ComEd Ex. 47.0

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY	:	
	:	No. 10-0467
Proposed general increase in electric rates	:	
	:	

Rebuttal Testimony of

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President

Pacific Economics Group Research LLC

on Behalf of Commonwealth Edison Company

List of Issues & Major Conclusions

Need for Decoupling

- Commonwealth Edison Company ("ComEd") operates under a traditional regulatory system that disincentivizes the company from aggressively pursuing all avenues that are at its disposal for encouraging energy efficiency, peak load reductions, and load displacing generation for its residential and watt hour customers.
- ComEd's large energy efficiency program for those customers already subjects it to chronic financial attrition at a time when funds are needed to build out advanced metering infrastructure ("AMI") for these customers and to replace aging facilities.
- Under these circumstances, electric demand-side management ("DSM") is unlikely to make its full potential contribution to the economy of northern Illinois. The foregone benefits include lower customer bills and peak loads and a cleaner environment.
- Revenue decoupling is widely used in the United States to regulate utilities that face these problems. Most jurisdictions with large DSM programs use some form of decoupling.
- The Commission should approve some form of revenue decoupling for ComEd in this proceeding.

Decoupling Approach Appropriate to ComEd

- Several approaches to decoupling have been established. These include the straight fixed variable ("SFV") pricing approach proposed by ComEd and the decoupling true up plan proposed by the Natural Resources Defense Council ("NRDC") in this proceeding.
- The approaches proposed by both ComEd and NRDC are conservative, already used in Illinois, and unlikely to lead to overearning. Each approach has its pluses and minuses, as well as options for possible refinement. As a matter of policy and economics, the Commission should feel comfortable approving one of these approaches for immediate implementation.
- Care must be taken that the approved approach does not discourage the adoption of electric vehicles in Illinois.

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I. Introduction

A. Identification of Witness

Q. Please state your name and business address.

A. My name is Mark Lowry. My business address is Pacific Economics Group Research ("PEG Research") LLC, 22 E. Mifflin St., Madison, Wisconsin 53703.

Q. By whom and in what position are you employed?

A. I am the President and chief executive officer of PEG Research.

B. Purposes of Rebuttal Testimony

Q. What are the purposes of your rebuttal testimony?

A. I respond to the respective Direct Testimony of National Resource Defense Council ("NRDC") Witnesses Karl A. McDermott, Ph.D., and Ralph Cavanagh, NRDC Exhibits ("Exs.") 1.0 and 2.0. Commonwealth Edison Company ("ComEd") has in recent years developed large demand response and energy efficiency programs that have helped change the shape of ComEd's load curve and slow growth in energy deliveries, and are expected to continue doing so. Reduced load and demand have become a chronic source of financial stress for ComEd and have contributed to the revenue deficiency it is trying to address in this rate case. ComEd has followed national trends by proposing a significant movement towards a form of revenue decoupling (also referred to simply as "decoupling") in this rate case. More specifically, ComEd proposes a movement towards a "straight fixed variable" ("SFV") design of rates for residential customers that do not

have demand-based (kW) charges and for watt-hour only business customers.[1] Volumetric (per kWh) charges would be lowered and the revenue shortfall would be recovered through higher customer charges. The redesign of rates would be phased in and have as its end point an 80% recovery of total costs via fixed charges. The NRDC witnesses have proposed that ComEd instead implement decoupling through a revenue true up plan.

ComEd retained Pacific Economics Group Research ("PEG Research") LLC to prepare rebuttal testimony and an attached white paper that provides additional information for the Illinois Commerce Commission (the "ICC" or the "Commission") and stakeholders on alternative decoupling approaches and considers the need for decoupling in ComEd's service territory. It is not the purpose of my testimony to present ComEd's position on exactly how decoupling should be accomplished – that recommendation is made by Dr. Hemphill – but rather to inform the Commission about the advantages of decoupling generally and of various ways in which decoupling has been and can be implemented. I hope that my submissions facilitate the Commission's evaluation of the two proposed decoupling approaches.

C. Summary of Conclusions

Q. **In brief, what are the conclusions of your rebuttal testimony?**

A. Implementing efficient demand side management ("DSM") in the form of initiatives to promote energy efficiency ("EE"), demand response ("DR"), and customer-sited solar

[1] Because decoupling often involves making adjustments in customers' bills to reflect trends in customer usage and SFV pricing does not, some experts such as ComEd's witness Dr. Hemphill draw a distinction between decoupling and SFV pricing. I am using the term decoupling more broadly, however, such that it encompasses SFV rate designs.

and other forms of load displacing generation ("LDG") in a manner that also protects consumers from excessive program costs is a central concern of Illinois policymakers. Natural gas and electric power distribution utilities ("distributors") have been directed and encouraged to develop DR and EE programs. These programs can provide substantial benefits to customers, the environment, and the industry that provides DSM equipment and services. However, when they impact energy use they also slow or reduce growth in distributor revenues to a degree that is not matched by an opportunity for distributor cost savings. Indeed, to the extent that the distributors incur costs to implement the programs they can be pinched from both sides. Dynamic pricing and LDG also pose revenue risks to distributors. Under traditional regulation, DSM initiatives in these areas can cause chronic financial attrition for energy distributors and quite logically discourage them from pursuing DSM aggressively.

