

**STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION**

COMMONWEALTH EDISON COMPANY)	
)	
Investigation of Commonwealth Edison)	Docket No. 14-0384
Company's Cost of Service for Low-Use)	
Customers in Each Residential Class)	

**DIRECT TESTIMONY OF EDWARD C. BODMER
ON BEHALF OF THE CITIZENS UTILITY BOARD**

CUB EXHIBIT 1.0

DECEMBER 4, 2014

1 **QUALIFICATIONS**

2 **Q. What is your name and on whose behalf are you testifying?**

3 A. My name is Edward C. Bodmer. I am testifying on behalf of the Citizens' Utility
4 Board ("CUB").

5 **Q. Have you previously testified before the Illinois Commerce Commission (the**
6 **"Commission")?**

7 A. Yes. I have provided analyses and testimony in Commission cases over a period
8 spanning more than three decades. While the majority of my professional activity is
9 no longer associated with providing testimony in utility proceedings, I have been
10 involved in a variety of Commonwealth Edison Company ("ComEd" or the
11 "Company") rate and rate design matters on almost a continual basis since beginning
12 my career as a member of the Commission Staff when Jimmy Carter was president. I
13 have testified before this Commission on behalf of Staff, as a consultant for the City of
14 Chicago and other consumer representatives, and once – many years ago – even in
15 support of ComEd. I appeared most recently as a rate design expert, on behalf of the
16 City of Chicago, when the Commission last examined ComEd's rate design – in
17 ComEd's 2013 rate design investigation ("RDI") case, ICC Docket No. 13-0387.
18 Recently, my text book "Corporate and Project Finance Modeling: Theory and
19 Practice" was published by Wiley Finance.

20

21 **INTRODUCTION**

22 **Q. Does the cost study and testimony presented by ComEd in this case address the**
23 **problems pointed out by the Commission in Docket 13-0387, specifically a lack of**
24 **information on what it cost to serve low-use customers and a definition of a low-**
25 **use customer class?**

26 A. Only in a relatively minor way, and ComEd's attempts to revert to collecting an
27 increasing amount of "fixed costs" through fixed charges should be rejected. The
28 Commission's initiating order in this case stated that ComEd "[h]ad failed to define a
29 low-use customer class and had failed to provide cost-of-service data specific to low-
30 use customers." *ICC v. Commonwealth Edison Co.*, Docket No. 14-0384 (Initiating
31 Order, 30 May 20, 2014), at 1. In terms of cost of service, ComEd only evaluated
32 costs incurred by "poor, frugal and efficient" low users (the Commission's term)
33 through evaluating usage characteristics that were used as a basis of allocating
34 aggregate distribution costs. The company did not address what are the actual costs of
35 distribution lines, transformers, poles, underground facilities and general
36 administrative costs that are really incurred by the low users nor did it define a low-
37 use customer class. What is most apparent from the new data that ComEd provided is
38 that, in essence, the Multi-Family Non Space Heat ("MFNSH") class is a low-use
39 subclass of the Residential class. Of course, there are high users within the MFNSH
40 class, but, relatively speaking, MFNSH users are grouped much closer together than
41 their single-family counterparts.

42 **Q. Even though the mandate from the Commission was to "provide cost-of-service**
43 **data specific to low use customers," most of ComEd's testimony deals with their**
44 **desire to re-instate so-called Straight Fixed Variable ("SFV") rate design. Do**
45 **you take a position on ComEd's SFV proposal in this testimony?**

46 A. Yes, only to oppose any movement towards recovery of "fixed costs" through higher
47 fixed charges. SFV rate design ignores cost-causation, is bad policy, and has been
48 rightfully rejected by the Commission in its most recent orders.

49 **Q. Please summarize the recommendations you have for the Commission in this**
50 **proceeding.**

51 A. I have four specific recommendations:

52 1. Revenue requirements within the residential class (non-space heat) should be
53 re-allocated between single-family and multi-family classes based on ComEd's
54 Advanced Metering Infrastructure ("AMI") data, resulting in a distribution revenue
55 requirement reduction of 18% to multi-family consumers. Information provided by
56 ComEd demonstrates that because of coincident peak and non-coincident peak load
57 factors, the distribution costs for multi-family poor, frugal and efficient low-users
58 should be reduced and the Commission should order ComEd to reallocate accordingly.

59 2. In future cases, ComEd should consider defining residential classes using
60 statistics and actual cost data based on density, under-grounding, and age of
61 equipment.

62 3. ComEd's proposal to revert to 50/50 Straight Fixed Variable rate design should
63 be rejected.

64 4. After full deployment of AMI, customer charges – and other charges where
65 possible – should be individualized in order to ensure that cost-causers are charge for
66 only the costs they cause.

