in U.S.

- Synergies from sharing common functions, services, systems and platforms
  - Benchmarks in M&As
  - Led to adoption of key privatization option assumption: LIPA privatization accomplished through merger with an IOU

Benchmarking Analysis

LIPA's non-fuel ops are relatively cost efficient



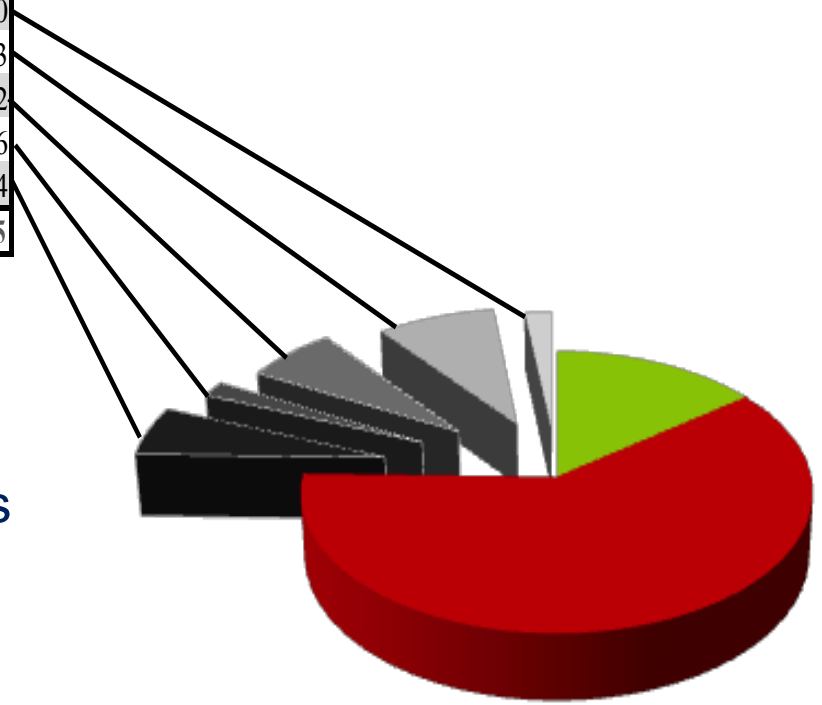
Source: FERC Form 1 data; LIPA budgets.

Synergy Savings

- Merging with an IOU could result in T&D cost reductions for combined entity
  - Reduction in some duplicate corporate functions
  - Reduction in contract administration and oversight function at LIPA
- Estimate: ~$93 million per year, ~17% of base case T&D + A&G expenses
- However, not all savings would be realized by LIPA customers
  - Regulators typically allow part of the savings to be retained by the acquiring company's shareholders or prior customers
  - Also, retaining some of the potential savings is usually needed in order to justify pursuing the acquisition in the first place
  - Say, $50 million per year in synergy savings flow to LIPA customers

PILOTs and Property Taxes

	$MM	¢/kWh
PILOTS, 6%	$217	1.0
Rev. Taxes, 2%	$68	0.3
D&A, 7%	$251	1.2
Interest, 9%	$330	1.6
Reserve, 2%	$75	0.4
Financing & Tax, 25%	**$942**	**4.5**



- ~$420 million paid (in base case)
- Indications of higher than market rates
- IOU model may provide greater incentive to get in line
- Included $20-$30 million per year in savings under privatization option

PILOTs are included here. Property taxes, which are paid on power plants, are included under fuel and purchased power expense.