Revenue decoupling measures are well established remedies for these problems that are widely employed today. Based on my experience and my review of ComEd's situation, I believe that some form of decoupling is warranted for ComEd's residential and watt hour only rates now. While there are pluses and minuses to different forms of decoupling, both ComEd's proposed approach and the NRDC's approach address important policy concerns and merit serious consideration by the Commission.

D. Background and Qualifications

Q. **Please discuss your background and qualifications.**

A. PEG Research LLC is a company in the Pacific Economics Group consortium which is active in the fields of alternative regulation and statistical research on the energy utility

industry.[2] My duties as company President include the management of the company, the design of alternative regulation plans, supervision of statistical cost and demand research, and expert witness testimony. I have testified numerous times on alternative regulation and utility performance issues. Venues for my testimony have included California, Colorado, Georgia, Hawaii, Illinois, Kentucky, Maine, Massachusetts, Missouri, Oklahoma, New York, Rhode Island, Vermont, Alberta, British Columbia, Ontario, and Quebec. Our practice is international in scope and has to date included projects in eleven countries. We work for a mix of utilities, regulators, and public agencies and this has given us a reputation for objectivity and dedication to economic science.

Before assuming my present position, I was a partner of Pacific Economics Group for eight years and managed its Madison office. Prior to that I worked for eight years at Christensen Associates, first as a senior economist and later as a Vice President and director of that company's Regulatory Strategy practice. My career has also included work as an academic economist. I was an Assistant Professor of Mineral Economics at the Pennsylvania State University and a visiting professor at l'Ecole des Hautes Etudes Commerciales in Montreal, Quebec.

In total, I have twenty-seven years of experience as a practicing economist, spending the last twenty one addressing issues in the regulation of gas and electric utilities. I hold a B.A. in Ibero-American studies and a Ph.D. in applied economics from the University of Wisconsin. I have chaired numerous conferences on alternative

[2] I have been advised that the term "alternative regulation" sometimes has a specific legal meaning in Illinois ratemaking, but I am using the term more generally to signify approaches other than traditional regulation.

regulation. I have an extensive record of professional publications, and have served as a referee for several scholarly journals.

My full resume is attached as ComEd Ex. 47.1.

Q. **Do you have experience in the field of revenue decoupling?**

A. Yes. Revenue decoupling is a specialty of PEG Research. PEG Research witnesses have provided testimony in proceedings leading to the approval of more than twenty decoupling plans. I have personally provided relevant testimony in proceedings leading to the approval of fifteen plans, including plans for BC Gas (d/b/a Terasen Gas), Central Vermont Public Service, Enbridge Gas Distribution, Hawaiian Electric, Hawaiian Electric Light, Maui Electric, San Diego Gas and Electric, Southern California Gas, and Union Gas. I have published several papers in professional journals that address decoupling issues. Other aspects of my work have shed on the important role that decoupling can play in contemporary regulation. For example, I recently prepared a white paper for the Edison Electric Institute on the problems posed by historical test years.

E. Itemized Attachments to Rebuttal Testimony

Q. **Are you sponsoring any attachments to your rebuttal testimony?**

A. Yes, in addition to my resume, ComEd Exhibit 47.2, is PEG Research's white paper on revenue decoupling for ComEd. I am sponsoring this paper.

II. What is Revenue Decoupling?

Q. **Please explain what you mean by revenue decoupling.**

A. The basic idea of revenue decoupling is to eliminate or significantly weaken the link between the revenue of a utility and the utilization of its system by customers. Depending upon the type of utility (*e.g.*, gas, electric, water) and its circumstances, this may focus on decoupling revenues from total delivery volumes (*e.g.*, throughput) and/or peak customer demand. Four approaches to decoupling are well established.

1. Decoupling true up plans are an approach that focuses on growth in revenue rather than rates. These plans use periodical, mechanistic true ups (adjustments) to cause *actual* revenue to track more closely the revenue sanctioned by the regulator. Customer bills are subject to upward adjustments when allowed revenues are under-recovered and to downward adjustments when they are over-recovered. True ups can be made monthly, quarterly, or annually. Decoupling can be applied selectively to certain customer classes for policy, ratemaking, or practical reasons. Caps are sometimes placed on the size of revenue adjustments that can occur in a given year. A "soft" cap defers excess revenue variances for later recovery with interest. A hard cap does not. Volumes can also be normalized so that true ups are not made for fluctuations in traditional demand drivers such as weather.

2. Lost revenue adjustment mechanisms ("LRAMs") compensate utilities more selectively for base rate revenues that fall below allowed revenues due to their DSM programs.