67 **Q. What are your primary observations/conclusions with respect to the direct**
68 **testimony of ComEd in this proceeding?**

69 A. My primary comments are the following:

70 1. ComEd's analysis focused on low-use analysis within a class rather than across
71 classes; in particular it did not address costs across the multi-family class and the
72 single-family class. The non-space heat multi-family class has lower usage than the
73 single family class and even relatively high users within the class could be considered
74 low users in the overall residential class. ComEd's load analysis demonstrates that the
75 multi-family non space-heat class as a whole should be allocated 27% lower

distribution costs using load data collected from AMI meters rather than the load research data currently applied as the basis for setting rates. If the reduction to multi-family consumers is limited through maintaining revenue neutrality in the residential class, then the multi-family distribution cost reduction would be 18% as a result of using the AMI data.

2. ComEd's residential rates remain out of line with utility companies serving other large metropolitan areas even after rates from the order in Docket 13-0387 that eliminate the SFV are implemented. ComEd's high combined monthly charge (the metering charge plus the customer charge) combined with the absence of an inverted energy charge stand in stark contrast to just about any other utility in the U.S. and anywhere else in the world.

3. In attempting to allocate costs among low-use, moderate-use and high-use, ComEd completely ignores costs themselves and only studies load characteristics. In every rate case involving residential consumers since the early 1990's, the City of Chicago has pointed out that density, undergrounding and age must be accounted for in any kind of cost study. These factors are particularly pertinent in allocating the costs associated with high use residential consumers.

4. As a percentage of total charges, the customer and meter charges represent 43% of the total bill for the single family low-user non-space heat class as defined by ComEd and 61% for the multi-family low user non-space heat class. The idea that 43% or 61% of your bill should go to costs related to measuring what you buy and preparing and measuring a bill is not reasonable for any business and cannot be accepted by the Commission. This unreasonable situation can be rectified by capping the combined customer and metering charge, but in the instant proceeding the Commission can address this by rejecting any increase in the fixed charge or any reversion to 50/50

SFV rate design because it is not reasonable that the existing level of fixed charges comprise such a large portion of customers' bills, let alone a higher level.

Q. Do you have other comments with respect to the ComEd direct testimony presented in this proceeding?

A. Yes. Some of my other general comments are the following:

1. In the 2013 RDI proceeding ComEd insisted that load factor could not be defined using coincident peak or non-coincident peak and that load factor could only be computed from the average use relative to the peak load of individual consumers. Now the company prominently uses the terms coincident peak load factor and non-coincident load factor throughout its testimony. Similar reversals from the 2013 RDI case to this case occurred for the measurement of low-use load factors, computation of multi-family SFV rates, weather normalization, load research problems and other items. These reversals are worthy of note because they demonstrate that when ComEd makes assertions in a contested case that are implausible (for example, that customer cost represents 61% of the total cost for low-use consumers), these statements are often made to defend a policy position and may not be valid. ComEd's reversals imply that the Commission must apply objective tests for reasonableness when assessing technical information.

2. As part of the 2013 RDI case ComEd provided information on income and usage by zip code. This allowed the City to study the relationship between income and usage and the data demonstrated the rather obvious fact that income and usage are highly correlated. The data that verified a strong relationship between usage and income should have finished discussion of the issue once and for all. However, the company now attempts to use data from people who use the LIHEAP program in assessing the issue. The use of LIHEAP data in assessing income and usage is fraught with biases.

126 First, there is a dramatic self-selection problem in the data - meaning that people who
127 might apply for assistance may be higher users than those who do not apply for
128 assistance. Second, there is a price elasticity problem with the approach because the
129 effective price for LIHEAP subsidized power is lower than the price for low-income
130 consumers who do not make use of the LIHEAP program. Generally speaking, when
131 the price is lower people use more. ComEd's effort to use LIHEAP data is not helpful
132 in answering the Commission's inquiry.

- 133 3. My understanding of this docket is that the subject matter was supposed to be studying
134 cost of service for low-use consumers. ComEd's testimony, however, introduces a
135 separate analysis of high use consumers. The analysis of high use costs is particularly
136 flawed because of the fact that high use is typically correlated with low density (long-
137 lines), high levels of under-grounding and deployment of new equipment. Unless
138 ComEd makes adjustments for these factors in its cost of service studies, the high use
139 analysis is not helpful in answering the Commission's inquiry in this docket.

