

Assessing the impact of changes in the cost of capital on Exelon’s regulated business activities

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Changes in parent company cost of capital can have a long-term impact on regulated subsidiary ratepayers. Perceptions by rating agencies of an increased risk profile for Exelon's regulated subsidiaries, ComEd and PECO – in part due to anticipated pressure to distribute cash up to the holding company level to pay debt associated with Exelon's acquisition of NRG – may eventually filter through to transmission and distribution rates during future rate cases. Over the long run, parent company pressure to upstream dividends may result in delayed maintenance and capital investment, potentially harming reliability. An indicative estimate of the impact on customer costs due to potential debt downgrades is that payments from customers could increase annually by \$41 million, and possibly up to \$184 million; over a five year period, costs could exceed \$920 million if credit quality of the regulated subsidiaries persisted at a level that was below investment grade. Costs to consumers from declines in reliability could be greater.

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1 Executive summary

Exelon's proposed acquisition of NRG could eventually increase rates for retail ratepayers by at least \$41 million per year and possibly up to \$184 million. These ratepayer increases would be due to increased risks that may result in a possible downgrade in the credit rating of Exelon's regulated subsidiaries and a corresponding increase in the cost of capital resulting from the proposed acquisition of NRG.

Standard and Poor's downgraded Exelon Corporation, Exelon Generation, and PECO to BBB from BBB+, and placed all of Exelon's subsidiaries, including ComEd, on CreditWatch when the proposed transaction was made public. The credit rating assigned to ComEd and PECO has a direct impact on their cost of acquiring capital. Increases in capital costs would impact ratepayers during future rate proceedings.

With regard to the proposed merger of Exelon and NRG, several points are worth noting:

- If a rate case occurs, regulated rates for ComEd customers could increase by at least \$27 million and as much as \$119 million as a result of the proposed Exelon-NRG merger, while rates for PECO customers could increase by at least \$14 million and as much as \$66 million;
- Over a period of five years, this would amount to over \$200 million in additional customer costs due to increased cost of capital alone; the cost to customers could exceed \$920 million over the same period if both regulated subsidiaries were to lose their investment grade status;
- Any increase in the cost of capital accepted in a rate case will remain in effect until the utility files a new rate case, which means that even a short term impact on costs of capital could be felt by ratepayers for several years; and
- If maintenance is delayed to facilitate cash flow to the holding company, reliability may suffer, further harming customers. The cost of a single hour outage to ComEd customers could equal \$63 million. For PECO customers, the cost of a single hour outage could equal \$26 million.

Further, Exelon's attempt to isolate the finances of its regulated utilities, known as ring-fencing measures, may not be sufficient to avoid ratepayer increases:

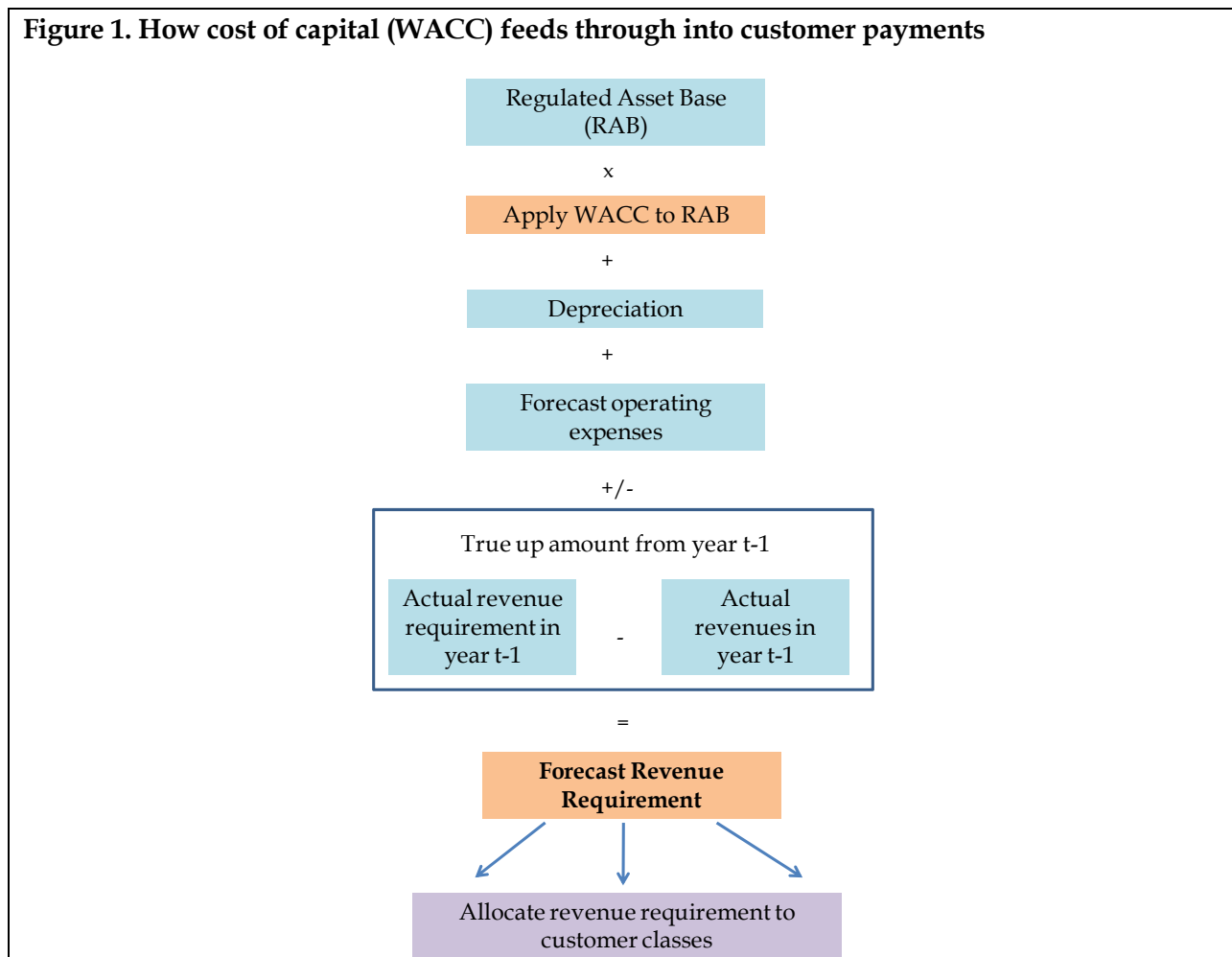
- Credit rating agencies downgraded PECO and placed ComEd on credit watch. These credit actions have been sustained despite the ring-fencing measures proposed by Exelon, suggesting that the financial markets may doubt the effectiveness of the ring-fencing measures;
- Exelon has not agreed to take basic steps such as committing to maintain minimum equity capitalization ratios for its regulated subsidiaries, which would provide stronger protection for ratepayers from adverse effects; and
- The ring-fencing proposal fails to include measures commonly found in standard credit agreements, meaning that the ring-fencing measures proposed by Exelon may not protect customers sufficiently.