3. DSM performance incentives adjust rates mechanistically to strengthen utility incentives to develop large, efficient programs. Some mechanisms involve key performance indicators and targets. These mechanisms sometimes involve

penalties as well as awards. Other DSM incentive nechanisms share a percentage of estimated program savings, while still others capitalize a portion of DSM expenses so that they yield a return to shareholders. Mechanisms can focus on plan implementation, plan results, or both. DSM incentive mechanisms are not expressly designed to mitigate the disincentives posed by lost revenues but can effectively mitigate them if the incentives are large enough and appropriately designed.

4. Straight fixed variable ("SFV") pricing is an approach to rate design that uses fixed charges to recover costs that are fixed in the short run with respect to system use by existing customers. SFV pricing is usually limited to certain customer classes. The rate designs ComEd proposes to phase in gather a larger share of fixed costs from customer charges but would fall well short of recovering all fixed cost through these charges. This approach to rate design is sometimes called "modified fixed variable" ("MFV") pricing.

III. Rationale for Decoupling

Q. **What is the rationale for using revenue decoupling to regulate energy distributors?**

A. The rationale for decoupling is rooted in the way that changes in customers' use (in the form of deliveries and individual customers' peak demand) of a distributor's system affect its costs and finances. A distributor's base rates recover the costs of labor, materials, services, and capital that it uses in provision of local delivery (distribution and customer) services. The lion's share of a gas or electric power distributor's base rate revenue is typically drawn from its residential and small business customers. Most base rate revenue obtained from these customers is typically drawn from volumetric charges.

The cost of base rate inputs is largely fixed in the short and medium term with respect to the use of the system by existing customers, as Dr. Hemphill explained in his earlier direct testimony. However, the cost of a distributor is quite sensitive in the short term to growth in the number of customers served. The large impact of the number of customers served on cost of energy distribution has been shown repeatedly in my econometric studies of energy distribution, several of which have been published.

Growth in use of a distributor's system therefore affects its cost and revenue differently. Growth-related costs of an electric distribution utility are driven in the short run chiefly by the number of small volume customers served, whereas revenues are driven chiefly by changes in delivery volumes to these customers.[3] The ability of a distributor to recover its allowed costs is therefore sensitive to changes in the *average use* of its system by small volume customers.

These circumstances have important consequences that are not fully understood by many participants in utility regulation. One consequence that is widely recognized is that, under many rate structures, utilities have a disincentive to promote demand response, energy efficiency, and LDG when these undertakings slow growth in average use or turn it negative. This Commission stated, in approving the Rider VBA decoupling true up plan for the Illinois Integrys gas utilities, that "a utility has natural incentives to not be involved in energy efficiency since such activity is far against its interest."[4] Less widely recognized is that distributors can experience chronic financial attrition if average

[3] Utilities such as ComEd may also have significant other increasing costs, such as for system replacement, pension, and benefits. These are substantively outside the scope of my testimony, but are also essentially volume independent.

[4] *North Shore Gas Co, et al.,* ICC Docket No. 07-0241/07-0242 Cons. (Order, Feb.5, 2008), p. 148.

use is declining or even constant. Furthermore, rate designs with high usage charges that are thought to aid DSM also create a contrary barrier to DSM to the extent that they expose utilities to greater risk of demand fluctuations.

Q. **What kinds of rate designs are typically thought of as promoting DSM?**

A. High volumetric charges can encourage customers to make investments in their own EE and LDG equipment by reducing the payback period on such investments. Studies have shown that the payback period impacts a customer's decisions on such equipment. Inverted block rates (*i.e.*, a design in which volumetric charges rise in a step wise fashion with the amount a customer consumes) can "supercharge" this effect without over-recovery of total cost. Of course, those investments might or might not be efficient. As I said, however, these types of rates also create a disincentive for the distributor to promote, fund, or facilitate DSM. Where advanced metering infrastructure ("AMI") is available, various kinds of dynamic pricing are also available to help manage DR. Depending upon whether these rates are applied only to supply or also to delivery costs and how they are designed, dynamic pricing can make revenues more or less sensitive to external demand fluctuations.

Q. **Please explain further the problem of chronic financial attrition that DSM can cause.**

A. To better understand the problem, consider that attrition will occur absent rate relief whenever the unit cost of a distributor is growing in the sense that its cost rises more rapidly than its delivery volumes and other billing determinants. The unit cost trend of a distributor depends on input price inflation, improvements in its cost efficiency, and the trend in its average use. Work by PEG Research has revealed over the years that input

price inflation of an energy distributor typically exceeds the growth in its cost efficiency by more than 100 basis points annually.[5] Unit cost will therefore typically rise unless average use is growing by at least 100 basis points.

In past decades, average use by small volume customers of energy utilities did rise briskly. This slowed unit cost growth, which was also slowed by rapid productivity growth. For vertically integrated electric utilities, productivity growth was often spurred for years at a time by decline in the rate base, due to previous large generation plant additions. Under these favorable conditions, unit cost was commonly stable or declining and many utilities operated for extended periods without rate cases. Insofar as growth in billing determinants equaled or exceed growth in cost, it made sense to set rates on the cost and output in a recent historical test year.

