# BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

## DOCKET NO. 120015-EI
## FLORIDA POWER & LIGHT COMPANY

## IN RE: PETITION FOR RATE INCREASE BY FLORIDA POWER & LIGHT COMPANY

## REBUTTAL TESTIMONY & EXHIBITS OF:

## DAVID W. DERAMUS, PHD

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**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

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**JULY 31, 2012**

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## I. INTRODUCTION

**Q. Please state your name, title, and business address.**

A. My name is David W. DeRamus. I am a Partner with Bates White, LLC. My business address is 1300 Eye Street, N.W., Suite 600, Washington, D.C. 20005.

**Q. Did you previously submit direct testimony in this proceeding?**

A. No.

**Q. Are you sponsoring any rebuttal exhibits in this case?**

A. Yes. I am sponsoring the following rebuttal exhibits:

- DWD-1: Curriculum Vitae of David W. DeRamus, Ph.D.
- DWD-2: FPL Serves 4% of the Whole Country
- DWD-3: Percent of U.S. Households With Rates Less Than FPL
- DWD-4: Consumer Price Index (CPI) of Various Goods and Services, Miami – Ft. Lauderdale
- DWD-5: Residential Customers, Statistical Distribution by kWh Consumption
- DWD-6: Residential Customers Bills, Statistical Distribution of Electricity Cost
- DWD-7: Residential Customers Bills, Statistical Distribution of Electricity Cost: Focus on Bottom Quintile
- DWD-8: Typical FPL Bill Compared to Miami – Ft. Lauderdale CPI

- DWD-9: Residential Customers, Statistical Distribution of Rate Increase Impact
- DWD-10: Residential Customers, Statistical Distribution of Rate Increase Impact: Focus on Bottom Quintile
- DWD-11: Commercial Customers, Median Daily Bill
- DWD-12: Commercial Customers, Median kWh Rate
- DWD-13: Hospital Electricity Cost as a % of Total Cost
- DWD-14: Commercial Customers, Rate Increase Impact by Customer Type and Size
- DWD-15: Commercial Customers, Rate Increase Impact
- DWD-16: Commercial Customers, Rate Increase Impact, Pharmacies
- DWD-17: Commercial Customers, Rate Increase Impact, Big Box Stores
- DWD-18: Commercial Customers, Rate Increase Impact, Department Stores
- DWD-19: Commercial Customers, Rate Increase Impact, Hospitals
- DWD-20: Commercial Customers, Rate Increase Impact, Supermarkets

**Q. Please summarize your educational and professional background.**

A. I have been a Partner with the economic consulting firm of Bates White since 1999. During this time, I have performed economic analyses related to a range of regulatory, litigation, and consulting matters, most of which relate to setting or analyzing prices in the context of rate-making, rule-making, compliance, antitrust, tax, or other litigation proceedings. I have previously submitted expert testimony in proceedings before the Federal Energy

Regulatory Commission, state regulatory agencies, arbitration panels, and state and federal courts. I have worked on behalf of the U.S. Department of Justice, the Maryland Public Service Commission, independent power producers, industrial electricity customers, electricity marketers, public utilities, natural gas producers, marketers, shippers, and a large number of other companies outside the energy sector. I received a Ph.D. in Economics from the University of Massachusetts at Amherst.

## II. REBUTTAL TESTIMONY OVERVIEW AND SUMMARY

**Q. What is the purpose of your rebuttal testimony?**

A. The purpose of my rebuttal testimony is to respond to the direct testimonies of Florida Retail Federation ("FRF") witness Steve W. Chriss and Federal Executive Agencies ("FEA") witness Robert R. Stephens, relating to the base rate increase impacts on the residential and commercial customers of Florida Power & Light Company ("FPL") that may result from this proceeding.

**Q. How is your rebuttal testimony organized?**

A. After this overview and summary, my rebuttal testimony is presented as follows:

III. Impact of FPL's Proposed Base Rate Increase on Residential Customers

IV. Impact of FPL's Proposed Base Rate Increase on Commercial Customers

V. Conclusions

**Q. Please summarize your rebuttal testimony.**

A. FRF witness Chriss stated in his direct testimony; "Electricity represents a significant portion of retailers' operating costs. When rates increase, that increase in cost to retailers puts pressure on consumer prices and on the other expenses required by a business to operate, which impacts retailers' customers and employees. Rate increases also directly impact retailers' customers, who are also FPL's residential and small business customers." (Direct Testimony and Exhibits of Steve W. Chriss, at page 4 lines 6 – 11.) FEA witness Robert R. Stephens stated in his direct testimony; "For many large commercial and industrial customers, energy is a primary component of their costs. For some, it may be the most critical component. As such, rate stability and overall cost of electricity prices are vital to the economic health of large commercial and industrial customers in Florida, and to the economic health of Florida itself." (Direct Testimony and Exhibit of Robert R. Stephens, at page 4 lines 12 – 16.) The purpose of my rebuttal testimony is to assess the magnitude of the impact on residential and commercial customers of FPL's proposed base rate increase. My analysis shows that FPL residential and commercial customer bills are currently moderate, and the impact of FPL's proposed base rate increase will also be moderate, particularly in comparison to changes in prices for other goods and services over time.

FPL is requesting a base rate increase of $690 million (including both the January 2013 increase and the June 2013 Canaveral Step increases). If fully

approved, FPL residential customers' base rate component of their rates and bills would increase by approximately 16%, and most commercial and industrial customers' base rate component would increase by approximately 4 to 16%.

Since the base rate component and fuel component each are roughly half of customers' rates and bills, and since the fuel component is projected to decrease, partially offsetting the proposed increase in the base rate component, full approval of FPL's request would increase residential customer bills by approximately 3%, and commercial and industrial customer bills by approximately -3% to +4%, based on information provided in the Direct Testimony of FPL witness Renae Deaton.

Given the amount of FPL's proposed base rate increase in dollars, it is important to place this request in an appropriate context. FPL is the third largest electric distribution utility nationally, serving approximately 4% of U.S. electricity customers. See Exhibit DWD-2. Thus the dollars at issue in virtually any base rate request by FPL will be sizeable in the aggregate due to the sheer number of customers that FPL serves.

FPL's typical residential 1,000 kWh bill is the lowest in Florida and among the lowest in the U.S. Electricity costs for FPL customers have not increased

at the rate of inflation and in fact, for many customers, have declined over time, particularly since 2009. See Exhibits DWD-3 and DWD-4.

Measuring the cost to customers of electricity on a daily basis, rather than on a monthly basis, provides a way of assessing and understanding the cost and value of FPL's service to customers relative to their other daily purchases of goods and services. Analyzing the median FPL customer bill, rather than the average customer bill, also provides a better way of assessing customers' cost and value, since the average bill is "skewed" by a small number of large kWh users.

The median FPL residential customer uses approximately 979 kWh per month. Thus, it is reasonable to use 1,000 kWh per month to represent a "typical" FPL residential customer, because this usage level is very close to and even slightly higher than the median. The median cost of electricity for FPL residential customers, on a daily basis, is currently approximately $3.45. If fully approved, the median increase in FPL residential customer bills would be approximately 10 cents daily, including changes in base rates and fuel, and no change in kWh usage. These data support the conclusion that the impact of the cost of electricity on FPL residential customer bills, both under present rates and with full approval of the base rate increase request, is moderate.

With regard to FPL's commercial customers, the median FPL commercial customer consumes approximately 179,000 kWh of electricity per month. The median cost of electricity for FPL commercial customers, on a daily basis, is approximately $525, although kWh usage and costs vary widely depending on the type and size of the commercial customer. Despite this wide variance among commercial customers in their kWh usage and costs in absolute terms, electricity generally accounts for between 1% and 4% of operating expenses for hospitals, "big box" retailers, department stores, supermarkets, and pharmacies, which account for much of FPL's commercial customer demand.

Electricity costs for FPL's commercial customers have significantly decreased recently, e.g., as compared to 2006 - 2009. Even considered over a longer period, commercial customers' electricity costs have increased at less than the overall rate of inflation, and well below the rate at which FPL's commercial customers have increased the prices for the goods and services that they charge final consumers. In fact, the data suggest that electricity represents a declining portion of operating costs over time.

If FPL's base rate increase is fully approved, this would translate into increased electricity costs in the range of $3 to $6 daily for pharmacies, $21 to $33 daily for supermarkets, $11 to $36 daily for department stores, $15 to $60 daily for "big box" retailers, and $32 to $476 daily for hospitals. These ranges

represent the average daily cost impact on commercial customers in the lowest and highest quartiles of electricity consumption in each business segment. This assumes conservatively that all commercial customers would experience a 4% increase in bills, even though their actual increase is likely to vary between -3% and +4%. These potential cost increases represent a small percentage of commercial customers' total operating costs, they are lower than the rate at which their other operating costs have increased, and they are lower than the rate at which they have increased the prices of their own goods and services. Furthermore, even with the proposed increase, commercial customers' bills would still be significantly less than their bills during 2006 - 2009. Thus, FPL's requested increase will not have a disproportionate impact on either FPL's residential or commercial customers.

## III. IMPACT OF FPL'S PROPOSED BASE INCREASE ON RESIDENTIAL CUSTOMERS

**Q. Did you receive data from FPL with which to analyze FPL residential customer costs?**

A. Yes. I received from FPL a database derived from residential customer monthly billing records (without customer names and addresses). The database consisted of 47.1 million monthly records with kWh usage and bills for all of FPL's approximately 4 million residential customers for 2011.

**Q. What did you first examine in this database?**

A. After receiving the database, I calculated various statistics on the distribution of kWh usage and bills, including the monthly and daily kWh usage and bills in terms of the average, median, and mode. The median is the value around which exactly half the data points (e.g., half the kWh usages) are below the value and the other half are above. The mode is the most commonly-observed data point (e.g., most commonly-observed kWh usage). The purpose of this initial analysis was to better characterize kWh usage and costs for FPL residential customers.

**Q. Please describe what you found about the kWh usage of FPL residential customers.**

A. In these data, the average residential monthly usage was 1,156 kWh, the median monthly usage was 969 kWh, and the mode was 700 kWh. See Exhibit DWD-5.

**Q. Why do you analyze the average, median, and mode of the residential bills, rather than simply relying on the average?**

A. The average, median, and mode are all different "measures of central tendency," in statistical terms. Which measure one should use for any given analysis depends on the question of ultimate concern, as well as the specific distribution of data points and the potential impact of "outliers" on the analysis. In order to understand how residential customers are likely to be impacted by FPL's proposed base rate increase, it is important to analyze median customer bills rather than the average, for two reasons. First, outlier

observations (unusually large kWh users) can have a significant impact on the average, while outliers generally will not have any discernible impact on the median. Second, the distribution of kWh usage is not a symmetrical "bell-curve" or "normal" distribution. The distribution of consumption is "skewed to the right" due to the presence of a number of residential consumers who are heavy users. Thus, the average of this type of skewed distribution will be somewhat higher than the median, and it will provide a misleading indicator of the typical bill for customers assessed on an overall basis.

This is not to suggest that analyzing average bills is uninformative. For example, when analyzing customer bills *within* a given subgroup of customers, e.g., customers in the lowest 20% of the distribution, their average bill can be helpful in assessing the relative magnitude of electricity costs (and the impact of FPL's proposed rate increase) for this subgroup of customers. The mode also provides an alternative perspective on what a given rate or rate increase means for many FPL customers, although it focuses only on the most common FPL customers, who may not represent a large fraction of FPL's customers, especially if there are wide variations in residential consumption patterns.

**Q. Please summarize your findings on the daily electricity costs of FPL's residential customers.**

A. A large majority of FPL's customers have relatively low or moderate kWh usage and costs, and a minority of customers are heavy users of electricity

with relatively high electricity costs. See Exhibit DWD-6. Thus, although the average bill is $4.23 daily, the median bill is 18% less than the average at $3.45 daily, while the mode is 47% less than the average at $2.25 daily.

**Q. What do you conclude about the overall distribution of FPL customer bills?**

A. I conclude that the actual bill impacts for most of FPL's residential customers will be even less than projected by FPL in its typical 1,000 kWh bill analyses. Over the year, a substantial majority of residential customers - fully 62% - pay less than the average bill, and half of FPL's customers pay less than $3.45 daily, which is far lower than the average.

On the other hand, a minority of FPL customers, who use much higher amounts of electricity (generally due to their larger home sizes) pay far more than this. The higher bills for heavy electricity users reflect both the fact that these customers use substantially higher amounts of electricity than most FPL customers, and they are charged a higher average rate for electricity, since FPL's residential rate is 2 cents per kWh higher after the first 1,000 kWh of usage in a month (intended to encourage energy conservation). This combination of significantly higher consumption and higher average rates for these heavy users drives up the average bill well above the median (or mode) bill.

It is reasonable to expect a strong correlation between electricity consumption and income, i.e., customers who consume relatively large amounts of electricity will tend to be customers with relatively higher incomes, while customers who consume relatively small amounts of electricity will tend to be customers with relatively lower incomes. Thus, analyzing the bills of the left tail of the distribution (households that consume less than the median amount of electricity) can shed light on the electricity costs of lower income FPL customers. Quintiles are often used in economic analyses of incomes. Households in the bottom quintile (or bottom 20%) of kWh usage and electricity costs are generally more likely to be in the lowest quintile of household incomes, according to both the U.S. Bureau of Labor Statistics "Consumer Expenditure Survey" and the U.S. Department of Energy "Residential Energy Consumption Survey." FPL residential customers in the bottom quintile pay less than $1.71 daily, which is around half the median for FPL residential customers as a whole. The average daily bill for this lowest fifth of customers is $1.04 daily. See Exhibit DWD-7. In this way, FPL's actual customer data allows one to assess the impact of FPL's proposed base rate increase across the full range of FPL's customers, rather than simply focusing on the impact on the average or even the typical 1,000 kWh bill.