Impacts: Refinancing
Low Cost Privatization Case

- LIPA Balance Sheet (~$11.6 billion)
  - PPE assets: $4.6 billion → Rate Base
  - Other assets: $1.3 billion
  - Capital leases: $3.0 billion → Fuel + Purchased Power
  - Acquisition premium: $2.7 billion → Securitized (muni finance)

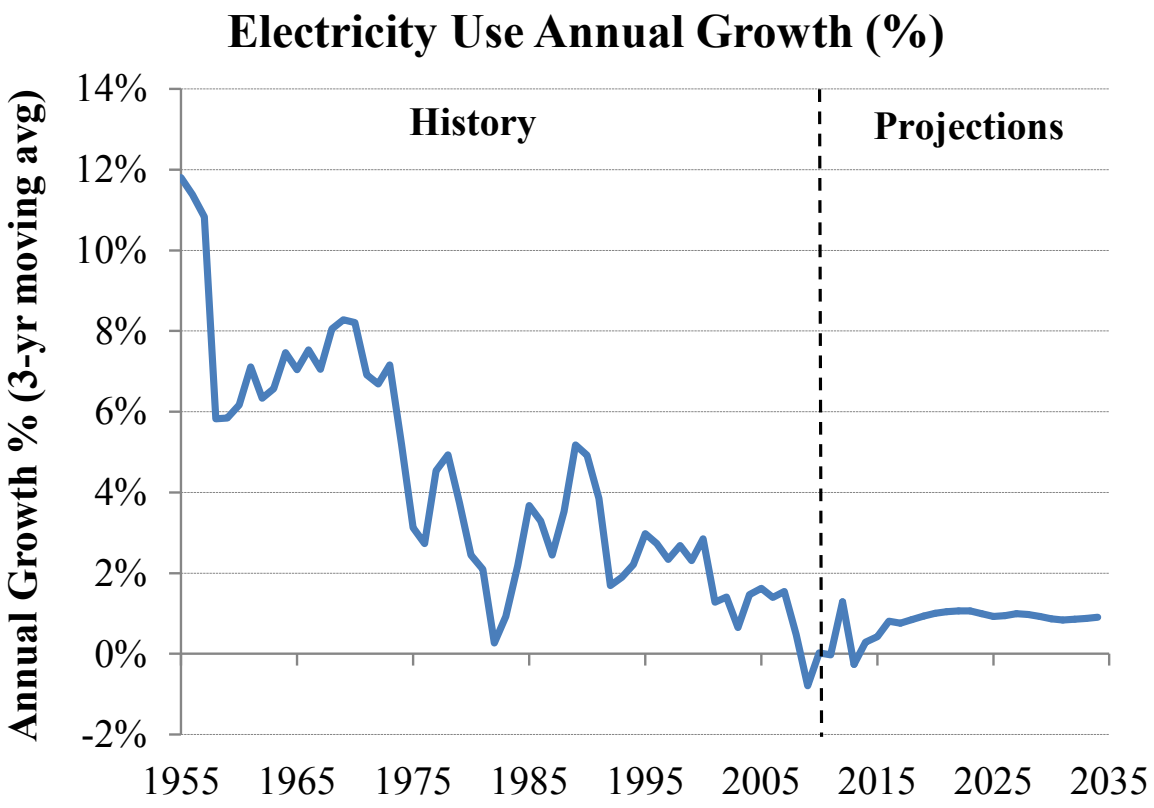
- Current financing:
  - $7 billion LT debt + $1 billion ST liabilities and payables
  - Annual interest expense ~$330 million (PPE + "Shoreham debt")
  - Private WACC: ~10-11% vs. ~5% on current debt

- Impact: + $310 million per year
  - Rate base impact: net + $240 million per year
  - Bond defeasance: + $70 million per year

Net Cost Impact
Low Cost Privatization Case

- Each of the organizational options can "work," but unable to support any finding of no rate increase case under Privatization
- Privatization: ~ $230 - $250 million greater annual costs per year above base case and above the muni and Servco options
  - Increased finance costs cannot be offset by synergy savings + reduced property taxes
  - Acquisition premium (~1.5x book / 1.2x PPE) could be passed on to rate payers, but only if acquirer retains op savings
- Cost estimates for muni and Servco options are roughly equal and close to current average rate levels

Evolving Industry Issue:
Declining Growth Rates



Source: U.S. Energy Information Administration.