2 Overview of the impact of changes in the cost of capital on regulated companies

Changes in capitalization and financial strength at the holding company level can increase the cost of capital for subsidiaries. Regulated subsidiaries of utility holding companies are not evaluated in complete isolation from their parents precisely because the subsidiaries are not stand-alone companies. Holding company parents may place pressure on subsidiaries to upstream dividends, enter into shared services agreements, direct the timing and nature of capital expenditure projects, and influence other key strategic decisions. Although holding companies may attempt to “ring-fence” or isolate the regulated subsidiary from its parent, in practice this is difficult or impossible to achieve.

2.1 theoretical impact on cost of capital

Figure 1. How cost of capital (WACC) feeds through into customer payments



Cost of capital is an important component in the calculation of regulated company rates. Essentially, average volumetric rates can be calculated by taking ratebase (the amount invested in the system net of depreciation to date), multiplying by the cost of capital, adding depreciation and operating expenses for the year in question, and dividing by volumes, as shown in Figure 1.¹ All other elements held equal, an increase in the cost of capital will eventually cause rates to increase.

The cost of capital used in rates is generally determined through periodic rate cases, quasi-judicial proceedings in which expert views are considered by regulators who make a determination of the appropriate cost of capital for the forthcoming regulatory period. Cost of capital is based on the weighted average cost of capital (“WACC”) for the regulated entity. The WACC is calculated by multiplying the proportion of debt in a company’s capital structure times the cost of the debt, adjusted for tax advantages if any, added to the cost of equity times the proportion of equity in the capital structure, as shown in Figure 2. Regulated utilities will often have between 50% and 60% debt in their capital structure, though the proportion varies from jurisdiction to jurisdiction.

The effect of changes in cost of capital may take time to be reflected in rates; customers will not see an impact until after a rate case has been convened and a determination made. However, once a new cost of capital has been determined, it may remain in place for several years, meaning the impact, though delayed, can be of long duration.

Figure 2. Calculation of the WACC and the return on equity

The WACC reflects a weighted average of the investor-required rate of return on debt (also referred to as the cost of debt) and the expected investor-required rate of return on equity (also referred to as the cost of equity). The WACC can be calculated on either a pre or post-tax basis. The post-tax WACC is expressed as follows:

$$WACC = R_d * (1-t) * (D / (D + E)) + R_e * (E / (D + E))$$

where: D = amount of accumulated debt in capital structure; E = amount of equity in capital structure; R_d = rate of return on debt; R_e = rate of return on equity; and t = applicable tax rate.

The rate of return on equity is generally calculated through use of the Capital Asset Pricing Model (CAPM), which relies on three basic parameters: the prevailing risk-free rate; an equity risk premium (reflecting the average amount by which overall equity market returns have exceeded the risk-free rate); and an indicator - referred to as ‘beta’ - of the risk associated with investment in a firm’s equity. These interact in the following way:

$$R_e = r_f + (ERP * \beta_e)$$

Where: R_e = return on equity; r_f = risk-free rate; ERP = equity risk premium; and β_e = beta.

¹ Rate designs often incorporate customer charges or other monthly fixed charges, and thus are seldom entirely volumetric. Rates are further complicated by customer class allocation, in which costs in ratebase are attributed to various types of customers.

2.2 description of regulated business of Exelon

Exelon Corporation has two regulated subsidiaries: Commonwealth Edison Company (“ComEd”) and PECO Energy Company (“PECO”),² as shown in Figure 3:

- ComEd’s energy business consists of the provision of electricity distribution and transmission services to retail customers in northern Illinois (including Chicago).³ The firm also serves as the supplier of last resort for customers who have not chosen a competitive supplier. ComEd serves approximately 3.8 million customers.⁴ ComEd’s electricity distribution activities are regulated by the Illinois Commerce Commission (“ICC”), while transmission is regulated by the Federal Energy Regulatory Commission (“FERC”).⁵ The average annual throughput for 2006-07 was 92,070 GWh.⁶

Figure 3. Exelon Corporation’s subsidiaries regulated components

	Size of service territory	Number of customers	Throughput	Total assets (end 2007)
ComEd	11,300 square miles	3.8 million	92,070 GWh	\$19.4 billion
PECO	1,900 square miles	1.6 million (electricity); 0.48 million (gas)	38,616 GWh and 81,353 Mcf	\$9.8 billion

- PECO’s energy business consists of the purchase and regulated retail sale of electricity and the provision of transmission and distribution services to retail customers, as well as the purchase and regulated retail sale of natural gas and distribution services to retail customers in natural gas. PECO operates in Philadelphia and southeastern

² NRG currently has regulated thermal facilities in Harrisburg, Pittsburgh and San Francisco. This analysis does not include the effect on these regulated activities following an Exelon-NRG merger, but wherever there is a regulated rate, in the event of a downgrade in the parent company’s cost of capital, costs could similarly increase.

³ ComEd’s service territory for electricity covers the counties of Boone, Carroll, Cook, De Kalb, Du Page, Grundy, Kane, Kankakee, Kendall, La Salle, Lake, Lee, Livingston, McHenry, Ogle, Stephenson, Whiteside, Will, Winnebago (Platts. 2007. UDI Directory of Electric Power Producers and Distributors. New York). ComEd’s activities extend into parts of western Indiana under the name Commonwealth Edison Company of Indiana (Commonwealth Edison Company of Indiana. 2007. “FERC Financial Report Form No.1, Annual Report of Major Electric Utilities, Licensees and Others and Supplemental Form 3-Q: Quarterly Financial Report”).

⁴ Exelon Corporation. 2007 Summary Annual Report, page 18.

⁵ Exelon Corporation. 2007 Form 10-K (submitted to Securities and Exchange Commission), page 2.

⁶ Exelon Corporation. 2007 Form 10-K (submitted to Securities and Exchange Commission), page 105.

Pennsylvania⁷, and serves approximately 1.6 million electricity customers and 480,000 natural gas customers.⁸ PECO's gas and distribution activities are regulated by the Pennsylvania Public Utility Commission ("PaPUC"). PECO's electricity transmission business is regulated by FERC. The average annual throughput for 2006-07 was 38,616 GWh and 81,353 million cubic feet for natural gas.⁹

Figure 4. Service territories of ComEd and PECO's electricity and gas distribution businesses

ComEd electricity



PECO electricity



PECO gas



Source: Exelon Corporation and Global Energy Velocity Suite, as accessed on December 22nd, 2008.

Both Illinois and Pennsylvania have restructured their electricity sectors; as such, generation is no longer regulated under cost of service rates, but obtained through competitive market procurement. Regulated portions of the electricity value chain in both states include transmission and distribution; in Pennsylvania, PECO also distributes gas at regulated cost of service rates. An increase in the cost of capital considered in a rate case would thus flow through distribution and transmission rates on a customer's bill. Indirectly, changes in the cost of capital for the regulated subsidiary may also impact costs of procurement for those customers who have not switched to a competitive supplier, as generators price in default risk to their offers.¹⁰ However, this aspect of increased power costs due to an increase in the cost of capital is not addressed in detail in this paper.