**Q. Have you analyzed the change in FPL's bills over time?**

A. Yes. Exhibit DWD-8 shows FPL typical residential bills from 2006 to the present. To allow a comparison with how the CPI has changed over time, I have indexed both FPL residential bills and the CPI to the same 2006 starting

date. As one can see, during this time period, FPL residential bills have declined by 11%, while the CPI has increased by 15%. Using the CPI for Miami – Ft. Lauderdale over a longer time horizon, Exhibit DWD-4 (discussed previously) shows that electricity costs have increased much more slowly than the CPI, while other consumer expenditures, such as health care costs, have increased much more rapidly than the CPI. Although one could use alternative starting dates for such an analysis, the overall conclusion over both short-term and longer-term horizons is that FPL residential bills have increased more slowly than inflation and thus have declined in real terms (i.e., adjusted for inflation).

**Q. Please describe your analysis of how FPL's proposed base rate increase will affect residential customers.**

A. As noted earlier, the net impact on residential customers of full approval of FPL's request would be a 3% increase in bills (including changes in base rates and fuel, and assuming no kWh usage change). I therefore increased each of the data points in the distribution of FPL's actual bills by 3% to approximate the impact, as shown in Exhibit DWD-9. As with the analysis of customers' current daily costs, the impact of FPL's proposed base rate increase will vary considerably, given the variance and skewness in kWh usage. If FPL's proposed base rate increase is fully approved, the average impact on residential customers would be approximately 13 cents daily, including both the January 2013 increase and the Canaveral step increase as well as fuel cost changes. The median impact on residential customers, however, would be

about 23% less than the average impact, at approximately 10 cents daily. The mode impact would be about 38% less than the average impact, at approximately 8 cents daily. Further, as shown in Exhibit DWD-10, the bottom quintile of residential customers (by kWh usage) would pay less than 5 cents more daily, while the average impact on these customers would be 3 cents daily. This supports the conclusion that FPL residential customer bills, both presently and with the proposed base rate increase, are moderate.

## IV. IMPACT OF FPL'S PROPOSED BASE RATE INCREASE ON COMMERCIAL CUSTOMERS

**Q. Did you receive data from FPL with which to analyze FPL commercial customer costs?**

A. Yes. I received from FPL a database containing certain data fields from monthly billing records for 1,163 commercial customers, including 513 supermarkets, 337 pharmacies, 211 "big box" retailers, 69 department stores, and 33 hospitals (without customer names and addresses). Not all of these customers have large facilities that use large amounts of electricity. For example, some of these customers have relatively small retail locations or warehouses, and some are small providers of medical services. The database included around 82,000 monthly bills and kWh usage for the 70-month period of January 2006 through October 2011.

**Q. What did you first examine in this database?**

A. After receiving this database, I analyzed various statistics on the distribution of kWh usage and bills. I classified the data for each commercial customer type (supermarkets, pharmacies, "big box" retailers, department stores, and hospitals) into four quartiles based on kWh usage. Next, I calculated the average electricity costs by quartile, customer type, and year, in terms of dollars daily. I use quartiles rather than quintiles in analyzing bills for commercial customers, since quartiles allow for sufficient segmentation of commercial customers with widely varying usage, while simplifying the review of the results across all segments.

**Q. Please describe your analysis of how FPL's proposed base rate increase will affect commercial customers.**

A. Using commercial customers' bills for 2011, I calculated the impact of FPL's proposed increase in base rates in terms of the additional costs that this implies for commercial customers on a daily basis. As noted earlier, FPL witness Deaton has projected that the net impact on commercial customers of full approval of FPL's request would generally be no more than a 4% increase in bills, and in some cases a decrease (including changes in both base rates and fuel, using both steps of the proposed increase, and assuming no change in kWh usage). I therefore multiplied each of the data points in the distribution of actual bills by 4% to approximate the impact.

**Q. Please summarize your findings about the electricity consumption by FPL commercial customers.**

A. As with residential customers, the kWh usage and costs vary substantially among commercial customers, depending on the type and size of the commercial customer. The median consumption for FPL's commercial customers is approximately 179,000 kWh per month.

**Q. Have you calculated the median daily cost of electricity to commercial customers?**

A. Yes. As shown in Exhibit DWD-11, the median daily electricity cost for commercial customers was approximately $525 in 2011, and these costs have declined significantly during 2010 - 2011 relative to the 2006 - 2009 time period. This is evident not only in the daily median costs, but also in the median cost per kWh, as shown in Exhibit DWD-12.

**Q. Did you examine the cost of electricity to commercial customers relative to their other costs?**

A. Yes. Electricity costs comprise a relatively small percentage of the overall costs for a broad range of major commercial customers, such as supermarkets, pharmacies, "big box" retailers, department stores, and hospitals. For supermarkets, which use electricity relatively intensively because of their high refrigeration requirements (which accounts for 30% – 50% of their electricity costs), electricity bills comprise approximately 3% – 4% of their operating expenses (excluding their cost of goods sold). For hospitals, which also use electricity relatively intensively, electricity bills comprise 1% – 2% of their

total expenses. See DWD-13. For pharmacies, big-box retail stores, and department stores, their electricity usage is generally less intensive than for supermarkets because they do not have similar requirements for refrigeration. Based on publicly available data, the electricity bills for large retail and department stores appear to be in the range of 2% – 3% of their operating expenses (again, excluding their cost of goods sold).

**Q. Have you compared changes in commercial customers' electricity costs over time to changes in their other costs?**

A. Yes. One way of assessing the relative impact on commercial customers of electricity costs is to compare how electricity costs have changed over time relative to their other costs, such as wages, medical and other benefits, commercial office space, insurance, or other operating costs. While the previously discussed Exhibits DWD-4 and DWD-8, showing electricity costs relative to the Miami – Ft. Lauderdale CPI over time, are based on consumer expenditures, they are also broadly applicable to commercial customers as well, as they show that electricity costs have increased far more slowly than other costs. Using the CPI is also relevant for this comparison, as the components of the CPI reflect retail prices charged by FPL's commercial customers for their goods and services. Thus, not only have consumer electricity costs increased more slowly than other consumption items and production inputs, but also the cost of electricity paid by commercial customers has increased more slowly than the prices that commercial customers themselves charge to their end consumers. For example, between

1992 and 2012, the cost of medical care in the Miami-Ft. Lauderdale area has increased at a compound annual rate of 4.4%, while the cost of electricity has increased at a compound annual rate of 1.4%, well below the rate of inflation for this period.

While data are not generally available to allow for a detailed comparison of electricity and other costs for individual commercial customers, I was able to obtain information on Florida hospital costs over time from the U.S. Department of Health and Human Services "Hospital Cost Report Data from the Centers for Medicare & Medicaid Services." Exhibit DWD-13 shows that electricity has declined as a percentage of costs for Florida hospitals from approximately 1.22% in 1996 to 0.98% in 2010, a decline in electricity's fraction of total costs by 20%. While these cost percentages are estimates, the overall decline is consistent with the fact that health care prices have increased substantially faster than the rate of inflation. This trend presumably also reflects a similar increase in costs other than for electricity incurred by healthcare providers, while electricity costs have declined, as shown previously in Exhibit DWD-4.

**Q. Please summarize your findings on the impact of the proposed rate increase on commercial customers.**

A. I calculated the impact of FPL's proposed increase in base rates for each commercial customer type, by quartile. See Exhibit DWD-14. If FPL's base rate increase is fully approved, this would translate into increased electricity

costs in the range of $3 to $6 daily for pharmacies, $21 to $33 daily for supermarkets, $11 to $36 for department stores, $15 to $60 for "big box" retailers, and $32 to $476 daily for hospitals. Even with this increase, FPL commercial customers' bills would still be below what they were during 2006 - 2009. See Exhibits DWD-15 through DWD-20. The exhibits show for each type of customer and quartile the impact of FPL's proposed base rate increase for commercial customers, relative to their current and historical daily costs.

For hospitals, FPL's proposed base rate increase would result in daily electricity costs similar to what they were during the 2006 - 2007 time period. Hospitals' electricity costs would be less than during the 2008 - 2009 time period. (The exception is bottom quartile hospitals, whose kWh usage increased more rapidly than their per kWh rates declined.) See again Exhibit DWD-19. For example, if FPL's request is fully approved, the 9 top quartile hospitals would have average electricity costs of $12,380 daily. This level is below both their 2008 costs of $13,264 daily and 2009 costs of $13,814 daily.

For supermarkets, if FPL's request is fully approved, the 129 top quartile supermarkets would have average electricity costs of $852 daily. This level is below both their 2008 costs of $972 daily and 2009 costs of $973 daily. See again Exhibit DWD-20. It is unlikely that other significant components of their operating costs have exhibited a similar decline in this time period.

Thus, the evidence supports the conclusion that FPL commercial customer bills, both presently and with the impacts from this proceeding, are moderate.

## V. CONCLUSIONS

**Q. What are your overall conclusions?**

A. My analysis of the data demonstrates that both FPL residential and commercial customers pay moderate amounts for electricity presently, whether considered in absolute dollar terms, relative to other Florida and U.S. electricity customers, or relative to the cost of other consumption items or business expenditures. FPL electricity rates for all customers have increased at far less than the overall rate of inflation over time, and they have actually decreased in the past several years. Even with the increase in base rates that would come from full approval of FPL's request, FPL's residential and commercial customers would continue to pay moderate amounts for electricity.

**Q. Does this conclude your rebuttal testimony?**

A. Yes, it does.

# David W. DeRamus, PhD
## Partner

### Summary of experience

David W. DeRamus is a founding member of Bates White, LLC and the Partner in charge of the firm's Energy practice. He specializes in economic and financial analysis, quantitative modeling, antitrust analysis, pricing analysis, damages analysis, and valuation. Dr. DeRamus has an extensive background in industrial organization, international economics, antitrust economics, microeconomics, finance, financial modeling, and statistical analysis.

### Areas of expertise

- Energy market analysis
- Antitrust analysis
- Mergers and acquisitions
- Damages estimation
- Class certification
- Environmental and product liability estimation
- Transfer pricing analysis
- Valuation

### Selected energy regulatory and litigation experience

- Testified on behalf of the Maryland Public Service Commission Staff to assess potential market power issues associated with the proposed merger of Exelon and Constellation. Analyzed changes in market concentration as a result of the merger, the appropriate definition of relevant geographic markets, and the adequacy of the Applicants' proposed mitigation plan. Analyzed the economic viability of the facilities selected for divestiture by the Applicants. Provided testimony on the Applicants' proposal to build additional generation as a means of addressing market power concerns raised by the proposed merger.
- Submitted testimony in *David Jenkins v. Entergy Corporation* estimating damages to plaintiffs resulting from an alleged improper energy purchasing scheme.

- Served as consulting expert on behalf of multiple defendants in several large cases related to the natural gas industry on class certification and damages issues. Alleged conduct involved misreporting of prices to publishers of natural gas price indices.
- Submitted testimony on behalf of Occidental Chemical Company in FERC proceedings (Docket No. ER10-396-000) related to the application by Tres Amigas, LLC for authorization to sell transmission services at negotiated rates. Analyzed potential market power issues raised by the application.
- Submitted testimony on behalf of the NRG Companies in FERC proceedings (Docket No. ER08-1209-___) related to the proposal by ISO New England Inc. and the New England Power Pool Participants Committee to compensate rejected Dynamic and Static De-List Bids in the ISO-NE Forward Capacity Auction.
- Submitted testimony on behalf of Milford Power Company, LLC in FERC proceedings (Docket No. ER99-4102-___) related to the Commission's generation market power screens as applicable to Milford's market-based rate authority.
- Testified on behalf of the New York Power Authority in FERC proceedings (Docket No. ER06-456-000, et al.) related to the proposal by PJM Interconnection, L.L.C. to allocate cost responsibility for certain transmission network upgrades included in the baseline PJM Regional Transmission Expansion Plan to merchant transmission projects that interconnect with the PJM transmission network.
- Submitted testimony on behalf of Southaven Power LLC and Kelson Energy III LLC in FERC proceedings (Docket No. EC08-___-000) related to potential market power issues arising from Kelson's proposed acquisition of the Southaven electric generation facility. Submitted testimony on behalf of Kelson Energy III LLC in FERC Docket No. ER08-___-000 related to the Commission's generation market power screens as applicable to Kelson's application for market-based rate authority.
- Submitted comments in proceedings before the Federal Energy Regulatory Commission (FERC) (Docket Nos. RM07-19-000 and AD07-7-000) related to "Wholesale Competition in Regions with Organized Electric Markets" (see "Comments of the Electric Power Supply Association"). Analyzed economic issues related to FERC's demand response proposals.
- Testified on behalf of Tenaska and Coral Power in proceedings before the Public Utility Commission of Texas (PUC Docket No. 33687) related to the application by Entergy Gulf States, Inc. of its "Transition to Competition Plan." Analyzed issues related to Entergy's business strategy, cost-benefit analysis, cost allocation, cross-subsidization, and potential harm to competition.
- Testified on behalf of Shell Trading Gas and Power Company and Calpine Corp. in proceedings before the Federal Energy Regulatory Commission (FERC) (Docket No. ER97-4166-015, EL04-

124-000, et al.) related to the application by the Southern Companies (Southern Company Energy Marketing, Inc. and Southern Company Services, Inc.) for market based rate authority. Analyzed issues related to the appropriate implementation of the Commission's Delivered Price Test, generation market power, Southern Companies' transmission network, barriers to entry, and affiliate preferences.