140
141 **RATE DESIGN COMPARISONS FOR THE POOR, THE FRUGAL AND THE ENERGY EFFICIENT**

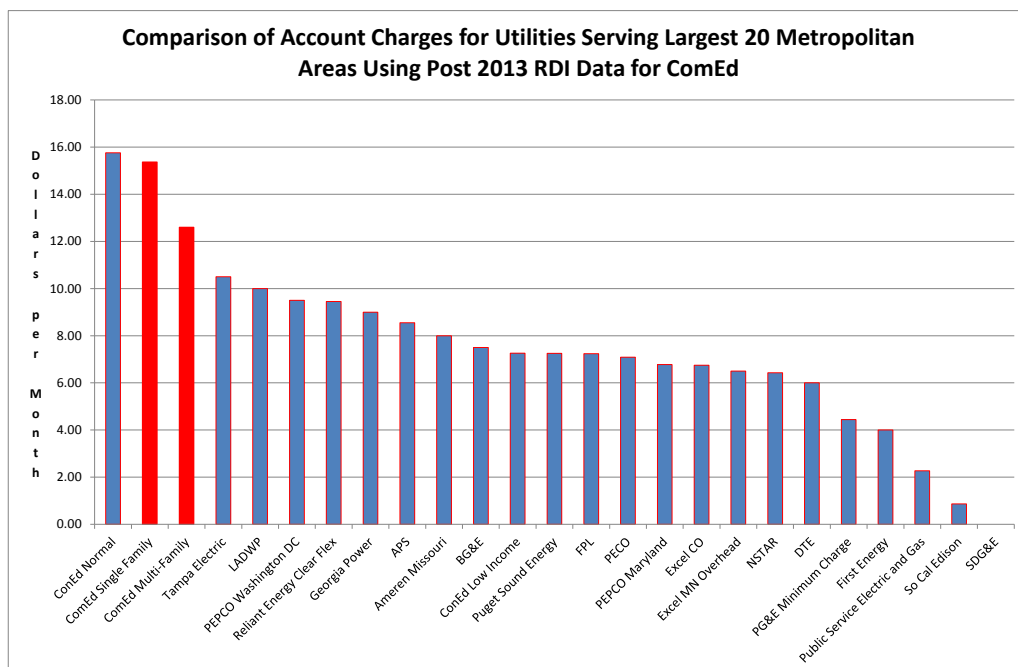
142 **Q. Why is it important to compare ComEd's rate structure to the rate structure of**
143 **other companies as a backdrop to evaluating issues in this case?**

- 144 A. The rate design established in Docket No. 13-0387 ("2013 RDI Case") resulted in a
145 minor correction of the extreme regressiveness of ComEd's rate structure. The
146 resulting, current structure it is still not acceptable from an equity perspective. Given
147 the potential manipulation of cost of service studies and the volume of detailed data,
148 comparison of different rate designs should be the starting point and a backdrop for
149 evaluation of the issues in this proceeding. This allows the Commission to take a step
150 back from extremely dense cost studies filled with jargon and hundreds of explicit and

implicit assumptions and ask whether the process is reasonable compared to other comparable utilities.

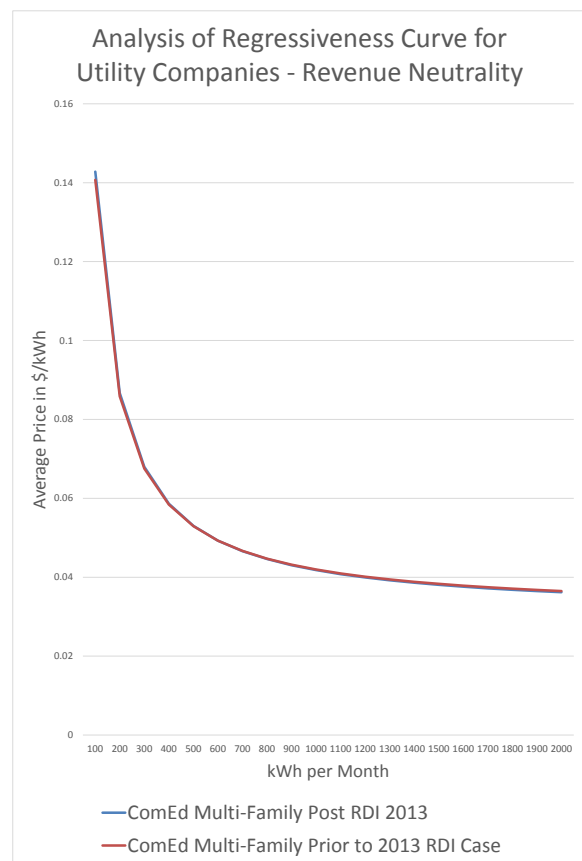
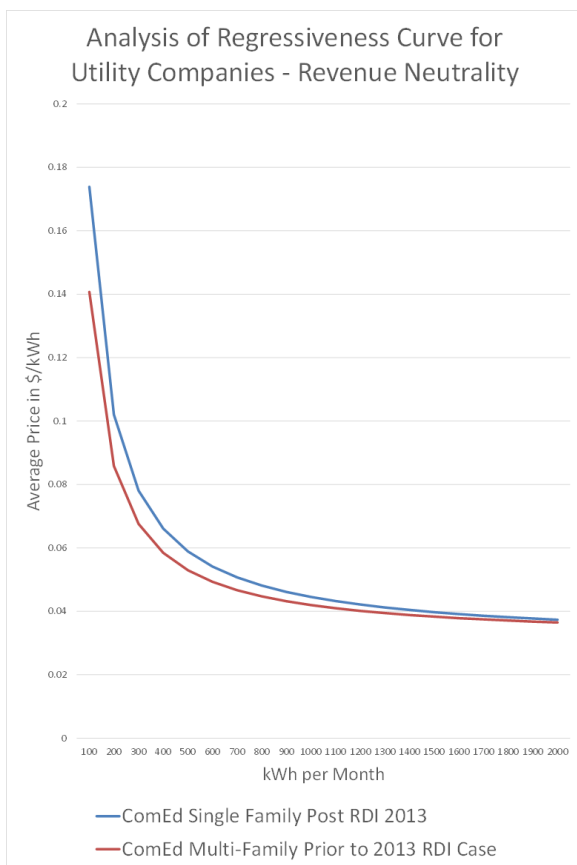
Q. How have you benchmarked ComEd's rate design compared to other utility companies?