⁷ PECO's service territory for both electricity and natural gas covers Bucks, Chester, Delaware, Montgomery, Philadelphia and York (Platts. 2007. UDI Directory of Electric Power Producers and Distributors. New York).

⁸ Exelon Corporation. 2007 Summary Annual Report, page 18.

⁹ Exelon submission to Securities and Exchange Commission. For the Fiscal Year Ended December 31, 2008, Form 10-K for Exelon Corporation, page 111.

¹⁰ Procurement costs rise not only because suppliers price in risk of default but also because independent system operator ("ISO") credit policies for scheduling and spot market purchases are being tightened.

Key events in ComEd and PECO's recent regulatory history are included in the Appendix. However, cost of capital issues arise whenever either company seeks a change in rates, and customers would feel the impact thereafter.

2.3 extent of ring-fencing

"Ring-fencing" is the legal separation of specific assets or liabilities within a corporation to protect these assets from creditors. Ring-fencing in the utility sector involves mechanisms that insulate the regulated utility from the business practices and credit risks of its non-regulated affiliates.¹¹

Standard and Poor's consider there to be three main elements to properly ring-fence entities: developing a special structure, including a special purpose entity, that reduces the risk of a subsidiary being pulled into bankruptcy by its parent; a tightly drafted set of covenants (including dividend tests, non-petition covenants and restrictions on asset transfers) that preserve the financial well-being and autonomy of the ring-fenced subsidiary; and the use of collateral at the subsidiary level.¹²

Effect of possible downgrade in Constellation's credit ratings on BGE customers

- During December 2008 Standard and Poor's placed Constellation Energy on negative Creditwatch, and similarly placed that of its regulated utility Baltimore Gas and Electric ("BGE") on negative Creditwatch; Fitch also placed both groups on Creditwatch.
- Standard and Poor's said the main reason for the Creditwatch on BGE is that "the company is not insulated from effects of the parent, as it is not ring-fenced from Constellation"
- A credit downgrade may increase consumer payments, as has been indicated by BGE in the past. In 2006, a downgrade to BGE was cited as a key reason for "ratepayers having to spend more dollars" according to Constellation representative Robert L. Gould

Source: Standard and Poor's, December 17th, 2008 "Constellation Energy Group Inc Creditwatch Implications Revised to Negative from Developing"; and the Baltimore Sun, April 7th, 2006 "Fight in Annapolis Spurs Downgrade of Baltimore Gas and Electric".

2.3.1 possible deficiencies in Exelon's proposed ring-fencing proposals

Exelon Corporation has committed to a variety of measures it claims will properly ring-fence its regulated entities;¹³ however, these measures are insufficient to adequately protect ratepayers from the rate impacts discussed in this analysis. Additionally, ring-fencing proposals such as

¹¹ Devlin, Timothy, Rebecca Phillips and Thomas Ferris. 2003. "Ring Fencing Mechanisms for Insulating a Utility in a Holding Company System", Prepared for NARUC Subcommittee on Accounting and Finance; and Standard and Poor's. October 19th, 1999. "Ring-fencing a Subsidiary".

¹² Venkataraman, Swami. Standard and Poor's. 2003. "Holding Company Diversification and Its Impact on Regulated Operations". Speech before the NARUC Staff Sub-Committee on Accounting and Finance, Reno, Nevada, as quoted in Devlin et al.

¹³ Exelon Corporation. 2008. "Application of Exelon Corporation Under Section 203 of the Federal Power Act", pages 58-62.

the one made by Exelon do not completely protect against adverse rate impacts, as shown by recent events involving Constellation and its regulated subsidiary.

Utility managements face a wide degree of discretion in the timing and frequency of maintenance, when to implement capital expenditure programs, and which strategic initiatives to embrace. Regardless of ring-fencing measures, parent company directives to minimize cash expenditures and to optimize dividends may affect reliability over time, and ultimately result in a hollowing out of the regulated subsidiary's asset base.

While the regulated subsidiaries will continue to have independent boards, those boards (including the "independent" director proposed by Exelon) owe their primary fiduciary duty to their shareholder, i.e. the holding company. Exelon's proposal, rather than putting in place absolute behavior limits, instead relies on a "reasonable" standard for many activities, or allows Exelon to seek approval for particular actions. For example, Exelon does not agree to forebear from pooling arrangements, but only to limit itself to arrangements filed with FERC. In the case of a holding company bankruptcy, customers of regulated companies could suffer if pooled assets become unavailable. Exelon subsidiaries are not forbidden from affiliate transactions. Although it agrees to use "best efforts" to maintain an investment grade rating, Exelon does not agree to target particular coverage ratios or to maintain a minimum level of equity in its regulated subsidiaries.¹⁴ Maintaining coverage ratios, limits on intercompany transactions, and limits on distributions are all measures that can be found in standard credit agreements, meaning that the ring-fencing measures proposed by Exelon are not in fact as aggressive as they could be.

Exelon cannot simply command the market (or rating agencies) to perceive its regulated subsidiaries as being appropriately ring-fenced. Even if Exelon avoids linking future requests for increases in the cost of capital at its regulated subsidiary to developments at the parent company level, regulated subsidiary bonds may nonetheless reflect a premium to those of other

¹⁴ Exelon's own expert, in examining factors which allowed Portland General Electric ("PGE") to survive the bankruptcy of its parent, Enron, cites maintaining a minimum equity level as among the factors employed by Oregon regulators to protect the financial integrity of PGE. Susan D. Abbott's testimony before FERC lists a number of ring-fencing conditions which Portland General Electric agreed upon with the Oregon Public Utilities Commission ("OPUC") to protect customers: "prohibition of allocations or direct charges from Enron to Portland General; a requirement that any bankruptcy filing be approved by holders of \$1.00 "Golden Share" junior preferred; prohibition on PGE making distributions to shareholders that would cause PGE's common equity to fall below 48% of the total PGE capital without regulatory approval; creation of independent directorship; maintenance of separate debt and preferred securities; notification of dividends and distributions to Enron; restrictions on Enron's access to Portland General's assets; review of intercompany transactions; and prohibition on Portland General seeking a higher cost of capital than it would be authorized to absent the merger" (Exelon Corporation. 2008. "Application of Exelon Corporation Under Section 203 of the Federal Power Act - Exhibit M", page 9). Furthermore, in the revision of Oncor Electricity Delivery Company's ratings in August 2008, following the sale of 20% by Energy Future Holding Corporation (EFH), Standard and Poor's stated that "commitments such as Oncor's agreement with the regulators to maintain a specific financial profile of 60% debt and 40% equity and a limitation on distributions enable Standard and Poor's to de-link Oncor's ratings from EFH" (Standard and Poor's. January 15th, 2009. "US Electric Utility Upgrades Outnumber Downgrades in 2008").

utilities whose parents have less exposure to competitive market risks. Exelon will be able to argue simply for consideration of its then-current borrowing costs in rates, without ever explicitly seeking additional compensation for the impact the parent company activities have had on the financing costs of its subsidiaries. Exelon themselves admit that “despite these [proposed] ring-fencing measures, the credit ratings of ComEd and PECO could remain linked, to some degree to the credit ratings of Exelon. Consequently, a reduction in the credit rating of Exelon could result in a reduction of the credit rating of ComEd or PECO, or both. A reduction in the credit rating of ComEd or PECO could have a material adverse effect on ComEd or PECO, respectively”.¹⁵