- For US as a whole, ~9.8% in 1950s, vs. ~0.7% in '00s
- Current: ~3,900 TWhs; 2035: ~4,700 TWh
- Key limiting factors:
  - Flat growth in industrial
  - Modest growth in commercial (service)
  - Increases in population and disposable income drive modest growth in residential
  - Offset by improved levels of energy efficiency in appliances and equipment

Evolving Industry Issue:
Distributed Generation

- Significant installed capacity of DG already in place (as much as ~235 GW); mainly large scale back-up
- Currently, small scale (residential) DG has very modest installed capacity in place (*e.g.*, PV capacity ~2,085 MW), but is receiving more and more attention, notably after recent rounds of prolonged outages
  - Growing popularity; incentives reduce cost
  - Being considered in individual resiliency planning; also includes PEVs
- Primary avenue of inter-modal competition, but also requires utility investment in SG functionality to integrate into grid

Evolving Industry Issue:
Ongoing Investment Requirements

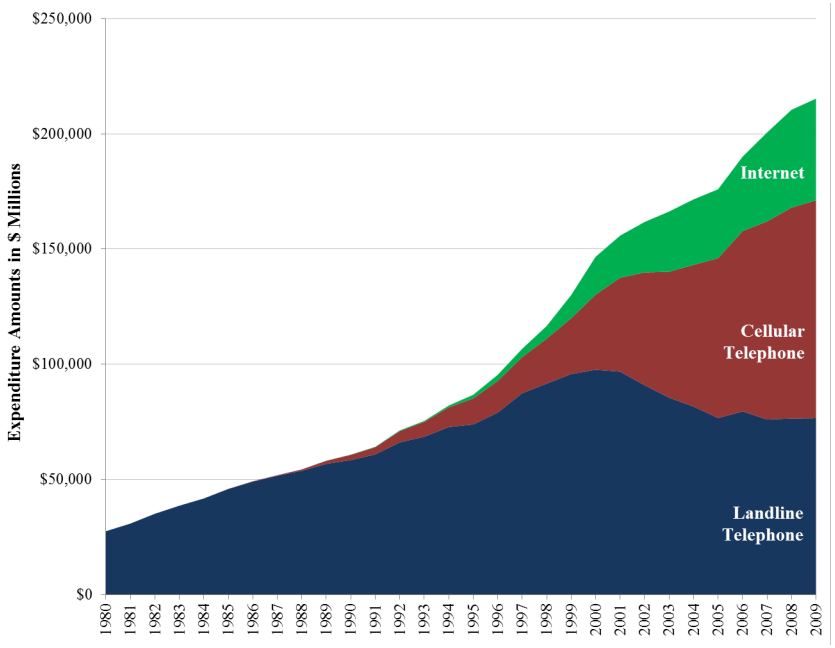
- Upgrades in T&D system, AMI and SG
  - Net book value of IOUs ~$300 billion (not replacement value)
  - Upgrading aging distribution system + smart grid investment over next 20 years ~$600 billion
- Additional investments required to bring renewables (wind) to load centers
  - New transmission to integrate renewables and maintain reliability: ~$250 billion
  - Plus much more in flexible backup generation (gas CTs)
- New investments in reliability and resiliency ~ $multi billion per mid-large utility
  - Asset hardening and storm proofing
  - System intelligence: awareness, monitoring and control

Sources:
Brattle analysis; *Transforming America's Power Industry*: The Investment Challenge 2010-2030, by *The Brattle Group* for the Edison Foundation.
Brattle analysis of FERC Form 1 data; upgrade and replacement estimates based on *Brattle* analysis

Evolving Industry Issue:
Unclear Revenue Replacement

Telco example

- Customer interest in new info / content / comm services – even in face of inter-modal competition
- Triple play: Leverage new services onto embedded network investments
- Quad play: Add wireless services



More challenging for electrics

- Likely add-on info services (e.g., appl monitoring + control, energy management, green energy, power quality)
- But less expansive than telco options, and may be offered by non-utility apps

Regulatory-Business Framework

Going forward, value to customers may be tied to choice including non-utility solutions – which changes the universal service / full requirement equation

- Lower sales growth (including effects of DG +EE) reduces the base to spread costs
- DG doesn't mean off the grid; utility retains obligation to provide grid power when demanded
- Major impact on effectiveness of traditional volumetric pricing
  - Modified revenue recovery for grid investment (e.g., non-volumetric)
  - Mechanisms to deal with stranded costs