Circumstances of contemporary energy distributors in the United States are quite different. The productivity growth of energy utilities has not been extraordinary since the mid-1970s, and has in recent years been similar to that of the private business sector as a whole. Energy distributors today generally do not experience declining rate bases for extended periods because they make their plant additions more gradually as the urban areas they serve expand and because of other demands that they are facing to modernize and rebuild their system. Indeed, I understand that ComEd's rate base has been substantially and consistently growing.

Programs to encourage demand response, energy efficiency, and LDG can wipe out any growth that might otherwise occur in average use. An aggressive DSM program

[5] The inability of productivity to keep pace with inflation is common in the economy and the main reason that prices of final goods and services, such as those tracked by consumer price indexes, tend to rise.

can by itself cause average use to decline. Volume growth has also been slowed by other conditions such as slow economic growth and changing appliance efficiency standards and building codes.

Distribution utilities therefore tend to have rising unit costs that can in principle be relieved with steady rate escalation. The need for rate relief is exacerbated in states with large DSM programs, when average use is declining for other reasons, and when distributors are engaged in large investment programs that do not generate revenue, such as an accelerated replacement of aging facilities or the buildout of AMI.

Q. **How do distribution utilities cope with rising costs in the face of slow growth in billing determinants?**

A. Distributors facing flat or negative growth in billing determinates can seek relief by filing frequent rate cases. However, frequent rate cases cannot typically provide the needed relief when they are based on historical test years or when actual operating costs are disallowed or delayed due to prevailing rules or custom. I have already explained why the rationale for historical test year rate cases breaks down in a rising unit cost environment. A revenue requirement based on the balance of cost and billing determinants in an historical test year will be inadequate even in the year that new rates are implemented. Regulators sometimes approve trackers to recover certain costs that are rising rapidly in the expectation that they will compensate distributors for some of the growth in their unit cost without the need for frequent rate cases. However, I understand that this has been called into legal question in Illinois at least in some respects or circumstances.

Large DSM programs can therefore cause material financial attrition for utilities. The unreasonableness of the situation is enhanced when utilities are compelled by policymakers to manage the programs. Regulators who compensate utilities only for the cost of their DSM programs are not leaving them whole for the full financial consequences of these programs. Utilities may respond to this situation by taking a more cautious approach to DSM that fails to realize its full benefits for customers, the environment, or the public generally.

Q. **How can revenue decoupling help with these problems?**

A. Decoupling is valued for its ability to remove or significantly reduce disincentives for utility DSM initiatives and to alleviate financial attrition due to slow growth. There are additional benefits. For example, decoupling reduces controversy over volume adjustments in historical test year rate cases and over volume forecasts in forward test year rate cases.

IV. Choosing the Right Decoupling Approach

Q. **You mentioned above that there are four established approaches to decoupling. What criteria should be used to identify the best approach?**

A. My report emphasizes the following criteria for choosing between alternative decoupling approaches:

- Administrative cost;
- Ability to remove utility disincentives to pursue a wide range of DSM initiatives;
- Effective relief from financial attrition; and
- Minimal undesirable idiosyncrasies.

In addition, of course, the approach chose must be legal in the jurisdiction. That issue is, however, beyond the scope of both my testimony and my report.

Q. **How do the approaches compare with respect to administrative costs?**

A. SFV pricing has the lowest administrative cost by far. LRAMs and DSM performance incentives have the highest cost due to their reliance on DSM savings estimates, which can be complex and controversial. This cost issue tends to confine the application of LRAMs and DSM performance incentives to conventional DSM programs, where savings are easier to measure accurately. Decoupling true-up mechanisms have an administrative cost that is "in between" but not onerous and similar to that of other automatic adjustment mechanisms used in ratemaking.

Q. **How do the approaches compare with respect to removing disincentives for DSM promotion?**

A. All four established approaches to decoupling can effectively remove utility disincentives to pursue conventional DSM programs. However, the incentive benefits of the SFV approach are reduced proportionately when fixed charges do not recover 100% of fixed costs. LRAMs and DSM performance incentives that address only conventional DSM programs do not remove disincentives for many other actions that utilities can take to promote DSM. These supplemental activities were mentioned by Mr. Cavanagh and include pro-DSM rate designs, efforts to develop clean energy markets, on-bill financing, and advocacy of tougher appliance codes and building standards. The Connecticut Department of Public Utility Control stated, in a recent order approving decoupling for

United Illuminating, that its decision was based not on its effect on the company's DSM program but on its effect on "areas where UI does not already receive incentives."[6] A failure to remove disincentives for these kinds of initiatives is a particular disadvantage where policymakers want utilities to pursue all cost effective DSM, and not only those that can be implemented through rates.