2.3.2 market perceptions

Figure 5. Corporate credit ratings for Exelon and its subsidiaries before and after the merger announcement

	Prior to announced merger October 15th, 2008	Current January 15th, 2009
Standard and Poor's		
Exelon Corporation	BBB+	BBB/Watch Neg
Exelon Generation Co. LLC	BBB+	BBB/Watch Neg
PECO Energy Co.	BBB+	BBB/Watch Neg
Commonwealth Edison Co.	BBB-/Stable	BBB-/Watch Neg
Moody's		
Exelon Corporation	Baa1	Baa1/ Watch Neg
Exelon Generation Co. LLC	A3	A3/Watch Neg
PECO Energy Co.	A3	A3/Watch Neg
Commonwealth Edison Co.	Baa3/Stable	Baa3/Stable

Source: Bloomberg, accessed on January 15th, 2009.

Note: Standard and Poor's downgrade occurred on October 21st, 2008. Moody's placed Exelon Corporation, Exelon Generation Company and PECO on negative creditwatch on November 11th, 2008. Additionally, Fitch placed Exelon Corporation and Exelon Generation Company on negative creditwatch on October 20th, 2008

Exelon's cost of debt, and that of its regulated subsidiaries, may increase as a result of the proposed merger with NRG.¹⁶ The proposed merger was announced on October 19th, 2008. On October 21st, 2008, Standard and Poor's lowered its corporate credit ratings on Exelon Corporation, Exelon Generation, and PECO to BBB from BBB+, and placed all the ratings on

¹⁵ Exelon submission to Securities and Exchange Commission for the Fiscal Year Ended December 31, 2008, Form 10-K for Exelon Corporation, pages 58-59.

¹⁶ Exelon themselves acknowledge that “Exelon or any of the Registrants might experience a downgrade in its credit ratings by one or more notches if the transaction with NRG is completed” (Exelon submission to Securities and Exchange Commission for the Fiscal Year Ended December 31, 2008, Form 10-K for Exelon Corporation, page 150).

Exelon and its subsidiaries, including ComEd, on CreditWatch.¹⁷ These ratings have been retained since. Standard and Poor’s claim the downgrade reflects an increase in Exelon’s business risk profile, due to NRG’s higher leverage and the different risk profile of a merchant power generation company. Moody’s also moved Exelon Corporation, Exelon Generation and PECO to negative watch, as shown in Figure 5, citing similar reasons of a change in the relative risk profile.

Credit default swap (“CDS”) rates also widened for Exelon Corporation after the merger was proposed. As shown in Figure 6, CDS spreads widened from 311 basis points to 412 basis points, reflecting both the general financial conditions in the credit default swap market over the period, and shifts in investor risk perception of Exelon following the proposed merger. While the CDS spreads are shown only for the parent company, given the movement in ratings for the regulated subsidiaries, similar directional changes in CDS rates for the subsidiaries can be expected. Downgrades in corporate credit ratings will increase a utility’s cost of debt before any tax adjustments, as shown in Figure 7. The increase in the cost of debt is particularly prominent for entities which are downgraded to below investment grade status, which means below BBB- in Standard and Poor’s ratings, or Baa3 in Moody’s ratings.

Figure 6. Credit default swap spreads for Exelon Corporation, September 2008-November 2008

	Exelon Corporation	Exelon Generation
	5-year Maturity (Basis Points)	
	Maturity Type: Senior	
30-Sep-08	280	311.3
31-Oct-08	362.5	366.7
28-Nov-08	409.6	411.7

Source: Bloomberg, as accessed on December 22nd, 2008, Credit Market Analysis New York.

Additionally, a company’s WACC may be affected by a demand for a higher return on equity, reflected in an increased equity beta.¹⁸ As shown in Figure 8, merchant power generation companies typically have a higher equity beta (0.83 unlevered) than regulated utilities (0.52 unlevered). While the nature of the regulated businesses will not change if the holding company acquires additional merchant power generation, perceived earnings volatility from regulated businesses may increase if investors believe that regulated utility management will be cash-starved or distracted strategically.

¹⁷ Standard and Poor’s. October 21st, 2008. “Research Update: Exelon’s Rating Cut, On Watch Neg and NRG Energy’s Rating on Watch Pos Re: Proposed Offer” and Standard and Poor’s. November 12th, 2008. “Research Update: Exelon Corp. Remains on CreditWatch Negative On Planned Hostile Merger with NRG”.

¹⁸ The equity beta measures the extent to which a stock or portfolio is correlated with the return of a financial market as a whole. The beta is a key input into the CAPM model, described in Figure 2. A higher beta indicates a greater risk level associated with investment in a firm’s equity, relative to the benchmark index.

Figure 7. Estimated effect of a downgrade in credit ratings on a utility's cost of debt

	Increase in cost of debt from ratings downgrade (basis points)			
	Downgrade from A to BBB+	Downgrade from BBB+ to BBB	Downgrade from BBB to BBB-	Downgrade from BBB- to BB
3MO	121.0	13.9	5.5	321.6
6MO	113.3	21.0	4.4	324.5
1YR	141.3	11.7	6.6	350.1
2YR	140.2	10.0	4.5	366.4
3YR	141.6	15.0	4.8	376.1
4YR	140.4	14.7	4.4	386.3
5YR	125.2	15.0	5.2	395.8
7YR	106.2	14.5	8.7	405.7
8YR	112.6	15.2	5.9	392.2
9YR	120.8	15.0	5.1	382.2
10YR	119.2	14.5	5.0	376.3
15YR	117.2	15.2	5.4	358.3
20YR	116.6	15.6	5.5	351.1
25YR	117.0	15.2	5.5	338.0
30YR	101.9	14.9	5.1	307.4

Source: Bloomberg, as accessed on December 23rd, 2008, Bloomberg Fair value, average for the utility sector.

Betas for equity in regulated subsidiaries cannot be observed directly, because the subsidiary is not publicly traded. However, regulators may accept theoretical arguments based on using the higher end of the range of observed regulated utility betas, or (if the regulated utility can demonstrate greater difficulty in raising capital) reducing the debt proportion in the approved capitalization structure.

As the equity beta interacts with the equity risk premium to affect the return on equity, even a small increase in beta will feed through to a higher cost of equity. With an equity risk premium of 5.51%,¹⁹ each 0.1 change in the beta results in an increase in the cost of equity of 0.55%. While Exelon is currently close to the average beta for large US utilities (and the beta for its regulated subsidiaries would likely be lower), higher betas can be observed. Were Exelon subsidiaries to successfully argue that they should be awarded a beta closer to that of PEPCO (a utility holding company that has relatively minor exposure to competitive markets), the cost of equity could increase.