A. I have used the data that I compiled in the 2013 RDI case, Docket 13-0387 from utility companies serving the largest twenty metropolitan areas in the U.S. Graphs that compare ComEd's single-family non-space heat to other structures are presented in CUB Exhibit 1.01. They demonstrate that ComEd's rate design continues to be extremely regressive even as the Commission eliminated the SFV design used in prior years. The graph below shows that, in terms of nominal customer charges, ComEd remains just about the highest in the country with the exception of ConEd in New York which has much higher overall distribution costs. Elimination of SFV did not put ComEd in line with other utility companies.



Q. In terms of regressiveness, how did the decision in the 2013 RDI case affect the single-family and the multi-family structure used by ComEd?

A. The two graphs below compare the average rate per kWh for different levels using the rates before the 2013 RDI order and the rates from Mr. Tenorio’s table that are titled “without SFV.” (ComEd Exhibit 2.0; Table CST-D2) Numbers on the graph are derived through computing the average bill per kWh at different usage levels and adjusting the result to maintain revenue neutrality between the different lines. The graphs demonstrate that ComEd’s rates remain very regressive and that for the multi-family subclass, there was virtually no effect on the steepness of the curve from changes in SFV policy in the 2013 RDI case.

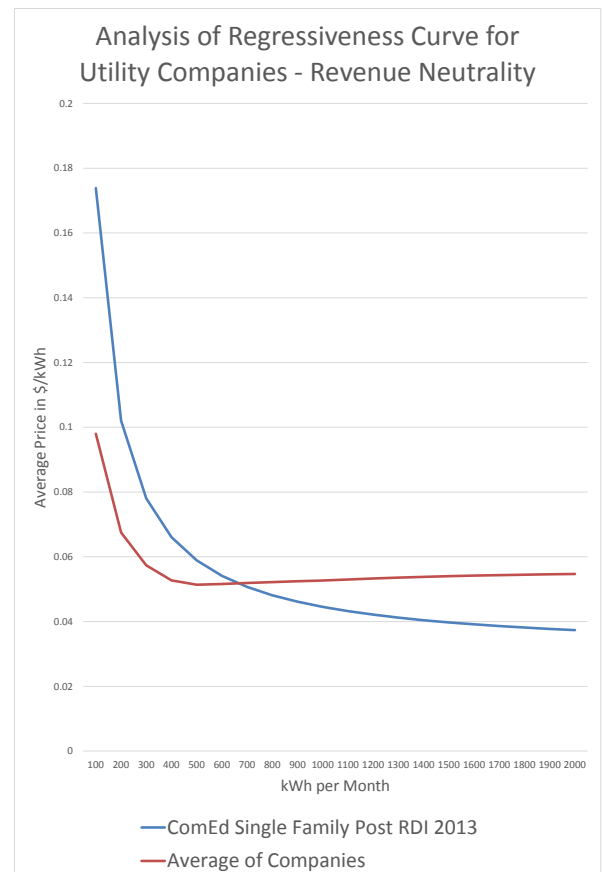
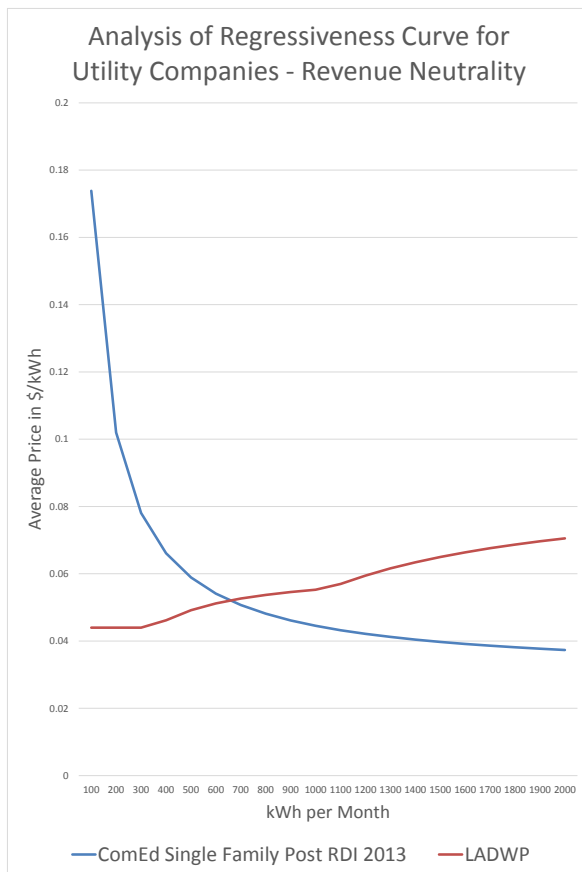