Q. **How do the established decoupling approaches compare with respect to addressing attrition?**

A. The established approaches generally do not fully compensate a power distributor for the revenue losses it experiences as a result of a large and wide ranging DSM efforts. Revenue true ups and SFV pricing provide compensation for declines in average use but not for wiping out any growth in average use that might occur in the absence of DSM. That growth might otherwise be used to cope with rising costs due to investment surges and inflation. In a year when average use does grow, these approaches deny the distributor any financial benefit.

LRAMs and DSM performance incentives can, in principle provide compensation for wiping out growth in average use. Since they tend to focus only on conventional DSM programs, however, they do not provide attrition relief from the many other actions distributors may undertake to promote DSM, or from external forces slowing growth in average use such as state administered DSM programs

Q. **What are the idiosyncrasies of the established decoupling approaches?**

[6] Connecticut DPUC, Decision, Docket 08-07-04, February 2009, p. 121.

A. Each of the established approaches involve idiosyncrasies that limit their appeal. Some decoupling true up plans can destabilize rates. SFV pricing can involve a rapid increase in fixed charges for low volume customers, if not phased in. SFV pricing also involves low volumetric charges that increase the payback period for DSM equipment investments, although the degree to which distribution volumetric charges should be expected to promote energy efficiency is a disputed topic. Critics of SFV argue that volumetric charges should, in the absence of AMI, recover that portion of fixed cost that is attributable, in the long run, to peak demand. Some also argue that volumetric charges should reflect environmental costs of central generating stations that are not reflected in commodity prices. Proponents of SFV counter that reflecting environmental costs in volumetric charges for distributor services is a form of social engineering and that these costs are controversial and depend greatly on the source of power supplies. The marginal environmental cost of nuclear generation, for example, is relatively low. Electric vehicles reduce externalities from the production and consumption of petroleum fuels.

Q. **Do utilities operating under decoupling true up plans rather than SFV tend to have pro-DSM base rates?**

A. In some cases. Some utilities operating under revenue decoupling have inverted block and/or time of use base rates. However, the implementation of decoupling true up plans has sometimes coincided with higher customer charges. Some utilities have also pledged to develop experimental rate designs.

Q. **If a decoupling true up plan helps distributors recover the full cost of their services, doesn't that reduce customer incentives to make investments in DSM equipment?**

A. Not at all. As NRDC witness Mr. Ralph Cavanagh explains very well in his testimony, individual customers are still rewarded for their efforts to reduce deliveries and the use of the system in peak hours. The cost of distributor services is like a "hot potato" that individual customers try to pass to customers who do not conserve. This preserves a strong incentive for energy efficiency.

Q. **Electric vehicles are a subject of mounting interest in Illinois. Does decoupling help or hinder speedy growth of EV load?**

A. SFV pricing and some kinds of decoupling true up plans could disincentivize utilities from promoting activities, such as EVs, that are environmentally benign but that use more energy if the utility could retain the benefits of that increased use. At the same time, however, SFV pricing encourages customers to purchase electric vehicles by offering them a low or zero volumetric delivery charge. By contrast, to the extent that decoupling true-up plans facilitate high volumetric charges in all hours of the day, they also discourage customers from purchasing electric vehicles.

Q. **You mentioned earlier ways to mitigate these idiosyncrasies. Can you please explain further?**

A. Refinements of the various approaches to decoupling have been developed to deal with many of these concerns. For example, ComEd's SFV pricing proposal mitigates effects on small volume customers via a gradual phase-in and an 80% cap. Fixed charges under SFV pricing can also be designed to vary in some rough fashion with customers' historical usage patterns. This can buffer the rate impact on small volume customers substantially without compromising the incentive benefits of SFV.

There are, similarly, several ways to reduce the rate instability that can be caused by decoupling true up plans without diminishing their incentive benefits. True ups can occur more than once a year so that revenue in a given year tracks allowed revenue more closely. A hot summer, for example, can trigger offsetting low bills in the fall so that bills in the following year are unaffected. Soft caps, such as those proposed by NRDC witness Cavanagh, can be imposed on revenue adjustments. Pamela Lesh has written a paper that shows that the rate adjustments yielded by decoupling true up plans are generally manageable and less than those that result from the operation of energy cost recovery mechanisms.[7]

As for electric vehicles, the installation of AMI can make possible time of use pricing for EV customers so that volumetric distribution charges can be high during weekday hours but lower on nights and weekends, when peak load is down. Power deliveries for use in EVs can also be exempted from decoupling true up plans. However, some feel that growing EV sales should not be exempt so that they offset the revenue shortfalls that result from DSM and thereby reduce the impact of a decoupling true up plan on rates.