¹⁹ The equity risk premium for North America is taken as 5.51% from Damodaran, A. 2008. "Equity Risk Premiums (ERP): Determinants, Estimation and Implications". September 2008. Stern School of Business, New York University, Working Paper. This figure is the geometric mean for the US from 1900-2005.

Figure 8. Equity beta for Exelon Corporation and selected North American merchant power generation companies and utilities

Selected merchant power generation companies

	Unlevered beta
AES	0.6
Calpine	0.66
Dynegy	0.89
Mirant	0.85
NRG	0.86
Reliant Resources	1.11
Average	0.83

Sample of 44 electrical utilities

	Average unlevered beta	Range	Example	
First quartile	0.41	0.33-0.45	ConEd Inc.	0.44
Second quartile	0.48	0.46-0.50	NSTAR	0.48
Third quartile	0.53	0.51-0.55	PPL Energy	0.52
Fourth quartile	0.60	0.56-0.71	PEPCO	0.71
Overall utilities	0.51	0.33-0.71		
Exelon Corporation	0.53			

Source: Bloomberg, accessed on January 7th, 2009.

Note: Beta is calculated on the individual stock price versus the Standard and Poor index price (benchmark) over a 10 year period, except for companies which have not existed for the entire period, in which case the beta is since inception. The tax rate for the calculation of unlevered beta is assumed at 40% and leverage is also taken from Bloomberg.

2.4 estimate of change in WACC from proposed merger

To explore the impact on cost of capital at the regulated subsidiaries of Exelon, we have examined two scenarios. In the first scenario (“Scenario A”), incorporating recent downgrades, we assume the ratings for the regulated subsidiaries drop to the lowest investment grade, and market debt costs correspondingly increase by 0.2%.²⁰ This increase is consistent with observed increases in the cost of debt at various rating levels, as shown in Figure 7. We further assume that the appropriate equity beta will also increase by 0.1 in response to the market’s perceived increase in the risk profile of the regulated subsidiary. Management pressure to upstream cash flow potentially undermines regulated subsidiary asset quality, leading to an increase in risk. A 0.1 increase would be equivalent to a move of one quartile.

²⁰ This increase in borrowing costs is consistent with a two notch downgrade in Standard and Poor’s credit ratings, while maintaining investment grade status.

Figure 9. Estimates of change in WACC for regulated subsidiaries following merger

Operation	Debt %	Equity %	Assumed tax rate	Change in Pre-tax Debt Cost	Change in Post-Tax Debt Cost	Change in Equity Cost	Change in WACC
SCENARIO A: MAINTAIN INVESTMENT GRADE							
ComEd electricity distribution	55%	45%	40%	0.20%	0.12%	0.55%	0.31%
ComEd electricity transmission	44%	56%	40%	0.20%	0.12%	0.55%	0.36%
PECO electricity distribution	58%	42%	40%	0.20%	0.12%	0.55%	0.30%
PECO electricity transmission	58%	42%	40%	0.20%	0.12%	0.55%	0.30%
PECO gas distribution	58%	42%	40%	0.20%	0.12%	0.55%	0.30%
SCENARIO B: LOSE INVESTMENT GRADE							
ComEd electricity distribution	55%	45%	40%	3.00%	1.80%	0.99%	1.44%
ComEd electricity transmission	44%	56%	40%	3.00%	1.80%	0.99%	1.35%
PECO electricity distribution	58%	42%	40%	3.00%	1.80%	0.99%	1.46%
PECO electricity transmission	58%	42%	40%	3.00%	1.80%	0.99%	1.46%
PECO gas distribution	58%	42%	40%	3.00%	1.80%	0.99%	1.46%

Source: Capital structure figures for ComEd distribution taken from Illinois Commerce Commission, September 10th, 2008 "Order related to proposed increase in electric rates from Commonwealth Edison Company", Docket No. 07-0566, page 99, and for ComEd transmission and for all PECO regulated activities from Exelon Corporation Form 10-K Filing to the SEC, end-2007, page 143 with PECO figures adjusted as per footnote (a) in 10-K Filing.²¹

In the second scenario ("Scenario B"), we assume that Exelon's regulated subsidiaries both lose their investment grade ratings. In this case, we assume that ratings drop to BB+ and the equity beta increases by 0.18, to the upper bound of observed utility betas. As the recent turmoil at Constellation Energy and its then potential impact on regulated subsidiary Baltimore Gas and Electric shows, in the current economic environment, loss of investment grade cannot be ruled out.

²¹ It is recognized that there are various sources on capital structure for these entities which indicate different capitalization ratios. We have used the latest rate case information from ComEd's distribution, and the most recent filing with the SEC for the remaining regulated entities. It should be noted that the 2007 FERC filing for ComEd's transmission presents a different capital structure of 42% debt and 58% equity (Commonwealth Edison Company et al. October 5, 2007. "Settlement Agreement and Offer of Settlement", FERC Docket Nos. ER07-583-000 and ER07-583-001, Exhibit No. CWE-103, Attachment H-13A, page 3). Public Utilities Fortnightly's annual surveys of returns on equity in the utility sector imply that debt to capitalization ratios vary from 45% to 65%, which represents the range future rate cases may be located in (Burr, Michael T. "The Fortnightly 40 Best Energy Companies." *Public Utilities Fortnightly*: Vol. 146 No. 9. September 2008; Cross, Phillip S. "2008 ROE Survey: Rates, Risks & Regulators." *Public Utilities Fortnightly*: Vol. 146 No. 11. November 2008; Cross, Phillip S. "Annual ROE Survey: Capitalizing on Grid Concerns." *Public Utilities Fortnightly*: Vol. 145 No. 11. November 2007).

3 Impact on customer rates

3.1 ComEd

3.1.1 size of ratebase

Figure 10. Approved rate base for ComEd’s electricity distribution activities, in thousands

Component of Rate Base	Amount (in thousands)
Gross Utility Plant	\$ 13,022,848
Accumulated Provision for Depreciation and Amortization	(4,705,150)
Net Plant	<u>\$ 8,317,698</u>
Additions to Rate Base	
Materials and Supplies	33,094
Construction Work in Progress	33,682
Regulated Assets	9,432
Deferred Debits	0
Deductions from Rate Base	
Accumulated Deferred Income Taxes	(1,374,152)
Non-Pension Post Retirement Benefit Obligations	(155,995)
Other Accumulated Provisions for Pensions and Benefits	(39,686)
Accumulated Provisions for Injuries and Damages	(56,360)
Accumulated Misc. Operating Provisions	(8,496)
Asset Retirement Obligation	(36,195)
Other Deferred Credits	(16,898)
Customer Advances	(12,065)
Accumulated Investment Tax Credits	(20)
Rate Base	<u>\$ 6,694,039</u>

Source: Illinois Commerce Commission. September 10th, 2008. “Order related to proposed increase in electric rates from Commonwealth Edison Company”, Docket No. 07-0566, page 51.

The size of ComEd’s regulated asset base for distribution can be derived from the recent September 2008 rate settlement case. We estimate the rate base as \$6.7 billion, with a breakdown shown above.²² For transmission, the regulated asset base is estimated at \$1.67 billion²³ determined by the FERC October 2007 settlement agreement, as shown in Figure 11.