175

Q. How does the regressiveness curve for ComEd compare to other utility companies after the rates from the 2013 RDI case have been implemented?

A. ComEd continues to have a steeper curve than any other utility company in the sample. Two graphs below illustrate the comparison between ComEd and other

companies. The graph on the left compares the curve for ComEd with the curve for one other utility company -- LADWP in Los Angeles -- on a revenue neutral basis. The graph on the right compares ComEd with the average of the other companies. Graphs like this that show the position of poor, frugal and efficient low users relative to moderate and high users. The steeper the curve on the left, the worse the position of low users. Separate individual graphs for ComEd versus each utility company are presented in CUB Exhibit 1.01 where it is demonstrated that no other company has as steep a slope as ComEd.



REPRESENTATION OF COST STUDY AND LOAD FACTOR FORMULA

Q. How has ComEd changed its position from the 2013 RDI and why should the Commission be concerned with that here?

A. The table below lists some of the many changes in positions, statistics and definitions of terms. In terms of testimony, briefs and the general effort made in the case, these are not trivial little items:

2013 RDI Case	Current Case
No such thing as CP load factor	Used CP load factor as basis for analysis
No such thing as NCP load factor	Used NCP load factor as basis for analysis
2010 Multi-family SFV computed correctly	Multi-family not consistent with order
Weather normalization impossible	Could adjust MMU for normal weather
No problems with load research	Must replace load research with AMI
Low users have worse load factors	Low users have better load factors
Low users can suddenly become high users	Low users may be vacant houses
Load factors should not be more than 100%	Load factors could be more than 100%
Nothing is wrong with multifamily analysis	Multi-family has a better load factor
Usage and demand are not related	Load factors can be computed across usage

These changes demonstrate that it is often better to carefully think about an issue from a big picture perspective and think about whether the result makes sense.

Q. How does ComEd's change in position on the CP load factor affect the Commission's analysis from the 2013 RDI case?

A. In the 2013 RDI case, the City and CUB finally managed to compel the production of load research data which I used to perform the obvious analysis to evaluate the coincident load of the sampled consumers relative to their overall usage. I called the ratio of average use to coincident peak use the coincident peak load factor. ComEd contested the fact that the coincident peak load factor could be larger than 1.0.

However, in this case, ComEd uses the coincident load factor and presents the statistic in many tables and graphs. Mr. Tenorio testifies, for example, that: "For the purposes of this direct testimony, I call these factors CP Load Factors. Because a subgroup's CP demand is not necessarily the subgroup's maximum demand, it is possible to have CP Load Factors that are greater than 100%." (ComEd Exhibit 2.00, LL 494-496).

Q. Using a diagram, can you try to explain in simple terms what ComEd has done in this case and how its cost study works?

A. Yes. The diagram below illustrates how distribution costs in the residential class are allocated entirely on the basis of peak load. It also shows how a formula can be used to estimate the rate impacts of a load factor difference between low-use consumers and other consumers – in other words, it shows how the relationship between peak load and overall load for any given customer affects distribution costs for that customer. It shows that ComEd attributes total cost on the basis of peak load without segregating the costs themselves. The yellow bar on the diagram represents the manner by which ComEd combines all of the distribution costs together and the arrows below the yellow bar illustrate how the aggregated glob of distribution costs is allocated entirely on the basis of peak load. For residential customers, there is no attempt to examine whether costs should be different for different groups within the class.