V. Decoupling Experience

Q. **Can you overview the North American decoupling experience, providing further information about the pluses and minuses of decoupling in its various forms?**

A. Revenue decoupling is widely used today in the U.S. gas and electric utility industries. Use is more widespread amongst gas distributors because these companies have

[7] Pamela Lesh, Rate Impacts and Key Design Elements of Gas and Electric Utility Decoupling: A Comprehensive Review, *Electricity Journal* (October 2009).

historically had a much greater problem with declining use per customer. Interest in decoupling to regulate electric utilities has increased as their volume growth has slowed due to the renaissance of DSM and changes in external business conditions. Our study shows that the decline in average use by small volume customers of electric utilities with large DSM programs is generally substantial. Decoupling is rare for electric utilities in states that place little emphasis on DSM. In many of these states, average use still grows briskly and, by compensating utilities for input price inflation, diminishes the frequency of rate cases.

The key issue regarding precedents for ComEd is thus not how many electric utilities operate under decoupling across the country but how many utilities have decoupling who are operating under the business conditions that usually occasion such measures. We find that some form revenue decoupling is used today in almost all U.S. jurisdictions with large scale DSM programs. This includes most states with large independently administered DSM programs. Some form of decoupling is now required by law or commission mandate in five of the leading DSM states. Very few states have achieved large DSM programs without some form of decoupling as I define it.

Q. **Why would decoupling be used in a state with an independently administered DSM program?**

A. Regulators in these states value decoupling for its ability to provide relief from the slow volume growth that large, independently administered DSM programs can cause. They also recognize that decoupling can remove disincentives for the many other ways that utilities can promote DSM. Not least amongst these is utility support for large budgets for the independent program administrators.

In Oregon, for example, conventional DSM programs have for some time been provided by an independent energy trust. Most major energy utilities nonetheless operate under decoupling true up plans. The Oregon commission stated, in an order approving a plan for Portland General Electric,[8] that:

> It is still the Commission's policy to encourage conservation by severing the link between sales levels and profits…. Decoupling removes the utility's incentive to promote new sales and does not provide utilities with an incentive to adopt ineffective demand-side management programs. The current system of regulation produces incentives for utilities to increase electricity sales and corresponding disincentives to the pursuit of energy efficiency. Because decoupling separates profits from fluctuating sales levels *regardless* of the cause of the changed sales, it addresses efficiency impacts resulting from *all* effects, including rate design, all utility-sponsored demand-side management activities, and all energy efficiency measures. Moreover, decoupling does not require sophisticated measurement or estimation…. Decoupling does not take the next step and provide a positive incentive for good planning. But it does provide a relatively simple mechanism to remove a variety of short-term perverse incentives inherent in the existing regulatory structure.

Q. **What approaches to decoupling are most popular today?**

A. True up plans are the most widely used approach to decoupling in the United States. They are now mandatory for natural gas and electric utilities in four of the leading DSM states. Thirteen states that have tried true up plans have approved additional plans but four have not.

One reason for the popularity of decoupling true up plans is that LRAMs and DSM performance incentives aren't needed in a state where DSM programs are independently administered. When confronted with a choice between the remaining two options, decoupling true up plans and SFV pricing, most commissions have chosen the

[8] Order No. 95-322 March 1995, p. 15.

former. The British Columbia Utilities Commission provided, in an order approving a decoupling true up plan for BC Gas, a representative summary of its desirable features.

1. The incentive for the Company to pursue short-run sales in the winter period would be eliminated, thereby eliminating the potential conflict between the demand-side pursuit of economically efficient energy services … and short-run profit maximization by the gas utility.

2. Sales forecast risks to utility shareholders would be substantially reduced for sales to the weather sensitive residential and commercial customers – which represents the major revenue volatility of the utility.

3. Because marginal cost pricing initiatives, such as seasonal rates, would no longer be associated with increased risks for shareholders, utility management would be less reticent to support such improvements.

4. The contentiousness associated with regulatory review of short-run energy demand forecasting in delivery rate cases would be largely eliminated.

Of course, the Commission will have to consider the legality of various approached as well, under Illinois law, a topic about which I cannot comment.

Q. **You have mentioned that there are several ways to design decoupling true up plans. Which features are most popular?**

A. The majority of decoupling true up plans currently used in North America involve full decoupling and do not weather normalize revenue variances. Hard caps on the size of recovered revenue variances are uncommon, but many plans feature “soft” caps. Large volume customers are excluded from most plans.

Q. **Are the other approaches to decoupling also in use?**

A. Yes. DSM performance incentives are used today in quite a few states and have been a stimulus for large utility DSM programs in Connecticut, Massachusetts, Minnesota, and Rhode Island. They are sometimes used in combination with other decoupling approaches, such as decoupling true up plans, in order to provide a positive incentive to

DSM and to encourage efficient program management. LRAMs have recently witnessed a modest resurgence due in part to their featured role in Duke Energy's DSM regulation.