- Submitted testimony on behalf of Constellation Energy Commodities Group, Inc. in a complaint proceeding before FERC (Docket No. EL07-47-000) brought by the Illinois Attorney General against various participants in the Illinois Auction for electric power supplies (held in September 2006). Analyzed issues related to the competitiveness of the auction structure, market concentration, the ability of the participants to exercise market power, and allegations of collusion.
- Submitted testimony on behalf of Occidental Chemical Company in FERC proceedings (Docket No. EC07-70-000) evaluating the proposed acquisition of jurisdictional assets of Calcasieu Power, LLC by Entergy Gulf States, Inc. Analyzed issues related to the impact of the acquisition on market concentration and the ability of the applicant to exercise market power.
- Testified on behalf of the Texas Industrial Energy Consumers in proceedings before the Public Utility Commission of Texas (SOAH Docket No. 473-06-2536 and PUC Docket No. 32766) related to the retail electric power rates charged by Southwestern Public Service Company. Analyzed issues associated with the appropriate allocation of average system fuel costs and cross-subsidization.
- Testified on behalf of BP Canada Energy Marketing Corp. and IGI Resources, Corp. in FERC proceedings (Docket No. RP06-407) related to the application by Gas Transmission Northwest Corporation for market-based rate authority and flexible services rates for certain transportation services provided by the GTN natural gas pipeline.
- Testified on behalf of Occidental Permian Ltd. and Occidental Power Marketing, L.P. in FERC proceedings (Docket No. EL05-19-002 and ER05-168-001) related to the wholesale electric power rates charged by Southwestern Public Service Company. Analyzed issues associated with the appropriate allocation of average system fuel costs and cross-subsidization.
- Submitted testimony on behalf of Occidental Permian Ltd. and Occidental Power Marketing, L.P. in FERC proceedings (Docket No. ER01-205-009, et al.) related to the application by Southwestern Public Service Company for market-based rate authority. Analyzed issues related to generation market power and affiliate abuse.
- Submitted testimony on behalf of Calpine Corp. in FERC proceedings (Docket No. ER05-1065-000) and testified in Louisiana Public Service Commission proceedings (Docket No. U-28155) related to the application by Entergy Services, Inc., Entergy Louisiana, Inc., and Entergy Gulf States, Inc. to establish an Independent Coordinator of Transmission in the Entergy control area.

Analyzed issues related to the functions to be performed by the ICT, Entergy's transmission pricing proposal, and its Weekly Procurement Process proposal.

- Submitted testimony on behalf of Calpine Corp. in proceedings before the Louisiana Public Service Commission (Docket No. U-27836) related to the application by Entergy Louisiana, Inc. and Entergy Gulf States, Inc. for approval of the purchase of the Perryville, La. electric generating facility. Analyzed issues of market power and calculated the extent to which the proposed transaction increased market concentration.
- Submitted testimony on behalf of Calpine Corp. and Occidental Chemical Corp. in FERC proceedings (Docket No. ER91-569-023) related to the application by Entergy Services, Inc. for market based rate authority. Analyzed issues of generation market power, transmission market power, barriers to entry, and affiliate abuse in the Entergy control area. Implemented a model of the Entergy control area transmission constraints in performing the generation market power analysis.
- Submitted testimony on behalf of Calpine Corp. in FERC proceedings (Docket No. ER96-2495-018, et al.) related to the application by AEP Power Marketing, Inc., et al. for market based rate authority. Analyzed issues of generation market power, transmission market power, barriers to entry, and affiliate abuse in the AEP-SPP control area.
- Submitted expert testimony on behalf of InterGen in FERC proceedings (Docket No. EC03-131-000) related to Oklahoma Gas & Electric's proposed acquisition of NRG McClain. Analyzed issues of horizontal and vertical market power within the context of a hearing to identify appropriate mitigation measures.
- Submitted expert testimony on behalf of the Independent Energy Producers Association on vertical market power in FERC proceedings (Docket No. ER04-316-000) related to Southern California Edison's proposed acquisition of a Mountainview, Calif., electricity generating facility and a subsequent interaffiliate Power Purchase Agreement.
- Submitted expert testimony on behalf of Duke Energy in FERC proceedings (Docket Nos. EL00-95-075 and EL00-98-063) related to the California power markets during 2000–2001 and allegations of improper bidding behavior. Analyzed detailed data on individual bids and plant-level generation, performed statistical analysis of "physical" and "economic" capacity withholding, analyzed financial market data, examined alleged evidence of manipulative trading strategies, and assessed evidence of coordinated behavior.
- Submitted expert testimony on behalf of Duke Energy in response to a FERC Show Cause Order (Docket No. EL03-152-000) relating to alleged "gaming" behavior in the California power markets.
- Testified in Delaware Chancery Court in a merger-related dispute in the energy industry. Testimony involved the valuation of a potential environmental liability/toxic tort arising from oil

and gas operations, including an assessment of the materiality of the liability to the proposed merger.

- On behalf of the Electric Power Supply Association, analyzed economic issues with respect to demand response programs and price caps in organized electric markets in FERC Docket Nos. RM07-19-000 and AD07-7-000 ("Wholesale Competition in Regions with Organized Electric Markets").
- On behalf of an energy company, prepared a quantitative analysis of the benefits of competitive electric wholesale markets.
- On behalf of an energy company, prepared a whitepaper on the use of competitive procurements as a means of reducing market power in wholesale electric markets.
- In proceedings before the California Public Utilities Commission (Docket No. OIR 01-10-024), submitted report on behalf of the Independent Energy Producers Association regarding the proposed market price referent methodology for use in the California Renewables Portfolio Standards power solicitations.
- Provided economic analyses related to antitrust issues involving the electric utility industry. Analyzed prices, load patterns, capacity issues, outages, bidding patterns, and allegations of anticompetitive behavior.

## Selected other litigation experience

- Submitted expert testimony in a contract dispute in the chemical industry. Testified on issues related to the economics of the contract, the value to the parties of the contract, the impact of foreign exchange rate changes on the value of the contract, the competitive alternatives available to the parties, and damages.
- Testified in arbitration proceedings in a contract dispute between defense contractors. Testified on issues related to the materiality of the failure to disclose a government investigation, the economic analysis of a subcontract and alleged joint venture agreement, and damages.
- Submitted expert testimony in a contract dispute between defense contractors. Testified on issues of the financial ability of one of the parties to perform on a contract, a party's ability to obtain financing, the economic analysis of an alleged subcontract, the value of alleged trade secrets, and damages.
- Testified at trial in *ZF Meritor LLC v. Eaton Corporation*, a monopolization case involving certain heavy-duty truck components. Submitted testimony defining the relevant antitrust market, assessing whether a market participant had monopoly power, evaluating the harm to competition

from certain contracts and the performance of those contracts, and estimating damages. Jury verdict in favor of client.

- Submitted expert testimony in *In re Methionine Antitrust Litigation*, a major price-fixing case involving feed additives on behalf of direct action opt-out plaintiffs. Issues included establishment of liability, estimation of damages, analysis of industry structure, analysis of financial performance, and other pricing-related issues.
- In *J&R Ventures, Inc. v. Rhone-Poulenc SA*, submitted expert testimony on behalf of indirect purchaser plaintiffs in class certification proceedings in this price-fixing case involving feed additives.
- Served as consulting expert on antitrust, pricing, and exclusionary conduct issues related to biotechnology and agricultural products. Analyzed potential anticompetitive harm resulting from a proposed acquisition.
- Served as consulting expert on behalf of plaintiffs for monopolization cases involving the computer software industry. Assisted with the development of overall case strategy and preparation of economic analysis used in legal filings, analyzed pricing issues, investigated and reviewed allegations of anticompetitive behavior, prepared damages estimates, submitted damages reports to clients, and assisted with settlement negotiations.
- Conducted multiple transfer pricing analyses on behalf of General Motors de México (GMM) for submission to the Mexican tax authority, Servicio de Administracion Tributaria. These studies evaluated GMM's transfer pricing policies and pricing for related-party transactions with respect to the arm's length standard under OECD and Mexican transfer pricing guidelines.
- Developed a state-of-the-art microsimulation model for estimating the future liability of former asbestos manufacturers from personal injury lawsuits. Developed several financial cash-flow models to determine long-term viability of product liability settlement trusts.
- Conducted several valuation studies related to potential future product liability and potential future litigation recoveries. Valuation reports prepared and submitted as part of the acquisition process for due diligence and tax reporting purposes.
- Submitted expert testimony in government procurement litigation matter involving office productivity software. Analyzed financial costs and benefits of software standardization initiative, reviewed product comparisons, analyzed data on software installation and use, evaluated claims regarding alleged product integration and standardization advantages, and analyzed anticompetitive consequences of government procurement decisions.
- Assessed reliability of statistical study related to pricing accuracy for a large retailer. Analyzed issues related to overall study methodology, sampling bias, and quantification of harm to consumers.

- Submitted expert testimony assessing the damages resulting from defamation in the travel retail industry.
- Provided project oversight for estimation of damages in patent infringement case in the financial services industry. Damages estimated based on a reasonable royalty methodology.
- Provided consulting expert services in a major government contract dispute. Assessed the economics of a development contract with defense aerospace companies. Analyzed the contractors' financial performance, financial viability, bankruptcy risks, potential financing sources, project cash-flows, and the impact of contract termination.
- Conducted a valuation of a plaintiff's legal claims related to several ongoing major litigation matters. Valuation report submitted for tax reporting purposes.
- In a major tax dispute, analyzed the impact of a private-label credit card on a large retailer's sales and profits. Developed a robust statistical model using the company's point-of-sale data, credit card data, and customer demographic information. Tax dispute resolved in favor of the client based on this analysis.
- Conducted an antidumping study to estimate exposure to tariffs in the petrochemical industry.
- Conducted market and industry analyses for various due diligence, breach of contract, bankruptcy, and product liability engagements in the areas of insurance, general aviation, commercial property, electronic funds transfer, restaurant franchising, and construction.

## Selected business consulting experience

- Authored a report on the U.S. ethanol industry, quantifying the impact of the expiration of the Voluntary Ethanol Excise Tax Credit ("VEETC") and a tariff on U.S. ethanol imports.
- Estimated value of automotive engine technology for large international automotive manufacturer. Study prepared for tax and financial reporting purposes
- Conducted numerous transfer pricing studies for tax planning, documentation, and audits. Clients include large multinational companies involved in automotive manufacturing, medical products, computer software/hardware, industrial equipment, retail clothing, food products, tobacco, oil drilling services, package delivery services, shipping, and industrial products.
- Designed, managed, and implemented intellectual property-related planning initiatives for large multinational clients in manufacturing, computer, telecommunications, and consumer product industries. Designed R&D cost sharing arrangements and prepared transfer pricing documentation for tax compliance.

- Managed the development of advanced data analytic software based on artificial neural networks for Internet-based financial services client. Responsible for identifying new product opportunities for client, evaluating feasibility of applications, performing cost-benefit analysis for new product investment, designing implementation plan, and managing the overall software development process.
- Estimated the future asbestos liability of several companies (public and private) for investment research firms and potential acquirers as due diligence. Analyzed the litigation risks faced by the companies, insurance coverage issues, potential consequences of other developments in the asbestos litigation environment, and financial reporting issues.
- Estimated value of liabilities for a remainder trust established for a former manufacturer of food products.
- In order to determine the appropriate compensation for risk in a long-term supply contract, developed a financial simulation model for a major transportation consortium in contract negotiations with the U.S. Department of Defense.
- Managed and directed various business consulting projects requiring statistical analysis to guide pricing and marketing decisions.
- Provided strategy consulting to seed-stage start-up companies, including development of business strategy, competitive analysis, intellectual property assessment, development of revenue and cost projections, and formulation of business and financing plan.
- Conducted extensive empirical research on the impact of R&D and advertising on profitability; analyzed the impact of foreign exchange rate fluctuations on U.S. prices.

## Industry presentations

- Renewable Fuels Association, Conference, National Ethanol Conference, February 21, 2011: "Future of Biofuels Tax Policy Panel Discussion."
- COMPETE and the Electric Power Supply Association, Conference, Empowering Customers Through Competitive Markets, November 5, 2007: "Ensuring Consistent Environmental and Competition Policies in Electricity Markets."
- Federal Trade Commission, Conference, Energy Markets in the 21st Century: Competition Policy in Perspective, April 10, 2007: "Empirical Analyses of Wholesale Electric Competition and Industry Restructuring."
- Federal Energy Regulatory Commission, Technical Conference, Generation Market Power and Affiliate Abuse, January 28, 2005: "Comments by David W. DeRamus, PhD."

- Federal Energy Regulatory Commission, Technical Conference, Acquisition and Disposition of Merchant Generation Assets by Public Utilities, Docket No. PL04-9-000, June 10, 2004: "Comments by David W. DeRamus, PhD."
- Federal Energy Regulatory Commission Technical Conference, Market-Based Rates for Public Utilities, Docket No. RM04-7-000, June 9, 2004: "Comments by David W. DeRamus, PhD."
- Electric Power Supply Association, Spring Membership Meeting, April 2004: "Utility Power Supply: Costs and Risks of Vertical Reintegration."
- American Antitrust Institute, Fourth Annual Energy Roundtable Workshop, January 2004: "Electric Utility Reintegration: Vertical Market Power and Potential Market Foreclosure."
- Institute of Public Utilities, Annual Conference, December 2003: "Distinguishing Between Market, Regulatory, and Business Failures."

## Professional experience

Dr. DeRamus was previously a Manager with A.T. Kearney and a Senior Manager with KPMG. In both positions, he had broad client responsibility including the management of complex litigation, transfer pricing, and business consulting engagements.