3.1.2 impact of changes

The estimated effect of a change in the cost of capital for ComEd on annual customer payments for distribution rates ranges from \$21 million in Scenario A to \$97 million in Scenario B. For

²² Illinois Commerce Commission. September 10th, 2008. “Order related to proposed increase in electric rates from Commonwealth Edison Company”, Docket No. 07-0566, page 51.

²³ Commonwealth Edison Company et. al. October 5th, 2007. “Settlement Agreement and Offer of Settlement”, FERC Docket Nos. ER07-583-000 and ER07-583-001, Exhibit No. CWE-103, Attachment H-13A, pages 1-2.

transmission rates, annual customer payments could increase by \$6 million in Scenario A and potentially as high as \$23 million in Scenario B, as shown in Figure 13. The combined rate impact for ComEd customers will be an increase in annual payments of \$27 million, but may be as high as \$119 million. The combined rate impact would be spread over all classes of customers, with residential consumers facing an estimated increase of \$15 million each year, and possibly be as high as \$67 million, as shown in Figure 14.

Figure 11. Approved rate base for ComEd’s electricity transmission activities, in thousands

Component of Rate Base	Amount (in thousands)
Gross Utility Plant	\$ 2,933,741
Accumulated Provision for Depreciation and Amortization	(913,178)
Net Plant	\$ 2,020,563
Adjustments to Rate Base	
Accumulated Deferred Income Taxes	(381,381)
CWP for Inventive Transmission Projects	-
Prepayments	4,173
Materials and Supplies Allocated to Transmission	16,916
Cash Working Capital Allocated to Transmission	11,784
Rate Base	\$ 1,672,056

Source: Commonwealth Edison Company et. al. October 5th, 2007. “Settlement Agreement and Offer of Settlement”, FERC Docket Nos. ER07-583-000 and ER07-583-001, Exhibit No. CWE-103, Attachment H-13A, pages 1-2.

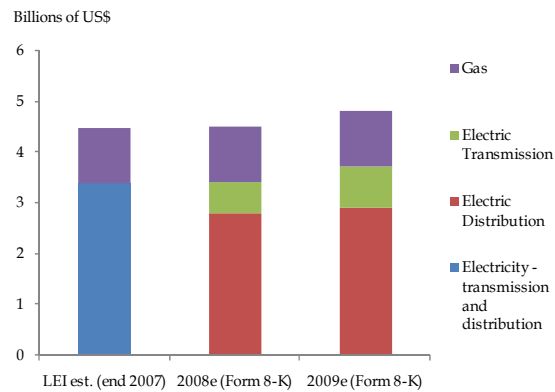
3.2 PECO

3.2.1 size of ratebase

We estimate PECO’s total regulatory asset base at \$4.5 billion: \$2.8 billion for distribution assets, \$0.6 billion for transmission, and \$1.1 billion for gas assets.²⁴ The breakdown is shown in Figure 12.

²⁴ We considered two estimates for PECO’s electricity and gas distribution rate base. The first estimate uses Exelon’s figures from its recent Form 8-K filing to the Securities and Exchange Commission. From this estimate, the total estimated regulatory asset base is \$4.5 billion for 2008, of which \$2.8 billion is from distribution assets, \$0.6 billion from transmission, and \$1.1 billion from gas assets. The second estimate uses the net book asset value of PECO’s electric transmission and distribution and gas business activities as a proxy for the regulated asset base. However, with this approach, the electricity distribution and transmission businesses are not separated out, and we have to approximate the accumulated depreciation breakdown between the various asset categories. The figure estimated for PECO’s regulated asset base at the end of 2007 is \$4.5 billion, comparable with the first estimate.

Figure 12. Average annual rate base for PECO's regulated activities



Source: LEI estimates and Exelon Corporation. 2008. Form 8-K, as submitted to the US Securities and Exchange Commission. Exhibit-99.1 2 dec991.htm "Slide Presentation and Handouts", www.sec.gov/Archives/edgar/data/22606/00019312508230768/dex991.htm, page 71. In comparison to the chart in Form 8-K, the Competitive Transmission Charge (CTC) component is omitted.

3.2.2 impact of changes

The estimated effect of a change in the cost of capital for PECO on annual customer payments for distribution rates ranges from \$8 million in Scenario A to \$41 million in Scenario B. For transmission rates, annual customer payments are estimated to increase by \$2 million in Scenario A and potentially as high as \$9 million in Scenario B, as shown in Figure 13. For PECO's gas customers, annual customer payments are estimated to increase by \$3 million, but in Scenario B may increase by \$16 million. The joint effect for PECO electricity and gas customers could be an estimated increase in annual payments of \$14 million, but potentially \$66 million if PECO loses its investment grade rating. Of these total impacts across all customers, residential consumers are estimated to pay an additional \$4 million each year, and possibly as high as \$21 million, as shown in Figure 14.

Figure 13. Estimated effect of a change in the cost of capital on annual customer payments for PECO and ComEd customers

Operation	Debt %	Equity %	Assumed tax rate	Change in Pre-tax Debt Cost	Change in Post-Tax Debt Cost	Change in Equity Cost	Change in WACC	Ratebase \$MM	Annual rate Impact \$MM
SCENARIO A: MAINTAIN INVESTMENT GRADE									
ComEd electricity distribution	55%	45%	40%	0.2%	0.1%	0.6%	0.3%	6,694	21.0
ComEd electricity transmission	44%	56%	40%	0.2%	0.1%	0.6%	0.4%	1,672	6.0
PECO electricity distribution	58%	42%	40%	0.2%	0.1%	0.6%	0.3%	2,800	8.4
PECO electricity transmission	58%	42%	40%	0.2%	0.1%	0.6%	0.3%	600	1.8
PECO gas distribution	58%	42%	40%	0.2%	0.1%	0.6%	0.3%	1,100	3.3
									40.6 total
									202.8 5 year total
SCENARIO B: LOSE INVESTMENT GRADE									
ComEd electricity distribution	55%	45%	40%	3.0%	1.8%	1.0%	1.4%	6,694	96.1
ComEd electricity transmission	44%	56%	40%	3.0%	1.8%	1.0%	1.4%	1,672	22.5
PECO electricity distribution	58%	42%	40%	3.0%	1.8%	1.0%	1.5%	2,800	40.9
PECO electricity transmission	58%	42%	40%	3.0%	1.8%	1.0%	1.5%	600	8.8
PECO gas distribution	58%	42%	40%	3.0%	1.8%	1.0%	1.5%	1,100	16.1
									184.4 total
									921.9 5 year total
Assumes cost of equity = 5.5%									

Source: LEI estimates.