Some form of SFV or MFV pricing has to our knowledge been approved for use in eight states, many of which are located in the midwest. MFV pricing is, additionally, used by many Canadian energy utilities. The Public Utilities Commission of Ohio, in a decision approving MFV pricing for the gas services of Duke Energy Ohio,[9] enumerated the following benefits:

> On balance, the Commission finds that the modified SFV rate design … is preferable to a decoupling rider. Both methods would address revenue and earnings stability issues in that the fixed costs of delivering gas to the home will be recovered regardless of consumption. Each would remove any disincentive by the company to promote conservation and energy efficiency. [SFV pricing] has the added benefit of producing more stable customer bills throughout all seasons because fixed costs will be recovered evenly throughout the year. In contrast, with a decoupling rider. …the rates would be less predictable since they could be adjusted each year to make up for lower-than-expected sales. [SFV pricing] also has the advantage of being easier for customers to understand. Customers will transparently see most of the costs that do not vary with usage recovered through a flat monthly fee…A decoupling rider, on the other hand, is much more complicated and harder to explain to customers…The Commission also believes that [SFV pricing] sends better price signals to consumers.

In both the United States and Canada, most MFV rate designs feature the uniform fixed charge that ComEd proposes but in at least three cases, in Florida, Georgia, and Oklahoma they do not. In Florida, for example, the Peoples Gas System, which had previously had a $10 monthly customer charge for residential services, recently established MFV pricing and divided the single residential service class into three classes with customer charges ranging from $12 for historically small volume users to $20 for historically large volume users.

[9] Public Utilities Commission of Ohio, *Opinion and Order*, 07-829-GA-AIR *et al.* pp. 23-24 (October 2008).

VI. Revenue Decoupling for Commonwealth Edison Company

Q. How would you apply your analysis to the situation of ComEd?

A. I have reviewed the situation of ComEd and identified several factors that are especially important to the choice of a decoupling strategy. They include the following.

- Implementing efficient EE and DR are important policy objectives in Illinois. Utilities have a statutory requirement to ramp up annual energy and peak load savings, subject to a cap on customer costs.[10] The Illinois Department of Commerce and Economic Opportunity ("DCEO") also manages DSM programs.
- There is mounting interest in Illinois in electric vehicles as a means to reduce the externalities from petroleum fuel consumption and to stimulate the state automobile industry. An ambitious effort by Com Ed to promote EVs can have a national impact on demand and influence the location of EV manufacturing.
- ComEd's EE program is large. It does not rank amongst the nation's very largest, but it does compare favorably to others even without accounting for the companion DSM program of the DCEO.
- There are many other ways to promote DSM in ComEd's service territory. Some may be cost effective, some may not.
- Due in large part to its DSM programs, average use by ComEd's residential and small commercial customers has declined for several years and is forecasted to continue declining for the foreseeable future. Declines would likely be more pronounced if DSM effort was increased to the level in the leading DSM states.

[10] 220 ILCS 5/8-103 (c).

- ComEd is financially sensitive to a decline in residential average use because it currently recovers a substantial share of its revenue requirement from residential volumetric charges. Dr. Hemphill showed in his direct testimony, for instance, that 63% of ComEd's residential revenue requirement is currently recovered from volumetric charges.

- With average use declining in the face of other major investments and expense demands, ComEd's cost is growing faster than its billing determinants and the resultant rise in unit cost is expected to continue. While frequent rate cases might alleviate the problem, they are bound to be uncompensatory if based on historical test years. If ComEd could successfully file rates based on forward test years, it would likely still be compelled to file rate cases frequently. Volume forecasts would be a subject of recurrent controversy in these cases.

- Illinois law expressly allows alternative rate plans, although this case is not an alternative rate filing.

- Since 2008, ComEd has been permitted to recover the out of pocket costs of ComEd's DSM programs via a cost-tracking rider, Rider EDA.

- The Commission's approval of decoupling true up plans for the Illinois Integrys gas companies has been noted. The ICC has also approved MFV pricing with 80% recovery of fixed costs through fixed charges for NICOR Gas and gas services of the Ameren Illinois Companies. The transmission revenues of Illinois electric utilities are, in accordance with Illinois statute, recovered by a mechanism that resembles a decoupling true up plan. It is noteworthy that this mechanism

makes it possible to recover retail transmission revenues in part through volumetric charges despite the fixed nature of transmission cost. ComEd's commodity costs are also recovered on a basis that protects ComEd from volume fluctuations. There is thus ample precedent in Illinois for the approval of either a decoupling true up plan or MFV pricing.

Q. **Based on these observations and the analytical framework that you have traced, Dr. Lowry, what conclusions can you draw about the desirability of implementing revenue decoupling for ComEd?**

A. Com Ed is operating today under the kinds of conditions that typically prompt regulators to approve revenue decoupling. I believe that some form of revenue decoupling can and should be implemented for ComEd in this proceeding. Here are some notable benefits.

- Disincentives can be removed for the wide array of initiatives that ComEd can pursue to promote DSM. If ComEd was able, as a result, to improve its DSM portfolio, customer bills could be lower, the environment could be cleaner, and vendors of DSM equipment and services could make their full potential contribution to the betterment of the northern Illinois economy.
- ComEd can be compensated for declining average use without expectation of overearning.
- Rate case controversies over delivery volumes can be mitigated.
- The Commission can learn more about the pros and cons of decoupling in an application to an electric delivery utility.