## Education

- PhD, Economics, University of Massachusetts at Amherst
- MA, Economics, University of Massachusetts at Amherst
- BA, Political Science (*magna cum laude*), Duke University

## Professional associations

- American Bar Association
- American Economic Association
- Energy Bar Association

## Related activities and honors

- German Academic Exchange Service Grant (awarded)
- Council for European Studies Pre-Dissertation Fellowship (Columbia University)
- Dean's University Fellowship (University of Massachusetts)

- Herbert Lehman Fellowship (New York State)

## Languages

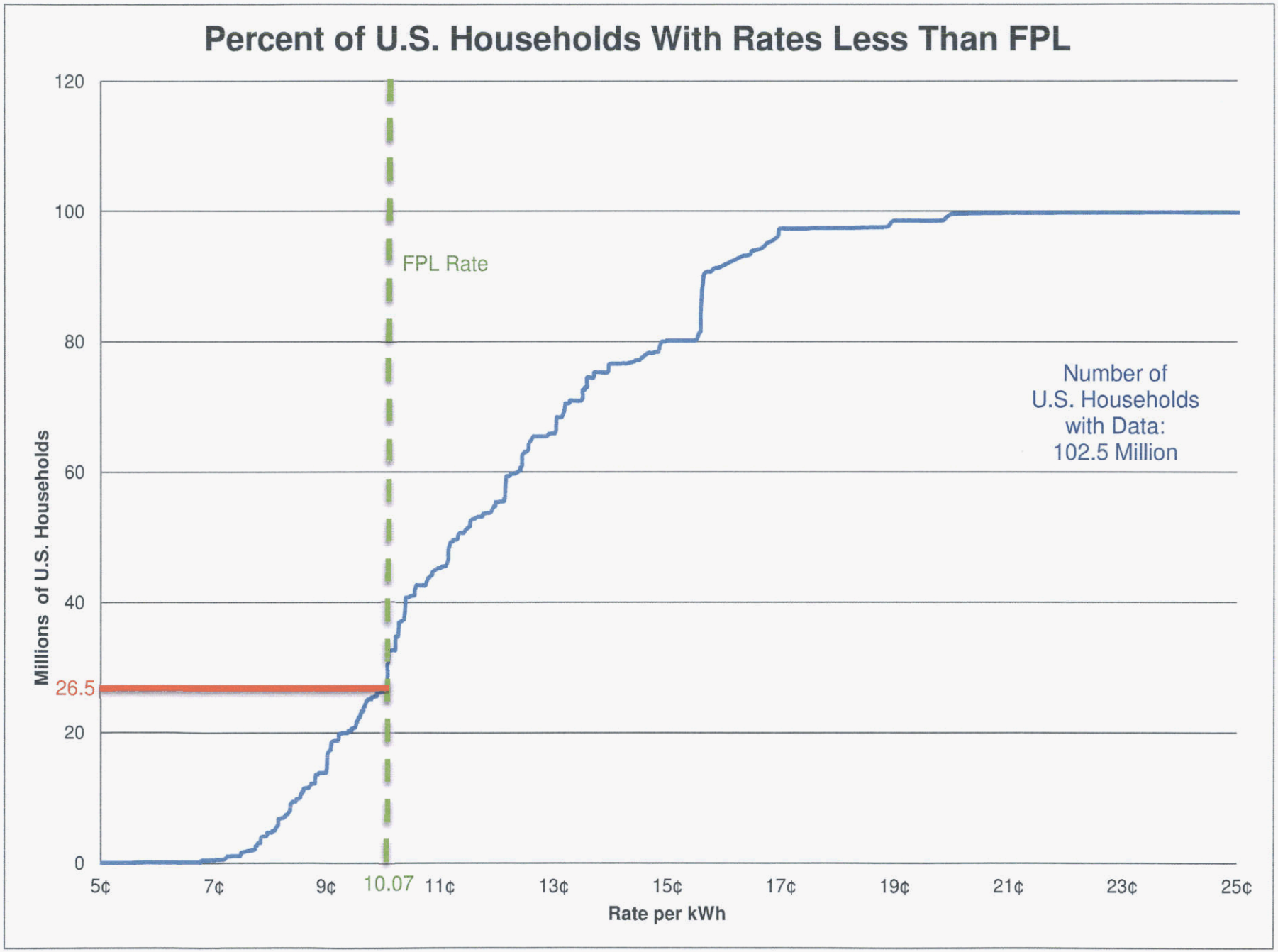
- French (fluent)
- German (fluent)
- Spanish (intermediate)

# FPL Serves 4% of the Whole Country

| Utility | State | Number of Residential Customers | Percent of Total | Number of Commercial Customers | Percent of Total | Number of Industrial Customers | Percent of Total | Total | Percent |
|---|---|---|---|---|---|---|---|---|---|
| Pacific Gas & Electric | CA | 4,539,126 | 4.43% | 636,189 | 4.56% | 1,067 | 0.23% | 5,176,381 | 4.43% |
| Southern California Edison | CA | 4,269,758 | 4.16% | 577,040 | 4.14% | 33,968 | 7.22% | 4,880,766 | 4.17% |
| FPL | FL | 3,998,944 | 3.90% | 507,085 | 3.64% | 8,980 | 1.91% | 4,515,009 | 3.86% |
| Commonwealth Edison | IL | 3,432,731 | 3.35% | 310,337 | 2.23% | 184 | 0.04% | 3,743,251 | 3.20% |
| Consolidated Edison | NY | 2,288,286 | 2.23% | 388,876 | 2.79% | 147 | 0.03% | 2,677,310 | 2.29% |
| Total | | 18,528,844 | 18.07% | 2,419,528 | 17.35% | 44,345 | 9.42% | 20,992,716 | 17.95% |
| All U.S. Consumers | | 102,521,169 | | 13,942,436 | | 470,556 | | 116,934,161 | |

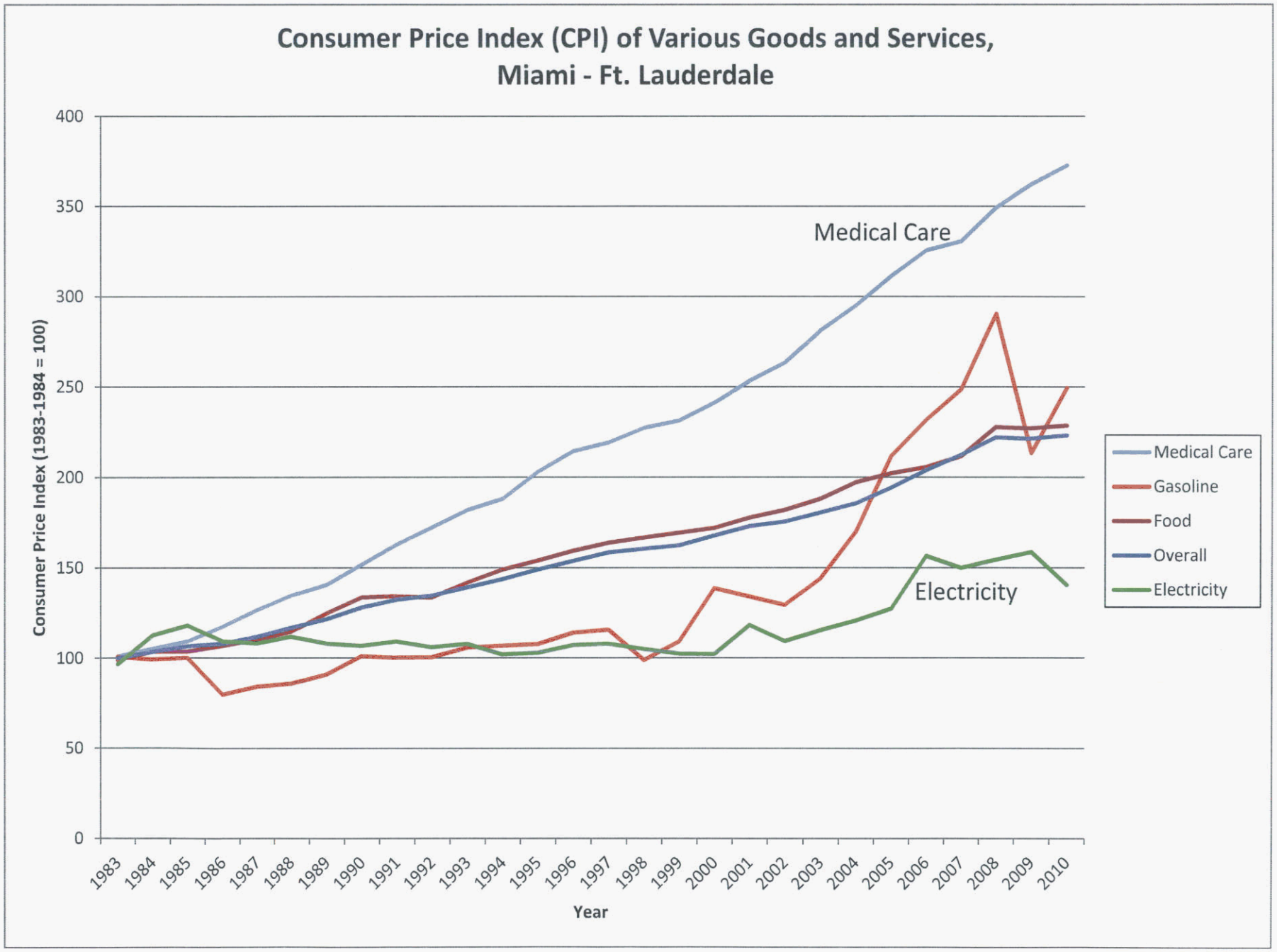
Data from Energy Information Administration's EIA-826

Docket Number 120015-EI
FPL Serves 4% of the Whole Country
Exhibit DWD-2, Page 1 of 1



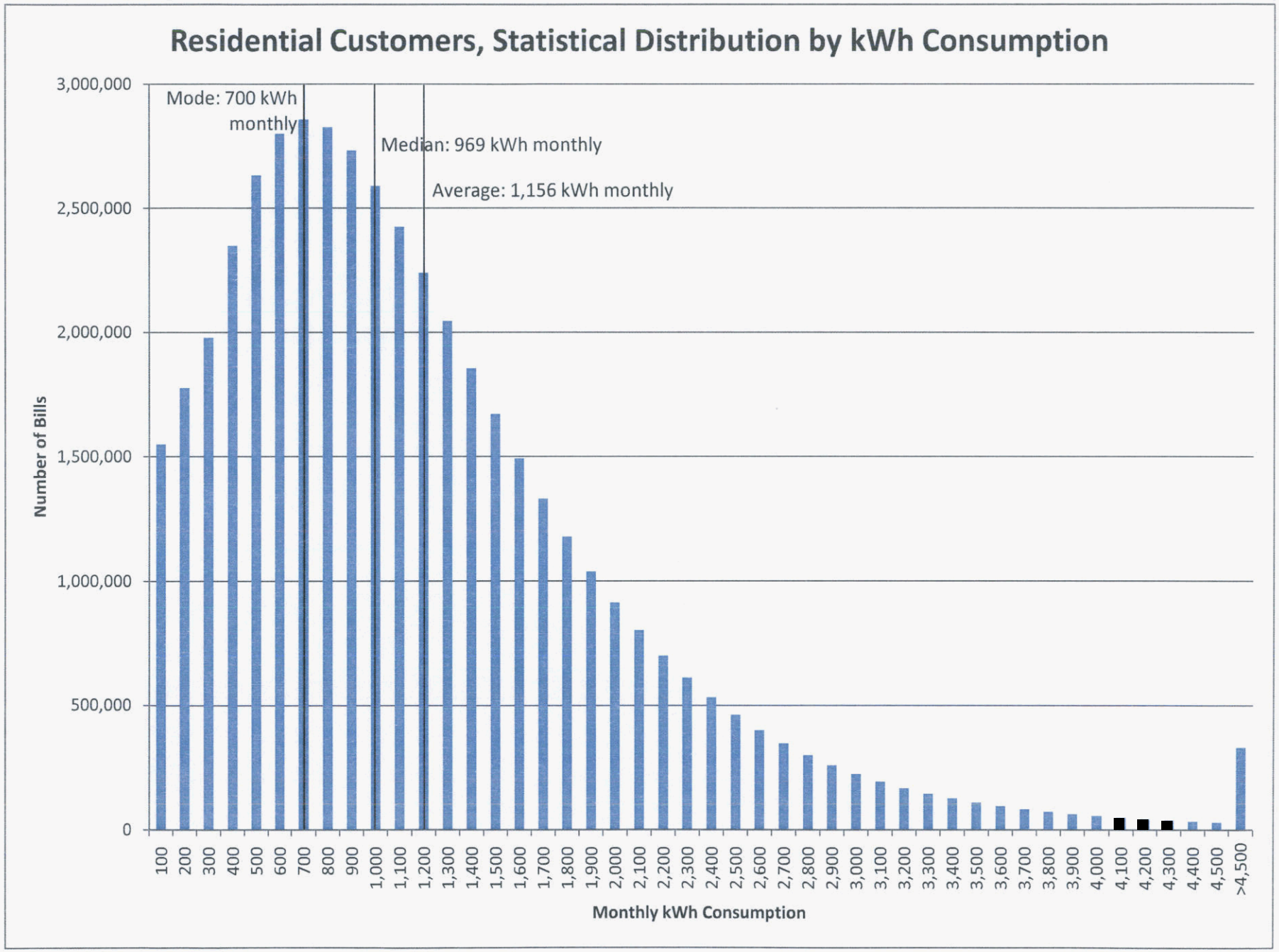

Data Source: EIA-826

Docket Number 120015-EI
Percent of U.S. Households With Rates Less Than FPL
Exhibit DWD-3, Page 1 of 1