Decision Points:
Utility Business Model

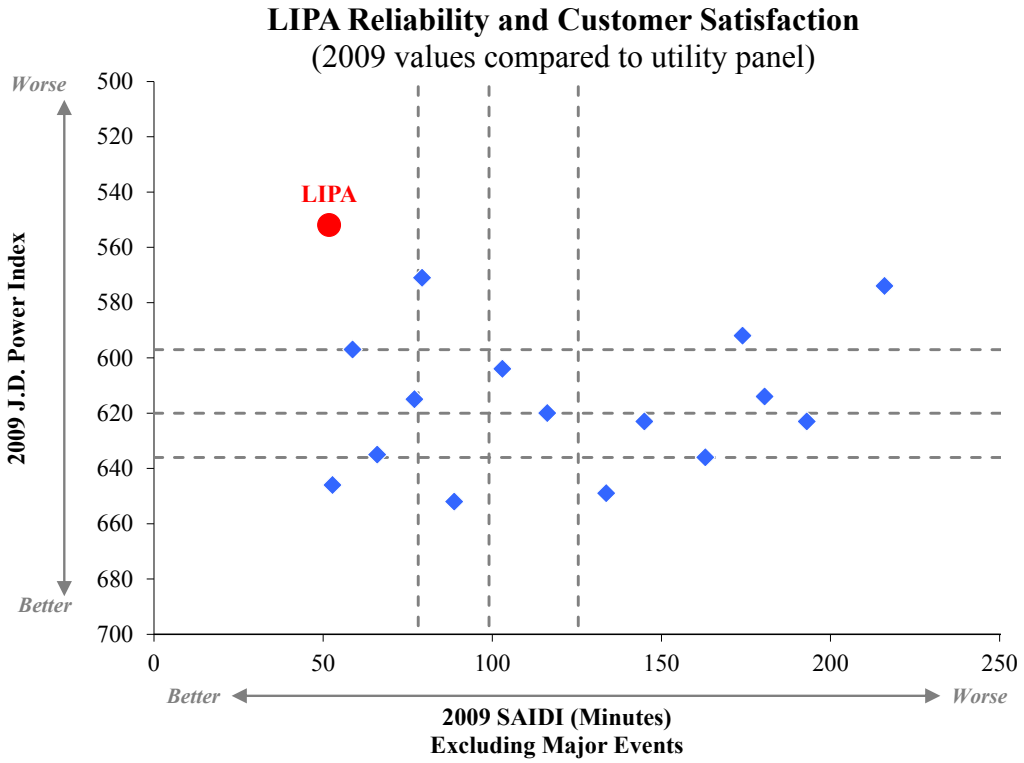
The role of the utility – and how actively to participate in evolving inter-modal competition?

- Path for distributed generation
  - Provision: utility as active vs. passive participant
  - Interconnection: access and pricing
- Path for conservation and load shifting
  - Promotion of energy efficiency
  - Use of demand side resources
  - Implementation of some level of dynamic pricing
- Traditional utility obligation: investment in grid
  - Replace and upgrade aging plant
  - Hardening
  - Resiliency (*e.g.*, distribution automation and system awareness)
  - Islanding and microgrids

Incremental Issues for LIPA:
Customer Satisfaction

LIPA customer satisfaction scores are disconnected from its core engineering performance

- Upgrades needed: several information, communications and interface systems
- Cost required for hardening, resiliency and outage response initiatives can be significant
- Investment in SG may improve areas of service quality and lessen bill impacts
  - Resiliency and restoration
  - Integration and coordination of DG
  - Facilitate choice and options



Source: First Quartile Consulting; J.D. Power; Brattle research.

LIPA Future View

- Unlikely that LIPA (or its successor) can become a low rate utility, even if it can shed the "Shoreham debt"
- Customer value proposition:
  - Equilibrate system / engineering and customer interfaces
  - Goal of improving basic service and adding new services, while keeping overall realized bills steady or down (even if per kWh rate may be up)
  - Can LIPA become a model utility?