		Total Embedded Cost		
		1,000,000		
		Distribution Cost		
Peak Load	85	20	40	25
Percent	100%	24%	47%	29%
Cost Allocation	1,000,000	235,294	470,588	294,118
Energy (MWH)	240,000	80,000	80,000	80,000
Prices per MWH	4.17	2.94	5.88	3.68
Price as % of Total	100.00%	70.59%	141.18%	88.24%
Load Factor	32.23%	45.66%	22.83%	36.53%
Load Factor as % of Total		41.67%	-29.17%	13.33%
1/ Load Factor	310%	219.00%	438.00%	273.75%
Relative LF = Price as % of Total		70.59%	141.18%	88.24%

To see how the various load factors affect the price of distribution, all you have to do is first divide 1 by the load factor and then compute the relative load factor of the class through dividing the 1/load factor by the overall average for the class. The two highlighted rows demonstrate that the formula for 1/load factor relative to the entire

class produces the relative rate impact. In the next few sections I use this formula to illustrate impacts of various usage cut-offs and to demonstrate the important issue of allocation between the multi-family and the single family non-space heat classes.

Q. Given this representation of costs, what do the ComEd numbers imply with respect to the poor, the frugal and the energy efficient low use consumers relative to other consumers?

A. Using the ComEd AMI data, the distribution price reductions to low use consumer classes is demonstrated in the tables below.

Single Family NS - AMI Data

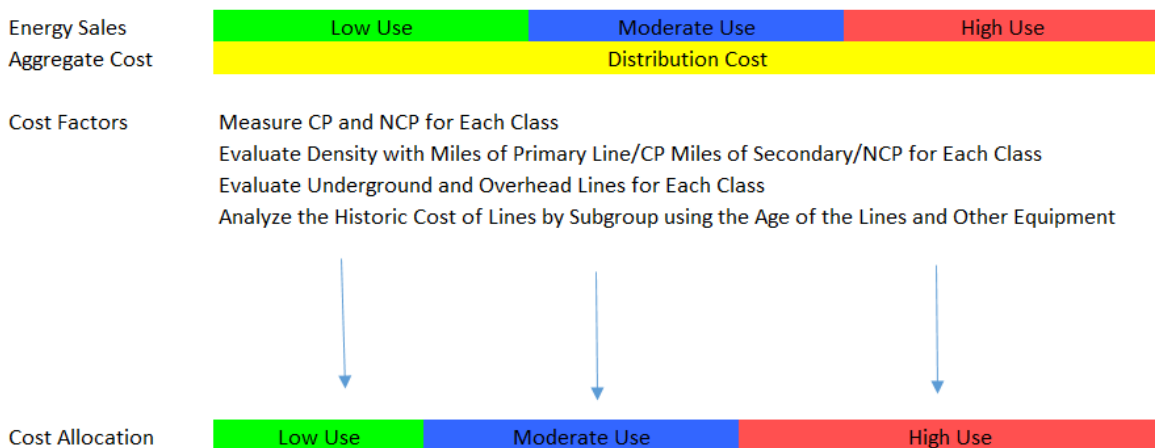
SFNS					NCP Cost					CP Weight	Overall Distribution Cost Reduction
Usage Group	Aggregate CP Load Factor	CP Load Factor	1/Load Factor	CP Cost % of Total	CP Cost Reduction	NCP Load Factor	1/Load Factor	% of Total	NCP Cost Reduction		
1-10	34.10%	45.10%	2.22	75.61%	24.39%	40.6%	2.46	81.0%	19.0%	80%	23.31%
1-15	34.10%	39.90%	2.51	85.46%	14.54%	36.2%	2.76	90.9%	9.1%	80%	13.45%
1-20	34.10%	36.80%	2.72	92.66%	7.34%	34.2%	2.92	96.2%	3.8%	80%	6.63%
1-25	34.10%	35.40%	2.82	96.33%	3.67%	32.8%	3.05	100.3%	-0.3%	80%	2.88%

Multi-Family NS - AMI Data

MFNS					NCP Cost					CP Weight	Overall Distribution Cost Reduction
Usage Group	Aggregate CP Load Factor	CP Load Factor	1/Load Factor	CP Cost % of Total	CP Cost Reduction	NCP Load Factor	1/Load Factor	% of Total	NCP Cost Reduction		
1-10	40.30%	75.20%	1.33	53.59%	46.41%	49.90%	2.00	72.34%	27.66%	80%	42.66%
1-15	40.30%	70.00%	1.43	57.57%	42.43%	50.60%	1.98	71.34%	28.66%	80%	39.67%
1-20	40.30%	64.70%	1.55	62.29%	37.71%	45.60%	2.19	79.17%	20.83%	80%	34.34%
1-25	40.30%	59.10%	1.69	68.19%	31.81%	43.20%	2.31	83.56%	16.44%	80%	28.74%

Q. Can you provide a diagram contrasting with the one presented above to explain your vision of an appropriate cost study that differentiates between low-use and other consumers?