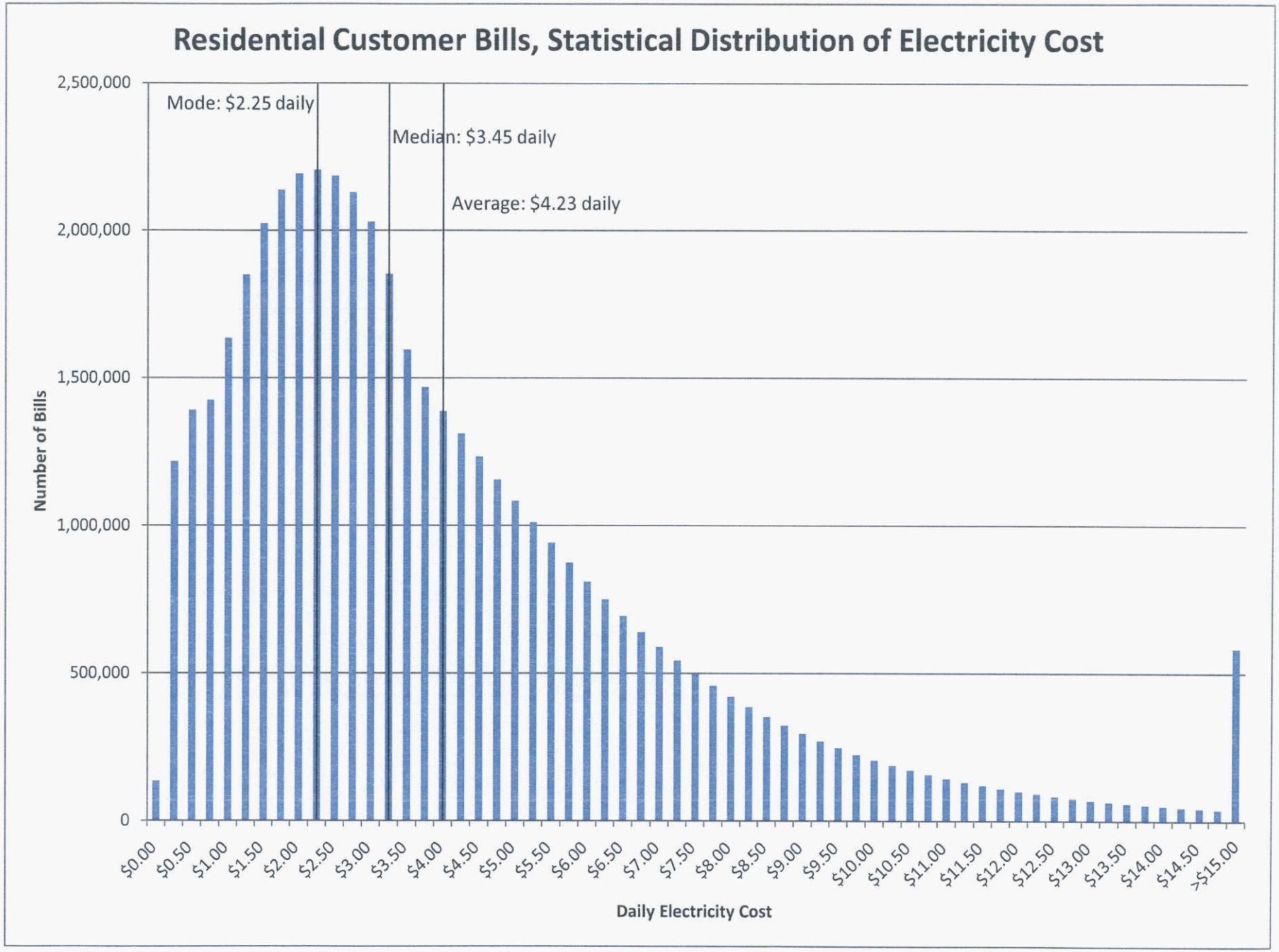



Data Source: BLS

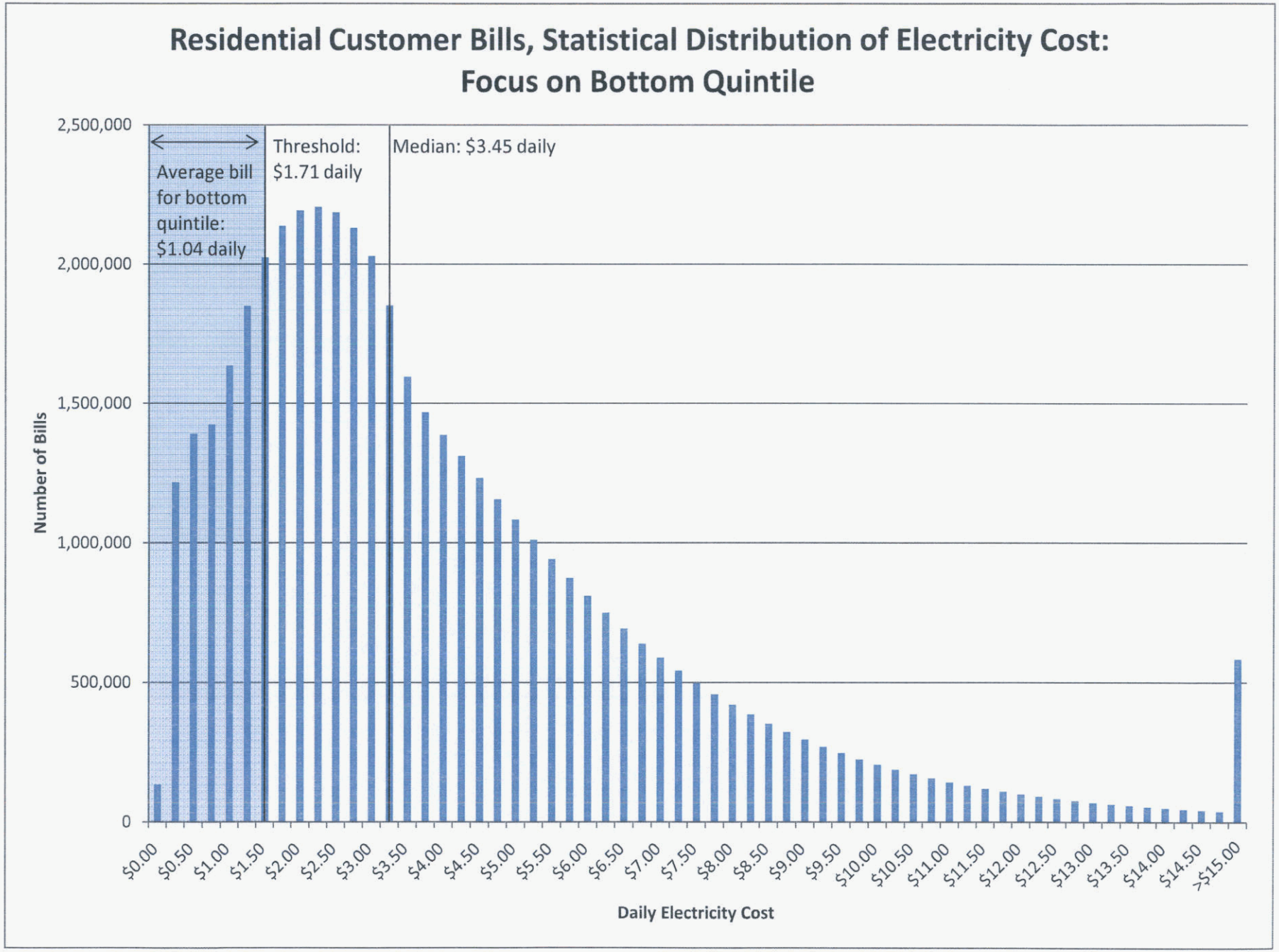
Docket Number 120015-EI
Consumer Price Index (CPI) of Various Goods and Services, Miami - Ft. Lauderdale
Exhibit DWD-4, Page 1 of 1



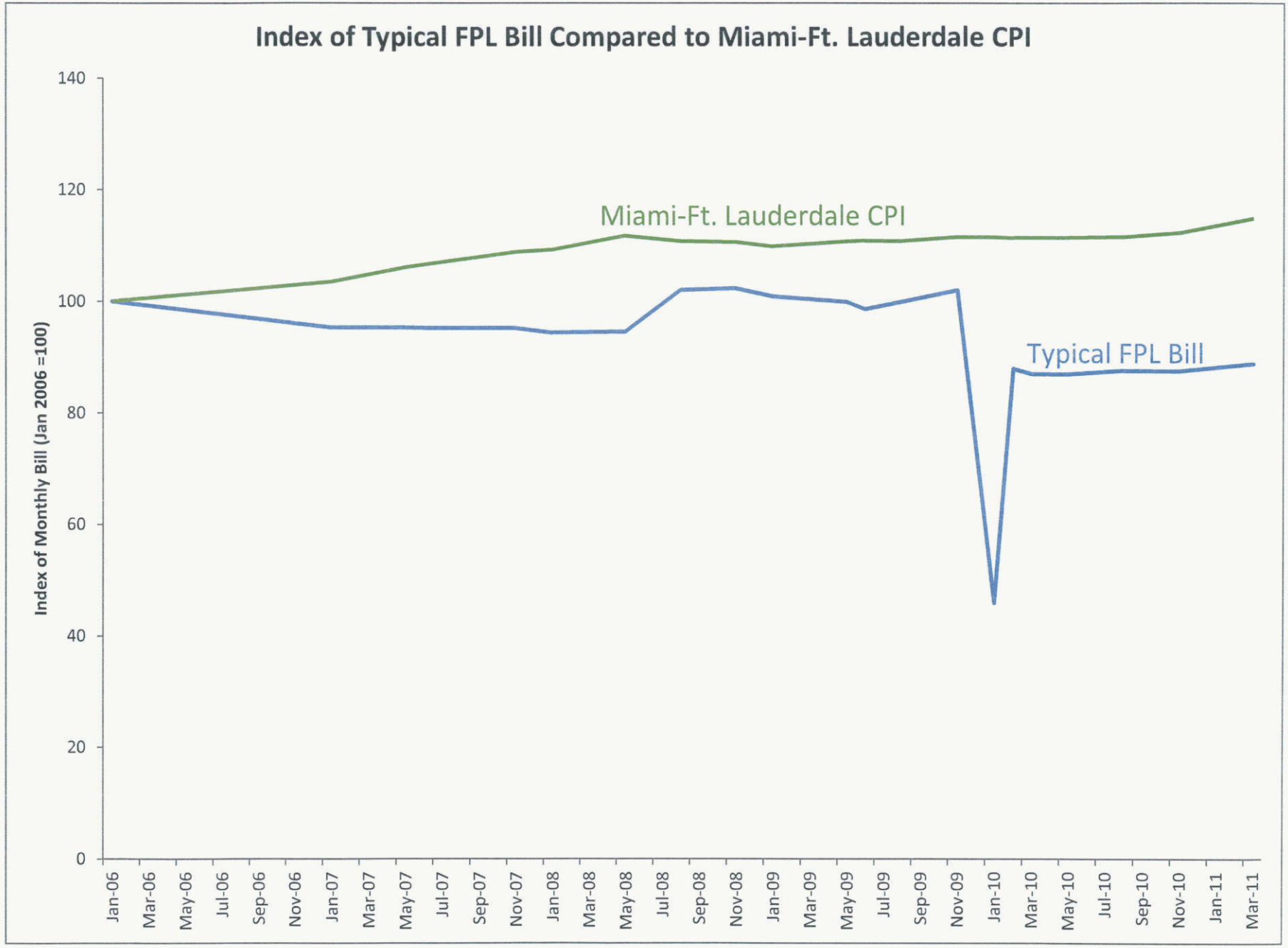

Docket Number 120015-EI
Residential Customers, Statistical Distribution by kWh Consumption
Exhibit DWD-5, Page 1 of 1




Docket Number 120015-EI
Residential Customer Bills, Statistical Distribution of Electricity Cost
Exhibit DWD-6, Page 1 of 1

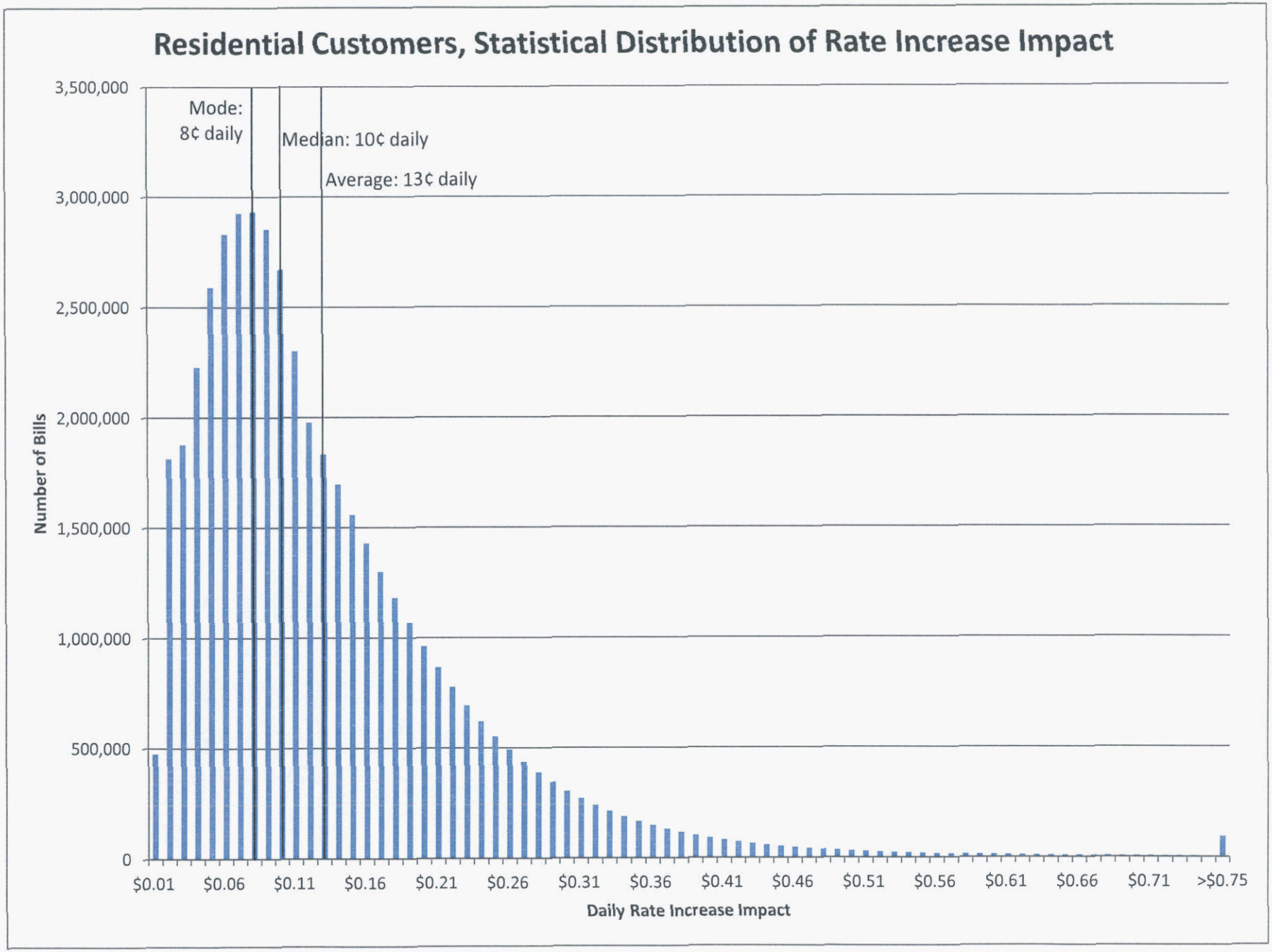



Docket Number 120015-EI
Residential Customer Bills, Statistical Distribution of Electricity Cost: Focus on Bottom Quintile
Exhibit DWD-7, Page 1 of 1