Figure 14. Estimated impact of changes in cost of capital to different customer groups

	Number of customers	Annual Revenues (\$ millions) 2007	Proportion of annual revenues	Estimated annual revenue requirement increase by customer class (\$ millions)	
				Scenario A	Scenario B
ComEd residential	3,429,543	3,126	56%	15.2	66.9
ComEd total commercial and industrial	367,473	2,333	42%	11.4	49.9
ComEd other customers	5,124	84	2%	0.4	1.8
Total ComEd electricity	3,802,140	5,543		27.0	118.8
PECO residential	1,397,108	1,940	43%	4.4	21.5
PECO commercial	157,179	1,067	24%	2.4	11.9
PECO industrial	3,062	1,381	31%	3.1	15.2
PECO other customers	1,072	118	3%	0.3	1.3
Total PECO electricity	1,558,421	4,507		10.2	49.8
Total PECO gas	480,000	838		3.3	16.2
Total		10,888		40.6	184.4

Source: Number of customers and annual revenues are taken from Global Energy Velocity Suite, accessed on January 7th, 2009, and from Exelon submission to Securities and Exchange Commission Form 10-K for Exelon Corporation.

4 Overall potential impact

4.1 other issues not calculated

Deterioration in the financial stability of a utility holding company may impact other aspects of its regulated utility subsidiaries. Parent company financial woes may distract regulated subsidiary management from running their business – one need only imagine how many times over the course of the five years following the Enron bankruptcy Portland General Electric (“PGE”) executives had to explain their relationship with Enron to understand the implications.²⁵ Suppliers may demand more stringent terms.²⁶ Maintenance may be delayed to satisfy dividend needs to the parent.

Exelon has already experienced problems with reliability in ComEd’s Chicago service territories; such challenges could reappear if Exelon becomes less able to leave cash at the subsidiary level to fund capital expenditures. In the summer of 1999, there were a series of major outages, including blackouts of up to 11 hours in Chicago’s downtown area, due to two failing 96-kV cables, a transformer outage for maintenance and the failure of two other transformers. In response, ComEd launched a two-year, \$1.5 billion reliability improvement plan to improve maintenance, equipment protection and monitoring, load and capacity, system optimization and organization and management, with the CEO and President John W. Rowe saying, “We still have a long way to go to improve reliability and regain the confidence of our customers. We are only at the halfway mark of our improvement plan, and we will continue to work at a fast pace.”²⁷

Costs to customers from declines in reliability can dwarf the impact of increased cost of capital. Assuming a value of lost load of \$3,000/MWh,²⁸ and ComEd peak load of 21,000 MW,²⁹ the cost

²⁵ PGE was formerly owned by Enron.

²⁶ In 2003, accounts payable and other accruals for PGE were forecast to decrease from \$286 million in 2000 to \$199.1 million by 2006, a decline of 30%, as total assets were projected to fall by 11%, from \$3,452 million to \$3,082 million. Increasing restrictions by suppliers as a result of the credit downgrade and bankruptcy of Enron were considered instrumental in the projected decrease (Portland General Electric Company, 10-Q Quarterly Report for quarterly period ending March 31st, 2001; Portland General Electric Company, May 22, 2002. 8-K filing to Securities and Exchange Commission, page 2; and Enron Corporation. 2004. “PGE Financial Projections – 2003 to 2006”).

²⁷ Brown, Steven. November 2000. “ComEd works to improve T&D System Reliability”, Utility Automation and Engineering T&D.

²⁸ Most value of lost load (“VOLL”) estimates are in the \$2,000 to \$5,000/MWh range (Wilson, James. 2008. “Raising the Stakes on Capacity Incentives: PJM’s Reliability Pricing Model (RPM)”, <http://www.ucei.berkeley.edu/POWER-08/Files/4a.pdf>, page 69). However, they may be as high as \$10,000/MWh (PJM. 2008. “Outline for Scarcity Pricing”, PJM Task Force, <http://www.pjm.com/~media/committees-groups/task-forces/tpstf/20080605-item-4b-ppl-outline-for-scarcity-pricing-proposal.ashx>).

of a single hour outage to ComEd customers equals \$63 million. For PECO, with peak load of 8,800 MW,³⁰ the cost of a single hour outage to PECO customers equals \$26 million.

Procurement may also represent a challenge for the regulated subsidiary of a financially-challenged parent. As deregulated states increasingly move to periodic annual auctions for supply to small customers who have not switched to competitive suppliers, the generation component of the customer's bill will reflect prices derived from such auctions. The greater the perceived risk of counterparty default, the more suppliers are likely to mark-up their bids. A recent supply auction in Maryland reflected this phenomenon; all bids were rejected as being too high due to financial market turmoil.³¹

4.2 composite of potential ratepayer costs

Overall, total annual customer payments for ComEd and PECO are estimated to increase by at least \$41 million as a result of the proposed Exelon-NRG merger. Over a period of five years, this would amount to over \$200 million in additional customer payments. In the event of a loss of investment grade status, total annual customer payments could rise by \$184 million annually, meaning that over five years costs to consumers could exceed \$920 million. Customers would receive no benefit for this rise in payments. Such an increase would be in addition to any cost increases associated with inflation, and in some years would have equaled or exceeded inflation rates or other cost increases.

4.3 concluding remarks

The ring-fencing proposals made by Exelon may be insufficient to protect consumers. Markets are the ultimate judge of the quality of ring-fencing; if investors are unconvinced, regulators may ultimately follow. It is possible that future rate cases may result in findings of a cost of capital which is elevated from what it otherwise would have been absent a merger with NRG.

²⁹ ComEd peak demand from November 1, 2007 to October 31, 2008 was 20,948 MW, recorded on July 16, 2008 (PJM, available at <http://www.pjm.com/~media/markets-ops/settlements/network-service-peak-loads-2009.ashx>).