A. Yes. The diagram below illustrates how ComEd could have examined real costs rather than plopping all of the costs into one pie and splitting them up using load characteristics.



Q. From a practical standpoint, is it possible to construct a cost study using the approach shown in the above diagram?

A. Yes. It is not only possible, ComEd has previously used such an approach. I have testified on a number of occasions how ComEd used to account for density and undergrounding in its cost studies. This was before ComEd spent a lot of ratepayer money developing very detailed databases such as the customer information system that apparently can identify the age of lines going to an individual home.

Q. Even if ComEd does not propose a real cost analysis, can the Commission use implications from this type of cost segregation and direct cost identification in this case?

A. Yes. Large homes that use a lot of electricity are typically occupied by people who are not poor, who are not frugal and who are not efficient; they also tend also to be in areas that have relatively low density, high amounts of undergrounding and new equipment. I demonstrated this in my testimony in the 2013 RDI case and I will not repeat it here. The higher equipment cost for high users implies that even if load factors are the same, more costs should be allocated to higher users than those allocated to the low use group.

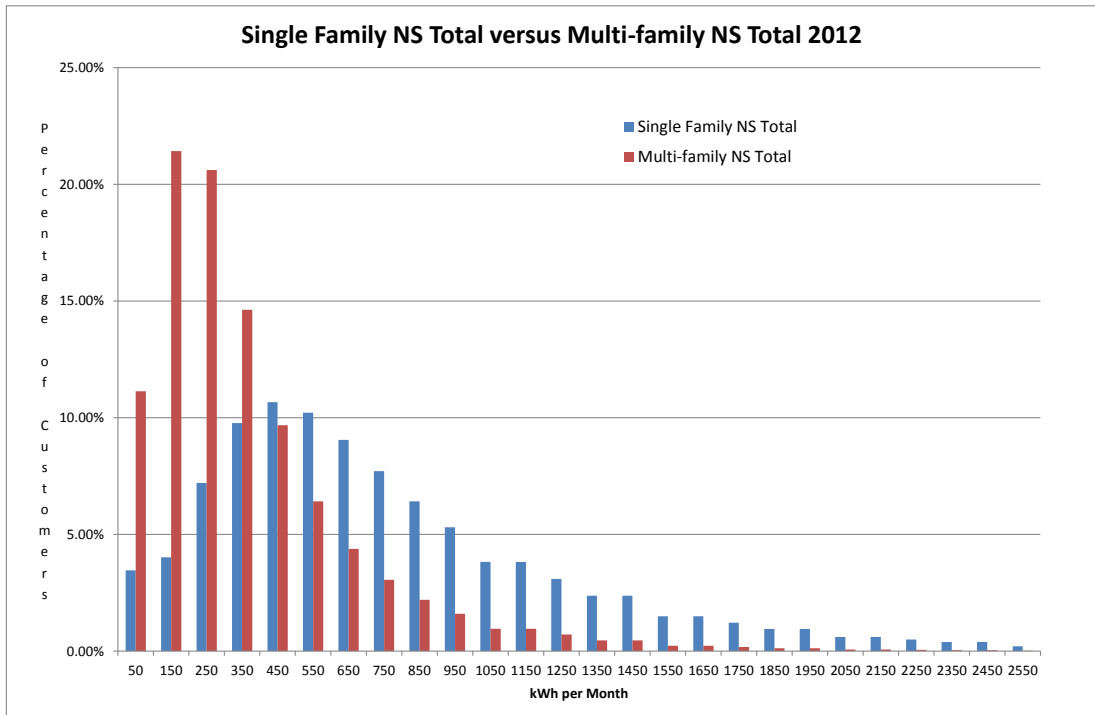
If load factors alone are used as a very crude manner to allocate all costs, it may be a starting point for low use consumers because their cost allocation for distribution is small. But using load factor alone must absolutely not be applied for attempting to measure costs of a high use sub-class. Although CUB appreciates ComEd's work in providing a possible definition of a high use, medium use and low-use class, without a real cost study where facilities are examined such a class should not be adopted by the Commission.

ALLOCATIONS ACROSS RATHER THAN WITHIN LOW-USE MULTI-FAMILY AND SINGLE-FAMILY

Q. Did ComEd correctly allocate costs across the single-family and the multi-family classes using the more accurate AMI data now available?