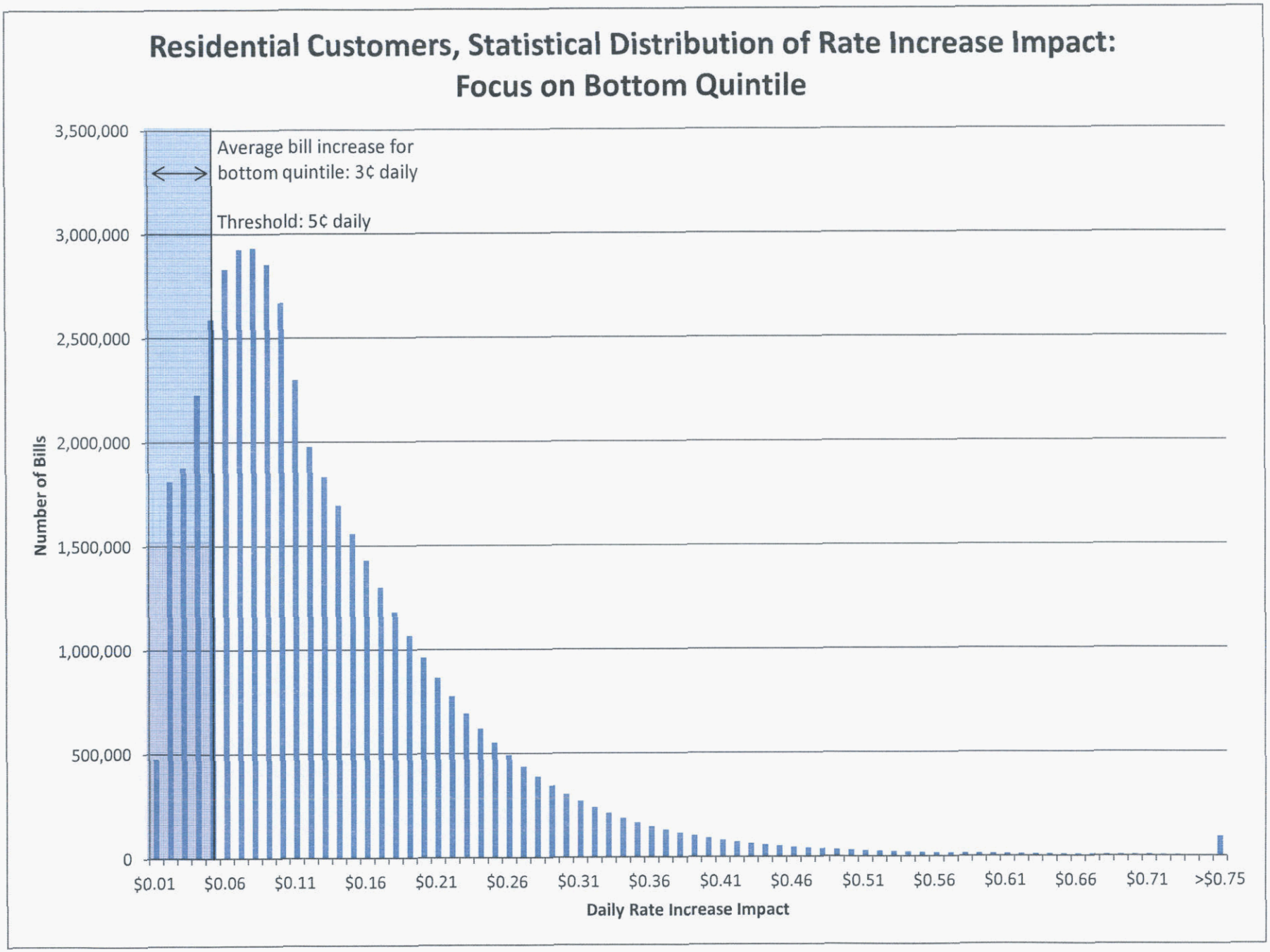



Data Source: BLS

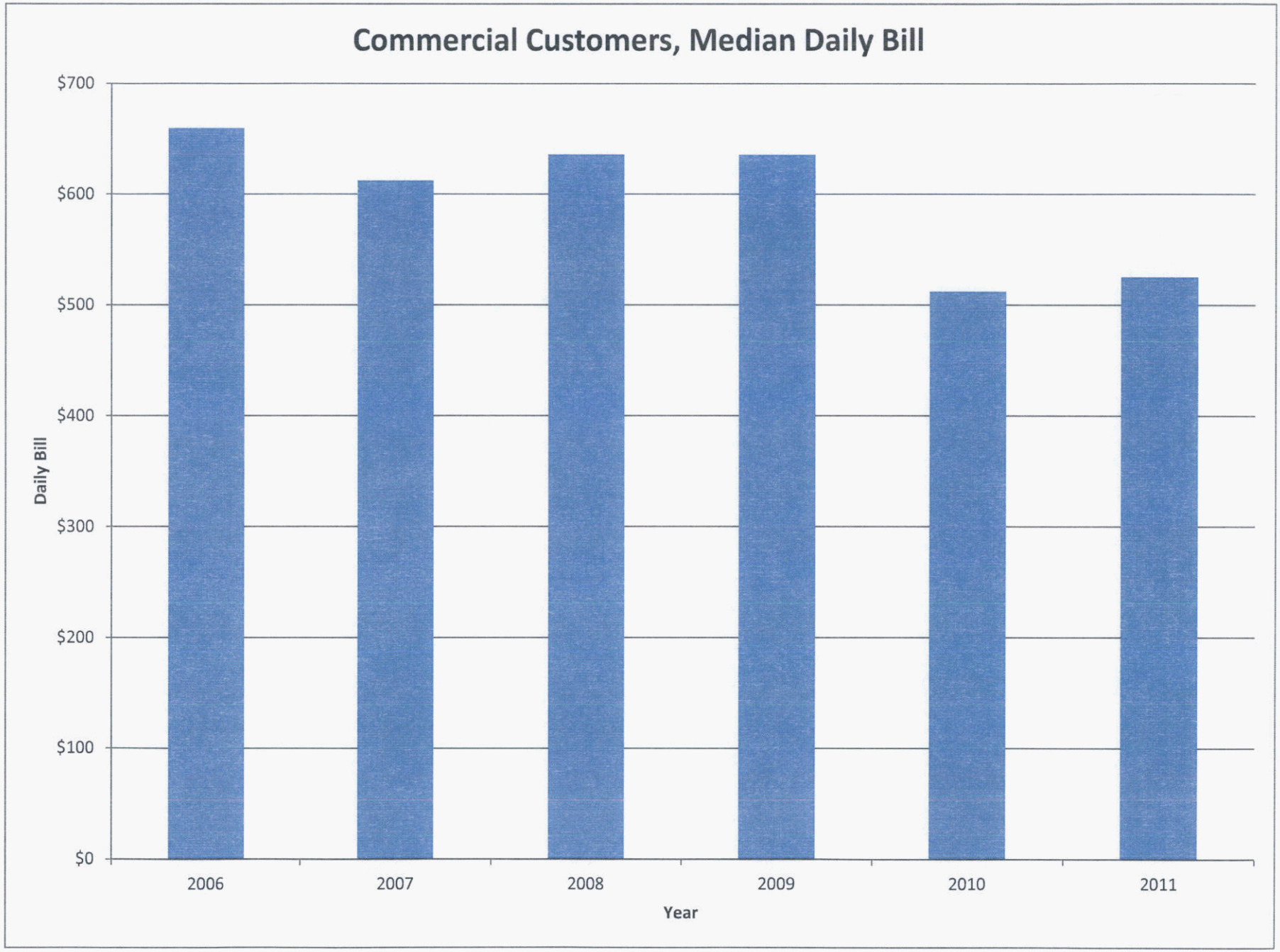
Docket Number 120015-EI
Index of Typical FPL Bill Compared to Miami - Ft. Lauderdale CPI
Exhibit DWD-8, Page 1 of 1



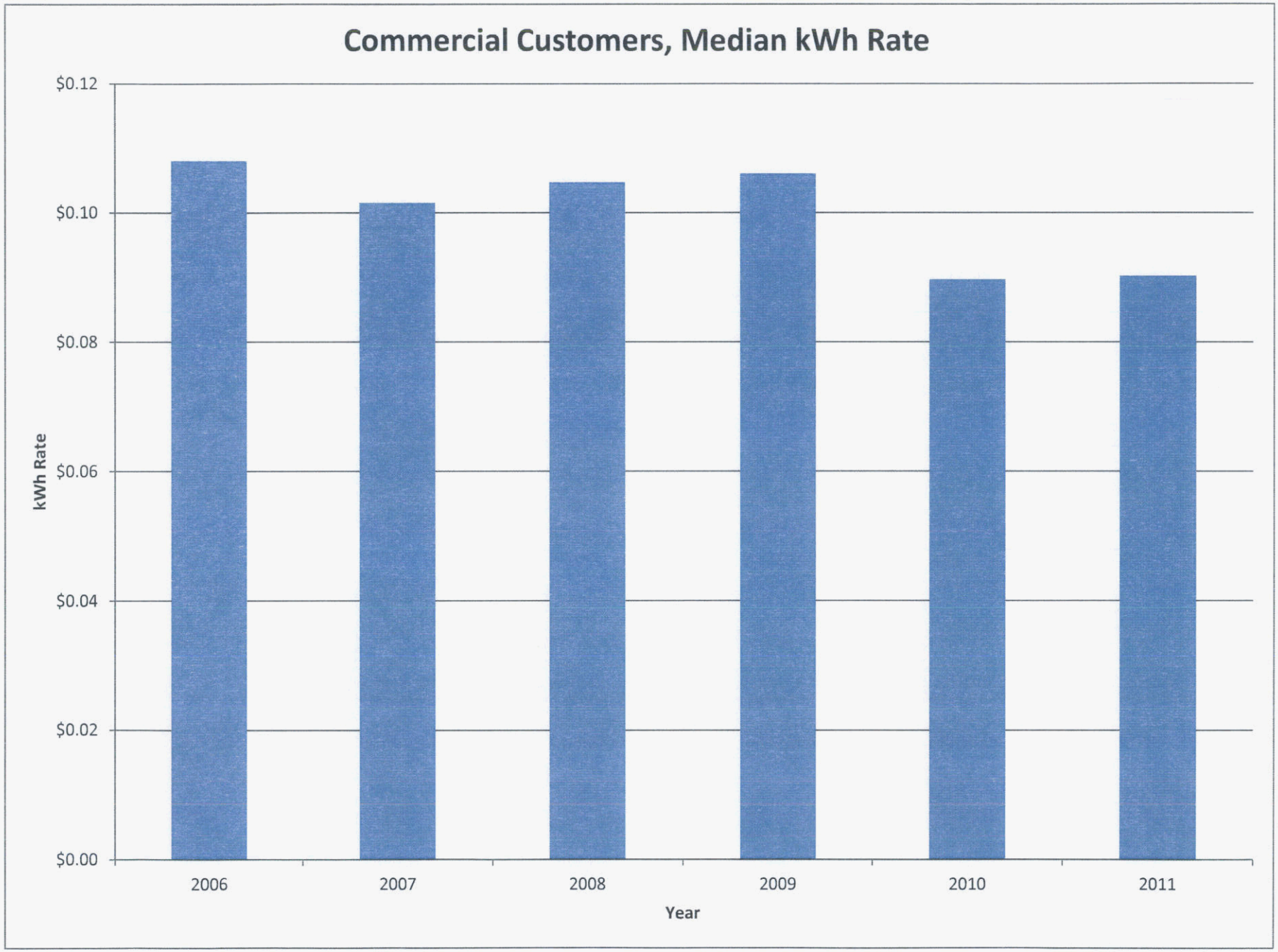

Docket Number 120015-EI
Residential Customers, Statistical Distribution of Rate Increase Impact
Exhibit DWD-9, Page 1 of 1