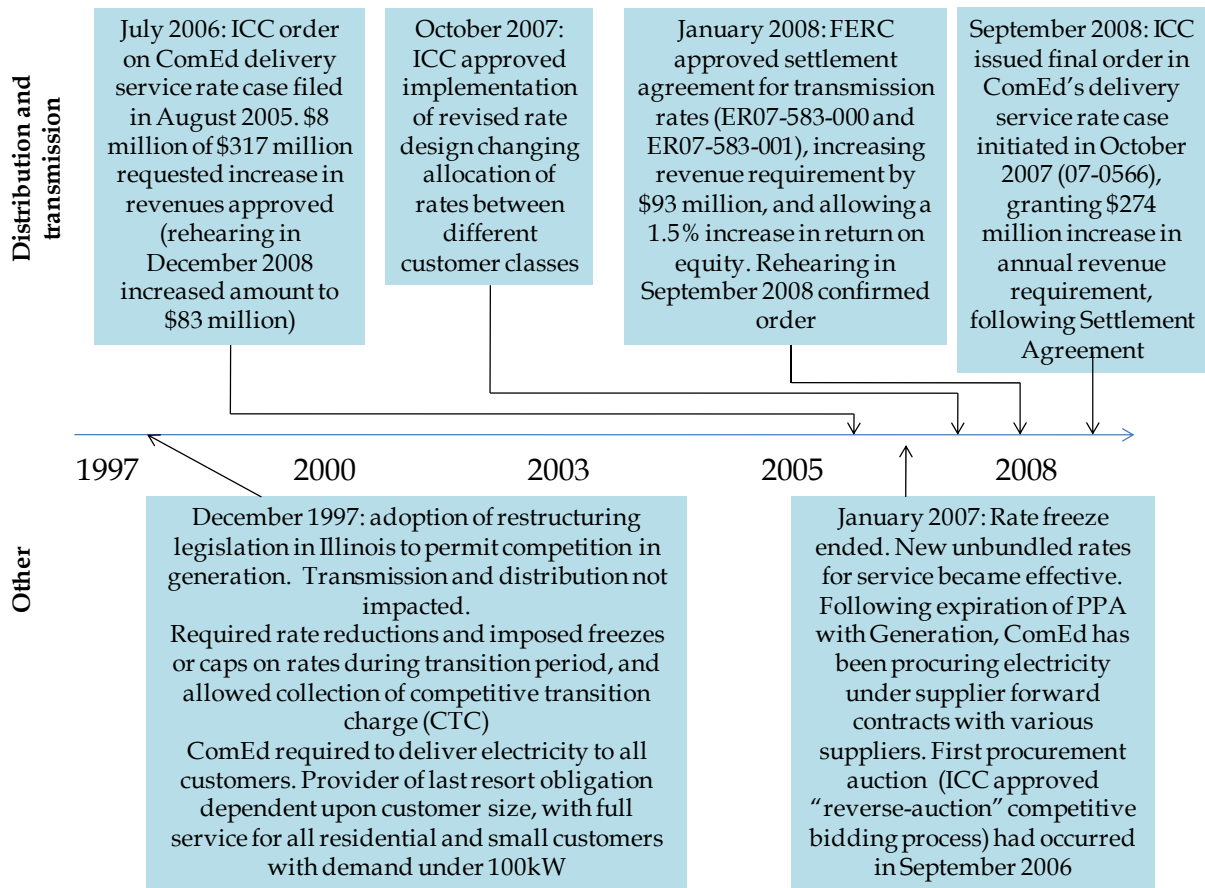
³⁰ PECO peak demand from November 1, 2007 to October 31, 2008 was 8,824 MW recorded on June 10, 2008 (PJM, available at <http://www.pjm.com/~media/markets-ops/settlements/network-service-peak-loads-2009.ashx>).

³¹ Two rounds of auctions (on October 20th, 2008 and November 10th, 2008) for the procurement of just under 1,000 MW of standards offer service for Baltimore Gas and Electric residential customers and Delmarva Power's residential and small commercial customers failed to receive significant bids. The procurement monitor released testimony on November 14th, 2008 stating that the bid prices were "well beyond the typical levels seen in nearly every SOS procurement and well beyond the levels had anticipated based on other market factors, such as the recent collapse in commodity prices...it is logical to add that this premium flows from the pressures of this global financial crisis" (Direct Testimony and Exhibits of Richard A. Mazzini, the Liberty Consulting Group On Behalf of the Staff of the Public Service Commission of Maryland, Case Nos: 9056 and 9064. November 13th, 2008).

These increased costs may persist for a long period of time, and result in persistent declines in financial flexibility, and possibly reliability, for the regulated companies. If accompanied by declines in reliability due to capital starvation, the negative impact on customers will be even greater.

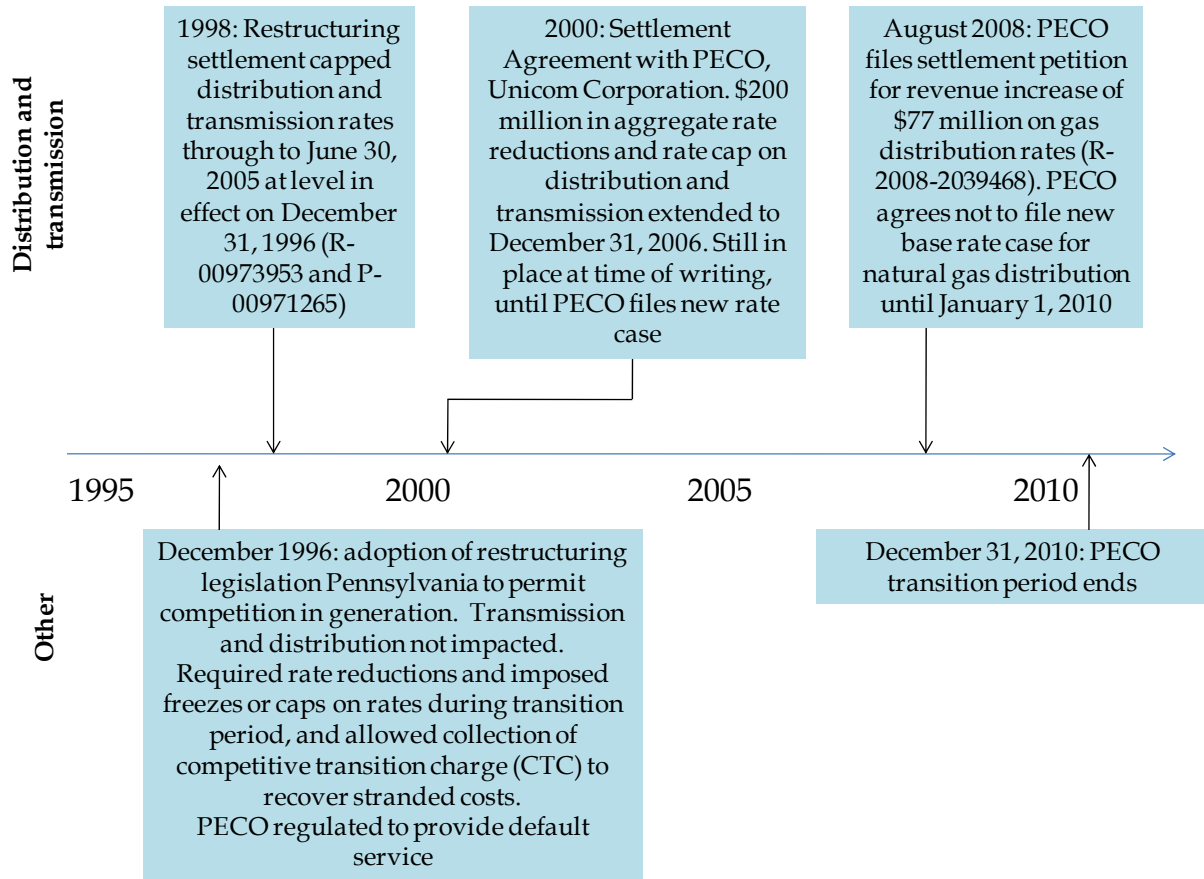
5 Appendix: Key events in the operations of ComEd and PECO

5.1 Key events in ComEd’s regulatory arrangements, 1997-2008



Source: Exelon’s recent annual reports and Securities and Exchange Commission Form 10-K for Exelon Corporation, Exelon Generation Company, LLC, pages 17-20.

5.2 Key events in PECO's regulatory arrangements, 1996-2010



Source: Exelon's recent annual reports and Securities and Exchange Commission Form 10-K for Exelon Corporation, Exelon Generation Company, LLC, pages 20-23 and Form 10-Q for PECO Energy Company "Quarterly Report for PECO", 27th October 2008.