Q. **Were the Commission to adopt a pilot decoupling true up plan for ComEd instead of adopting the Company's proposed MFV approach, what features of the plan would make sense based on your experience?**

A. The revenue per customer ("RPC") approach to decoupling proposed by the NRDC is already used in Illinois in Rider VBA of the Integrys Illinois gas utilities. Rates are adjusted for any deviation of actual volumes per customer from those established in the rate case. This is a feature of numerous approved decoupling true up plans. RPC would be fixed in this rate case based on the approved revenue requirement. Base rate revenue from residential and watt hour business customers would then grow between rate cases only at the gradual pace of customer growth, if any. This is similar to the pace of revenue growth that would be achieved by MFV pricing but does not require MFV pricing.

It should be stressed that this is one of the most conservative approaches to the design of a decoupling true up plan. Rate cases would likely still be frequent in order to compensate ComEd for input price inflation and plant additions. The majority of plans approved for electric utilities in the United States have, in contrast, provided automatic relief over a multiyear period for a broader array of cost drivers. This alternative approach has certain advantages, among them that the plan can be used a stepping stone to broad forms of alternative regulation, in which case annual rate cases could be avoided and performance incentives could be strengthened. In addition, cost-conscious multi-year budgets can, if desired, be agreed to in advance for AMI and replacement capital investments without the use of trackers. However, the Commission is perfectly free to stick with the more conservative RPC approach, and even to reset the revenue requirement annually via rate cases if it desires.

Q. **Can you comment on some of the other plan design issues?**

A. Decoupling need not in my view be extended at this time to Com Ed's large volume customers, which should assuage concerns they may have about decoupling for small volume customers. The Commission would also need to consider how best to promote EV adoption if a decoupling true up plan is adopted. One idea would be to exempt EV deliveries from decoupling. Another would be to offer AMI and time of use base rates selectively to customers who own EVs. The Commission would also need to consider how best to promote EV adoption if a decoupling true up plan is adopted. One idea would be to exempt EV deliveries from decoupling. Another would be to offer AMI and time of use base rates selectively to customers who own EVs.

Q. **Would a decoupling true up plan for Com Ed guarantee ComEd's profits?**

A. By no means. A plan facilitates recovery of allowed revenue but the utility must keep its costs in line with the allowance if it hopes to earn its competitive rate of return. I have already noted that the RPC approach to decoupling does not provide generous escalation in allowed revenue. If revenue variances are weather normalized, ComEd is still at risk for a major source of volume fluctuations. ComEd is also subject to the risk that the number of its customers may decline.

Q. **Recognizing that you are not a lawyer, do you have any insights as an economist on whether the decoupling approaches proposed by ComEd address the policy reasons underlying the concerns with single issue ratemaking?**

A. Our report explains why concern about single issue ratemaking should be lessened in the contemporary world of energy distributors who need to modernize and reinvest in their systems despite declining average use, since these utilities experience chronic unit cost

growth. Judicious use of riders can partially compensate distributors for unit cost growth without fear of over-earning. Rate cases can be held less frequently, reducing regulatory cost and encouraging better utility performance. These advantages of cost riders help to explain why they are extensively today used by energy distributors to recover the cost of investment surges.

With respect to the two proposals on the table, MFV pricing does not seem to implicate concerns related to riders and single issue ratemaking and has already withstood court challenge in Illinois. As for decoupling true up plans, these should be recognized as a fundamentally different approach to regulation that focuses on capping revenues rather than rates. Most decoupling true up plans cannot be characterized as single issue ratemaking because they involve some growth in allowed revenue in addition to effecting a revenue true up. Although decoupling true ups are typically accomplished by means of a "rider," much emphasis should not be put on the name. The mechanism should be understood to be a pragmatic means of effecting decoupling without high customer charges and low volumetric charges. There is, furthermore, no question that a decoupling rider makes rate adjustments for changes in uncontrollable business conditions such as weather and Illinois DSM policy. The adjustments sometimes benefit the Company and sometimes benefit customers, as experience with Rider VBA makes plain. Sensitivity to such demand fluctuations would be enhanced under any experimental rate designs with high usage charges that a decoupling true up plan might encourage. Finally, a decoupling true up mechanism also differs fundamentally from a cost tracking rider in going beyond mere attrition relief to encourage distributors to undertake actions that benefit customers and the environment.

However, insofar as there is uncertainty about court acceptance of decoupling true-up plans, ComEd's MFV pricing proposal stands as a solid alternative that has withstood regulatory challenge in Illinois and can accomplish most if not all of the goals of revenue decoupling. Like a decoupling true up plan, it removes disincentives for a wide range of DSM initiatives and is conservative in the sense that it would not compensate Com Ed for the full financial consequences of a large DSM program. Its several advantages over decoupling true up plans, which include administrative simplicity and the encouragement to customers to adopt electric vehicles, are not negligible.

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

A. Yes it does.