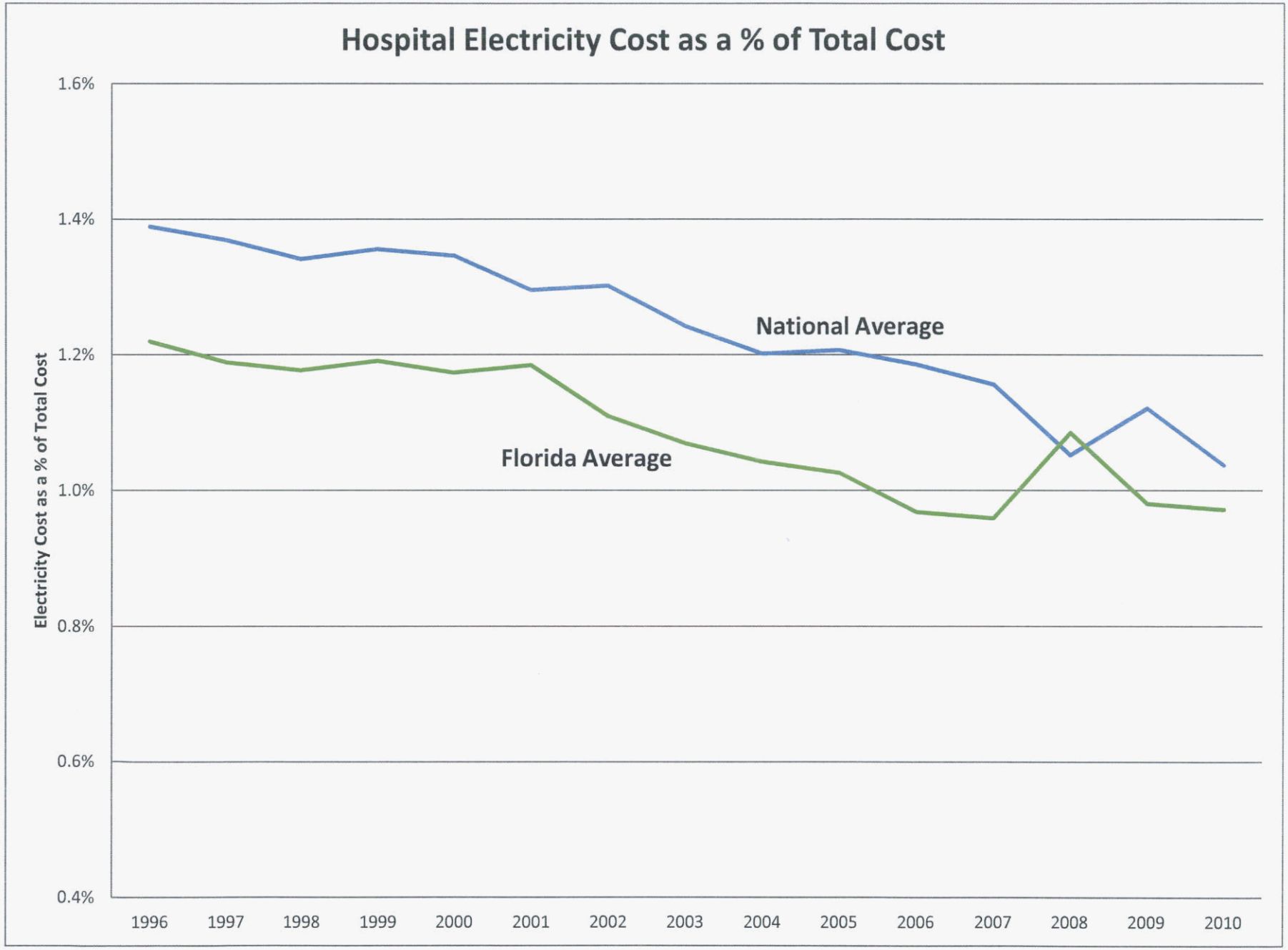

Docket Number 120015-EI
Residential Customers, Statistical Distribution of Rate Increase Impact: Focus on Bottom Quintile
Exhibit DWD-10, Page 1 of 1




Docket Number 120015-EI
Commercial Customers, Median Daily Bill
Exhibit DWD-11, Page 1 of 1




Docket Number 120015-EI
Commercial Customers, Median kWh Rate
Exhibit DWD-12, Page 1 of 1



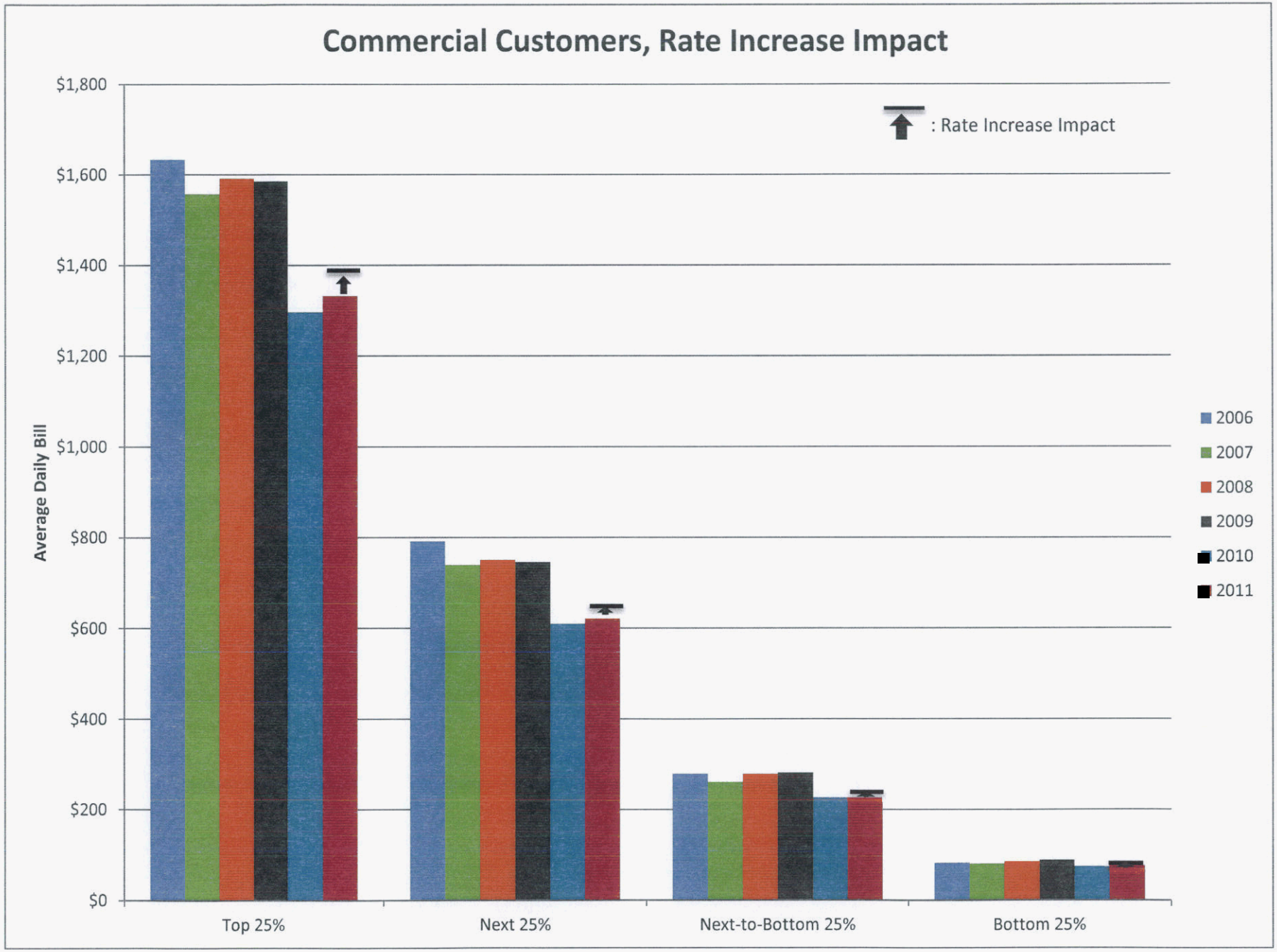

Data Source: Medicare data

Docket Number 120015-EI
Hospital Electricity Cost as a % of Total Cost
Exhibit DWD-13, Page 1 of 1

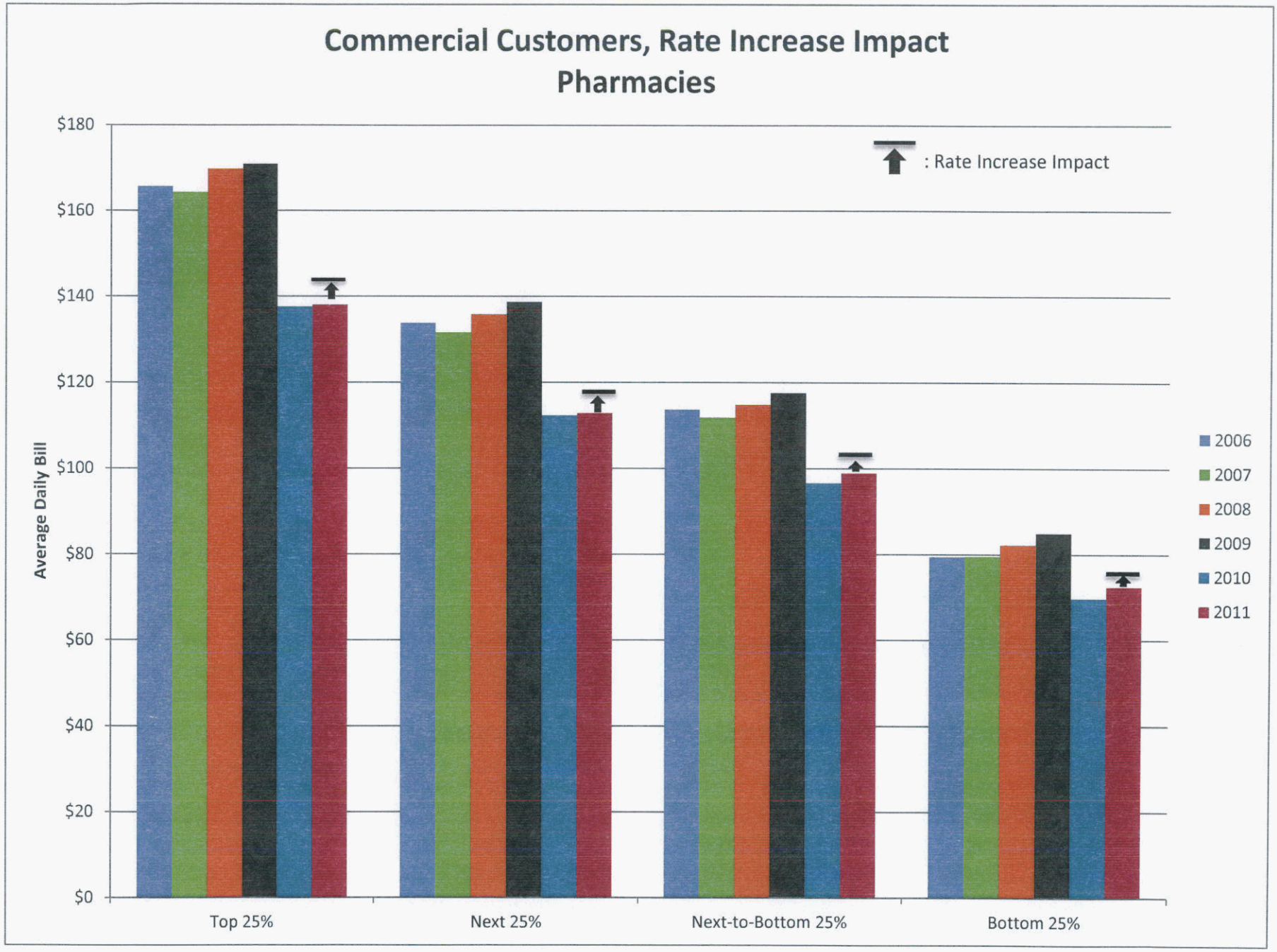
## Commercial Customers, Rate Increase Impact by Customer Type and Size

### 16% Base Rate Increase, Daily

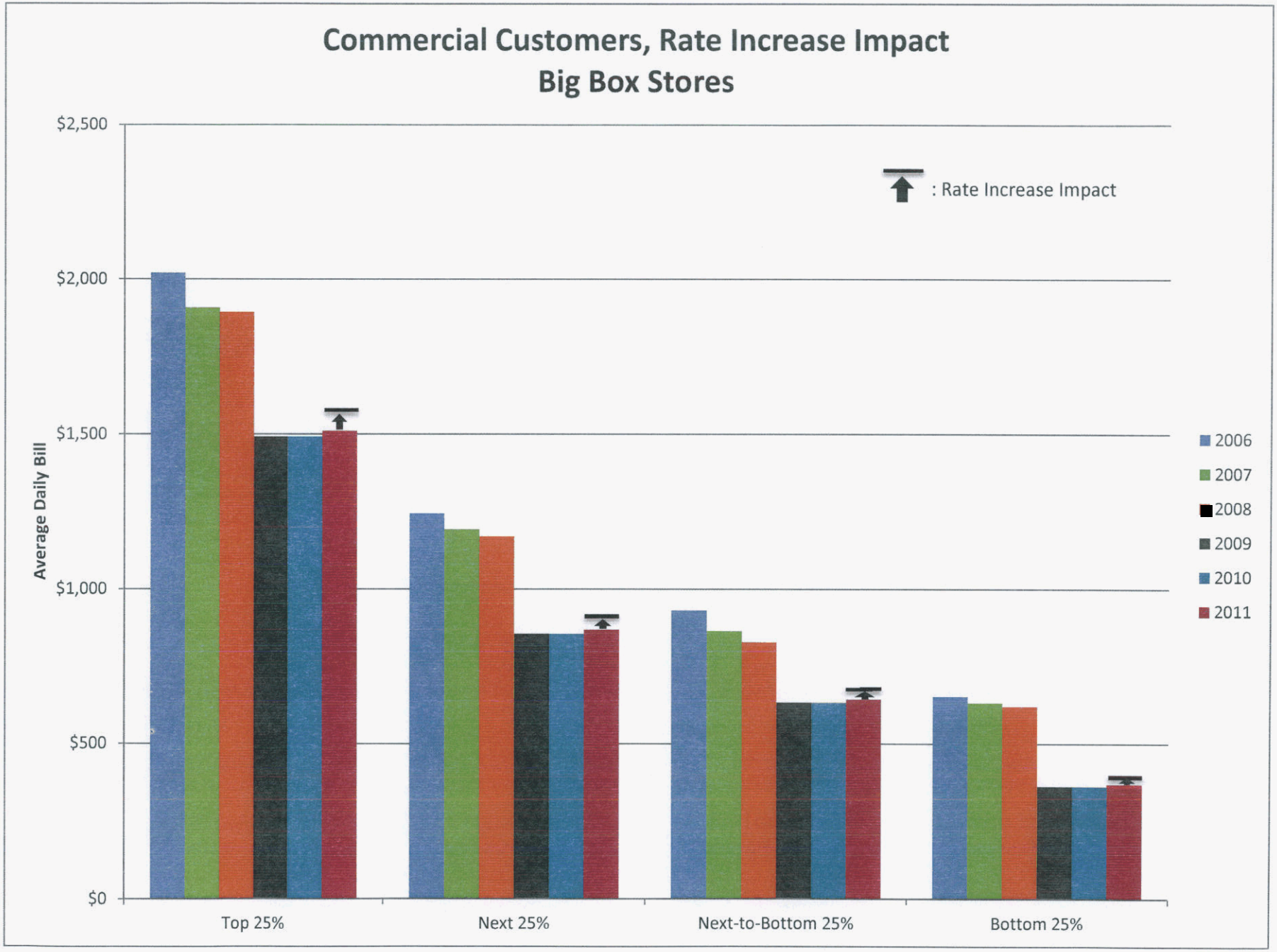
| Customer Type | Top 25% | Next 25% | Next-to-Bottom 25% | Bottom 25% |
|---|---|---|---|---|
| Supermarkets | $32.77 | $27.57 | $25.13 | $20.77 |
| Pharmacies | $5.52 | $4.51 | $3.96 | $2.90 |
| Big Box Stores | $60.41 | $34.76 | $25.74 | $14.86 |
| Department Stores | $36.31 | $25.54 | $17.76 | $10.95 |
| Hospitals | $476.15 | $192.75 | $99.73 | $32.22 |
| Overall | $53.30 | $24.83 | $9.08 | $3.07 |



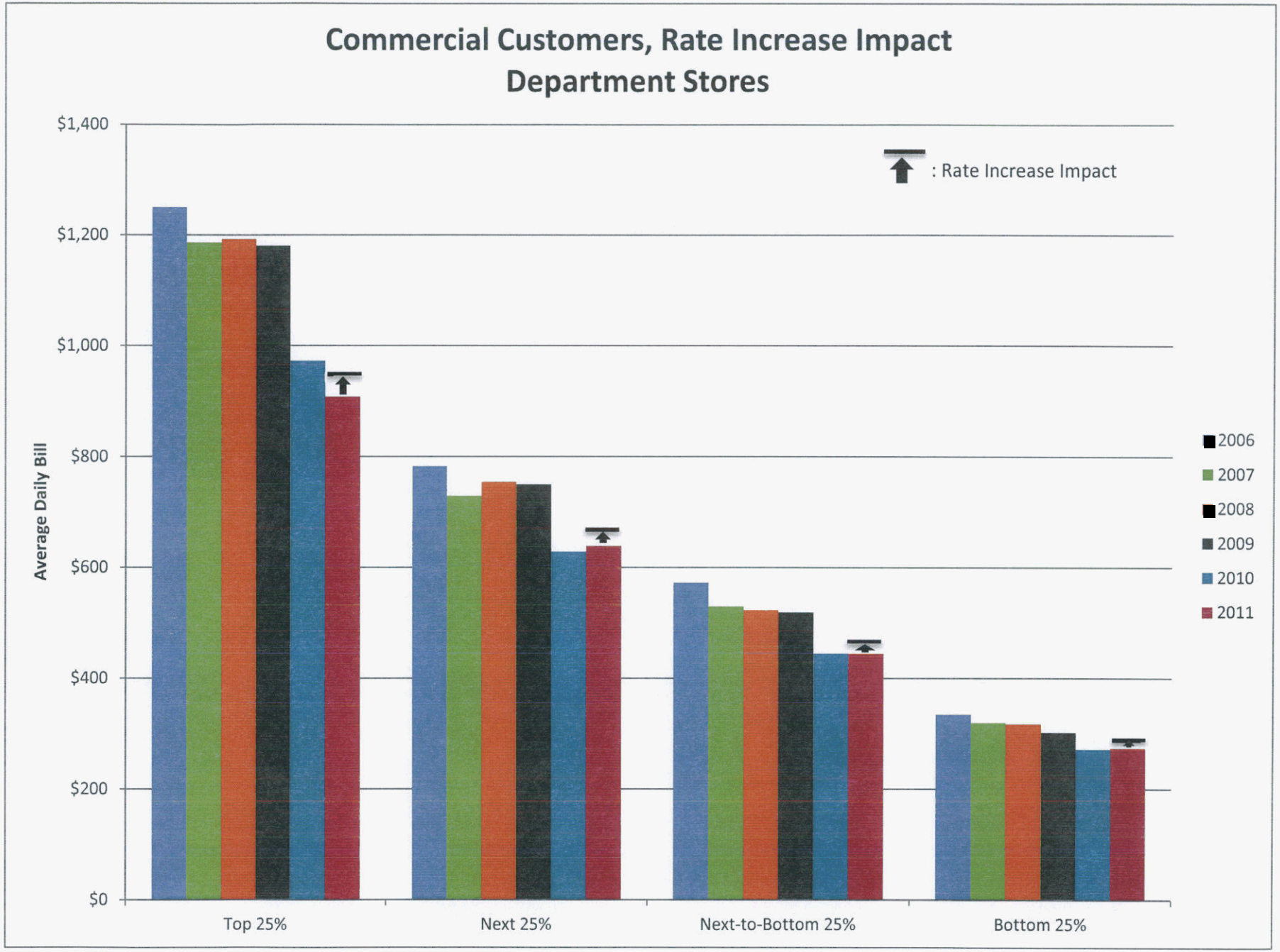

Docket Number 120015-EI
Commercial Customers, Rate Increase Impact
Exhibit DWD-15, Page 1 of 1



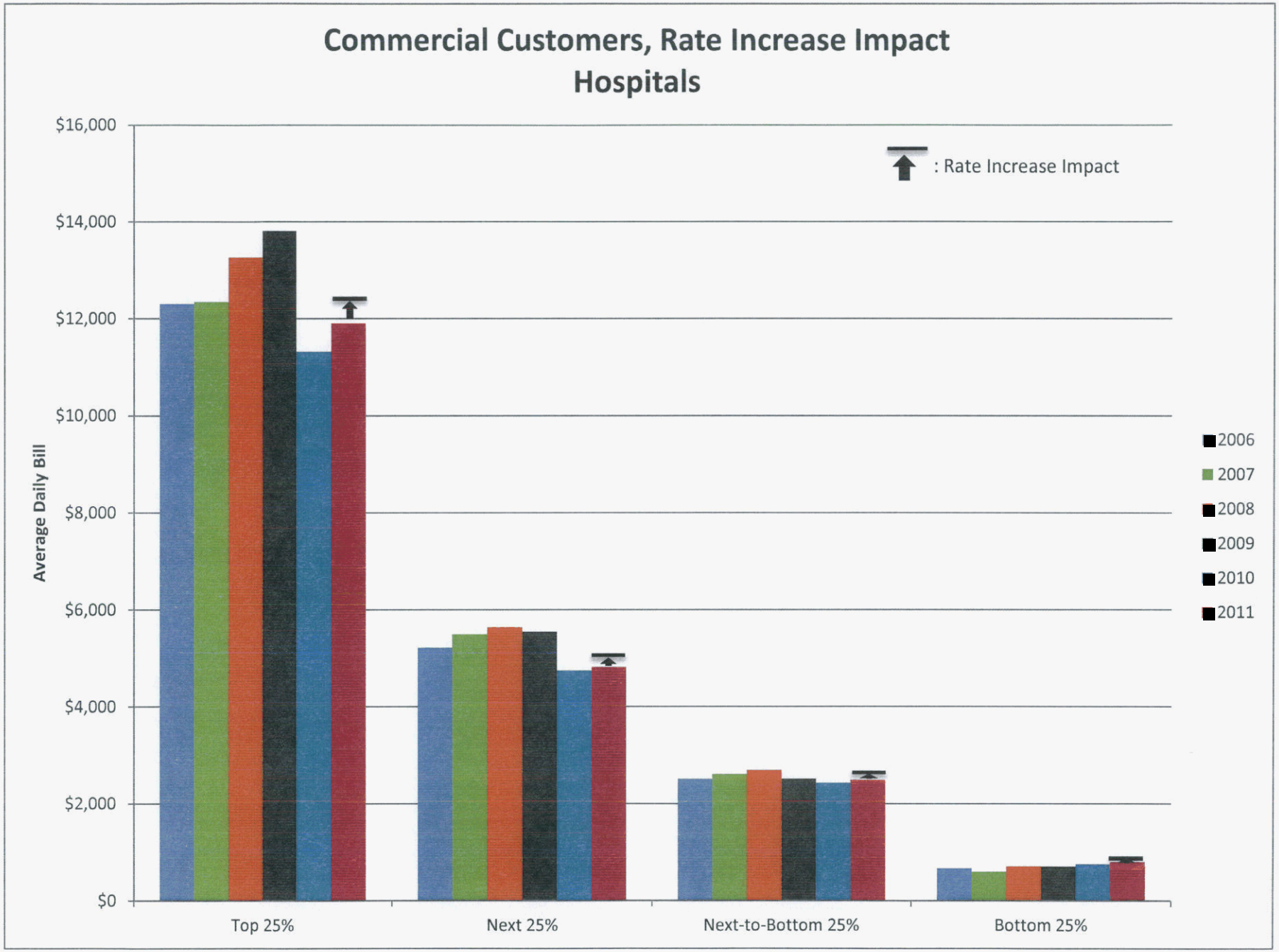

Docket Number 120015-EI
Commercial Customers, Rate Increase Impact, Pharmacies
Exhibit DWD-16, Page 1 of 1



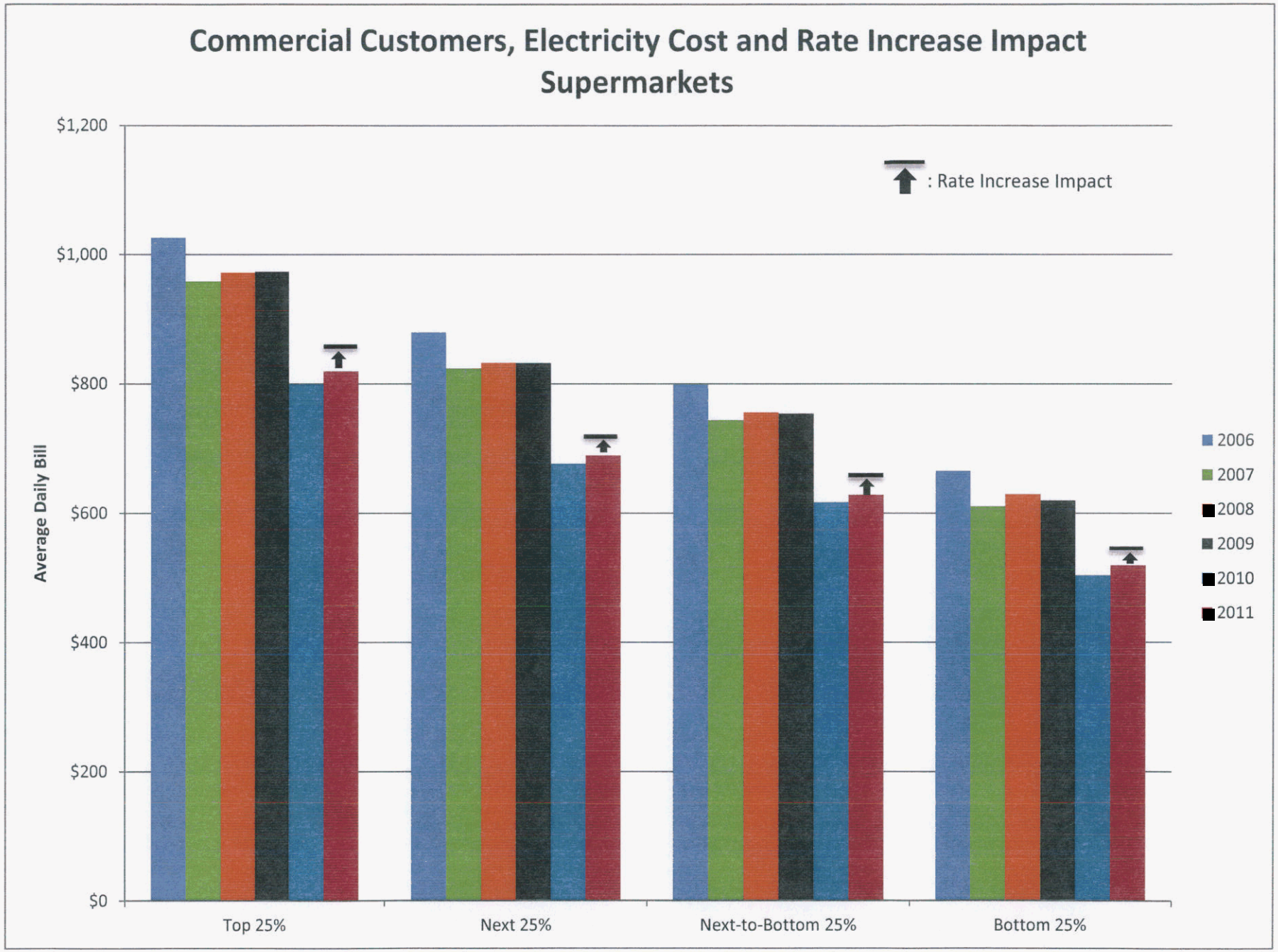

Docket Number 120015-EI
Commercial Customers, Rate Increase Impact, Big Box Stores
Exhibit DWD-17, Page 1 of 1




Docket Number 120015-EI
Commercial Customers, Rate Increase Impact, Department Stores
Exhibit DWD-18, Page 1 of 1




Docket Number 120015-EI
Commercial Customers, Rate Increase Impact, Hospitals
Exhibit DWD-19, Page 1 of 1




Docket Number 120015-EI
Commercial Customers, Rate Increase Impact, Supermarkets
Exhibit DWD-20, Page 1 of 1