A. No. People in apartment buildings tend to use less electricity than people who live in either single family detached homes or people who live in condominiums. The ComEd non-space heat multi-family class includes apartment buildings and some other homes such as attached condominiums and can, in a sense, be roughly thought of as a low usage class among the Residential class. A characteristic of the multi-family class is that there is much less variation within the class than the variation in the single family group as demonstrated in the graph below. The graphs demonstrate that even relatively high users in the multi-family class are low users in the context of the overall Residential class. In evaluating costs caused by low users, it is therefore relevant to not only examine the allocation of costs within a residential sub-class but also between the entire single family and multi-family classes. ComEd's approach in this case of only looking within a class is like attempting to analyze the voting pattern

of poor people in a national election through looking at the voting patterns inside Connecticut and California rather than across states.



Q. What are the implications of using the AMI data for allocating costs across the multi-family and the single-family classes?

A. Costs would be reduced for the customers in the multi-family class. The table below compares the four residential sub-classes in terms of load factors used in the ECOSS per ComEd Exhibit 2.06 with load factors that are part of ComEd’s AMI presentation. The comparison shows that all of the load factors are higher using the AMI data than the load factors in the ECOSS. The data for AMI load factors come directly from ComEd Exhibit 2.04. The table below demonstrates that the revenue responsibility of each residential sub-class should be reduced relative to other classes as a result of the better AMI information.

	NCP - AMI	CP - AMI	NCP LF ECOSS	CP LF ECOSS	NCP % Improve	CP % Improve
Single Family NS	32.94%	34.19%	29.3%	30.7%	12.42%	11.50%
Multi-Family NS	36.15%	40.25%	26.8%	28.3%	34.79%	42.11%
Sub-total	33.85%	35.82%	28.8%	30.2%	17.41%	18.51%
Single Family H	32.25%	87.71%	28.0%	72.5%	15.11%	20.93%
Multi-Family H	37.25%	93.43%	26.9%	78.0%	38.38%	19.79%

ComEd continues to allocate costs for non-low users on the basis of load research data. If ComEd would have used the AMI data instead, costs to the residential class would have decreased by a large margin relative to non-residential consumer classes. The allocators for the distribution costs using the AMI data are 89.45% of the ECOSS for the single family non-space heat class. For the multi-family class, the AMI allocation is only 71% of the allocation that results from the ECOSS data.

	Sales - ECOSS	NCP - ECOSS	NCP - AMI	AMI % of ECOSS	CP - ECOSS	CP - AMI	AMI % of ECOSS	Wtd AMI % ECOSS
Single Family NS	20,562,722,046	8,012,057	7,126,637	88.95%	7,654,518	6,865,327	89.69%	89.54%
Multi-Family NS	4,438,513,742	1,889,058	1,401,511	74.19%	1,789,146	1,258,984	70.37%	71.13%
Sub-total	25,001,235,788	9,901,115	8,528,147	86.13%	9,443,664	8,124,311	86.03%	86.05%

Q. If the AMI load factors are used to allocate costs within the residential class while leaving other non-residential classes unaffected, what would be the revenue reduction to the multi-family class and the increase to the single-family class?

A. The table below shows that distribution costs to multi-family consumers would be reduced by more than \$25 million if the difference between the multi-family and single-family load factor was incorporated in allocating costs across the residential class. In terms of distribution costs, this represents an 18% reduction. For low users throughout the multi-family class this is an important sum.

	ECOSS Distribution Cost	Percent of Total	NCP AMI	CP AMI	Weighted	Percent of Total	Re-Allocated Distribution Cost	Change in Cost Allocation	Percent Change
Total SFNS Distribution Cost	584,929,203	81%	7,126,637	6,865,327	6,917,589	84%	610,176,868	25,247,665	4.32%
Total MFNS Distribution Cost	138,812,733	19%	1,401,511	1,258,984	1,287,490	16%	113,565,068	-25,247,665	-18.19%
Grand Total	723,741,936	100%	8,528,147	8,124,311	8,205,078	100%	723,741,936	0	0.00%

318 **Q. Is the better load factor for multi-family relative to single-family consumers that**
319 **causes this cost transfer a surprising result?**

320 A. No. In the 2013 RDI case when commenting on problems with the load research I
321 noted how the load factors have changed dramatically and inexplicably over the years.
322 In the 1994 case for example, the multi-family load factor was 54%. In the 2013 RDI
323 case I analyzed the load research data and demonstrated many problems with the
324 sampling and large holes in the data. My research is attached as CUB Exhibit 1.02.

325 **Q. What did you learn about creation of a low use class now that ComEd has**
326 **provided updated data?**

327 A. Although I appreciate ComEd's effort in analyzing the peak load contribution of
328 particular low use "subclasses" within each Residential subclass, what their data truly
329 illustrated was that the MFNSH subclass itself is essentially a low use class within the
330 Residential class. Given the new data, if the Commission is interested in addressing
331 the impact of charges imposed by ComEd's rate design on low users, it should order
332 ComEd to reduce the revenue collected from the MFNSH subclass by approximately
333 \$25 million, instead recovering that revenue from the SFNSH subclass.

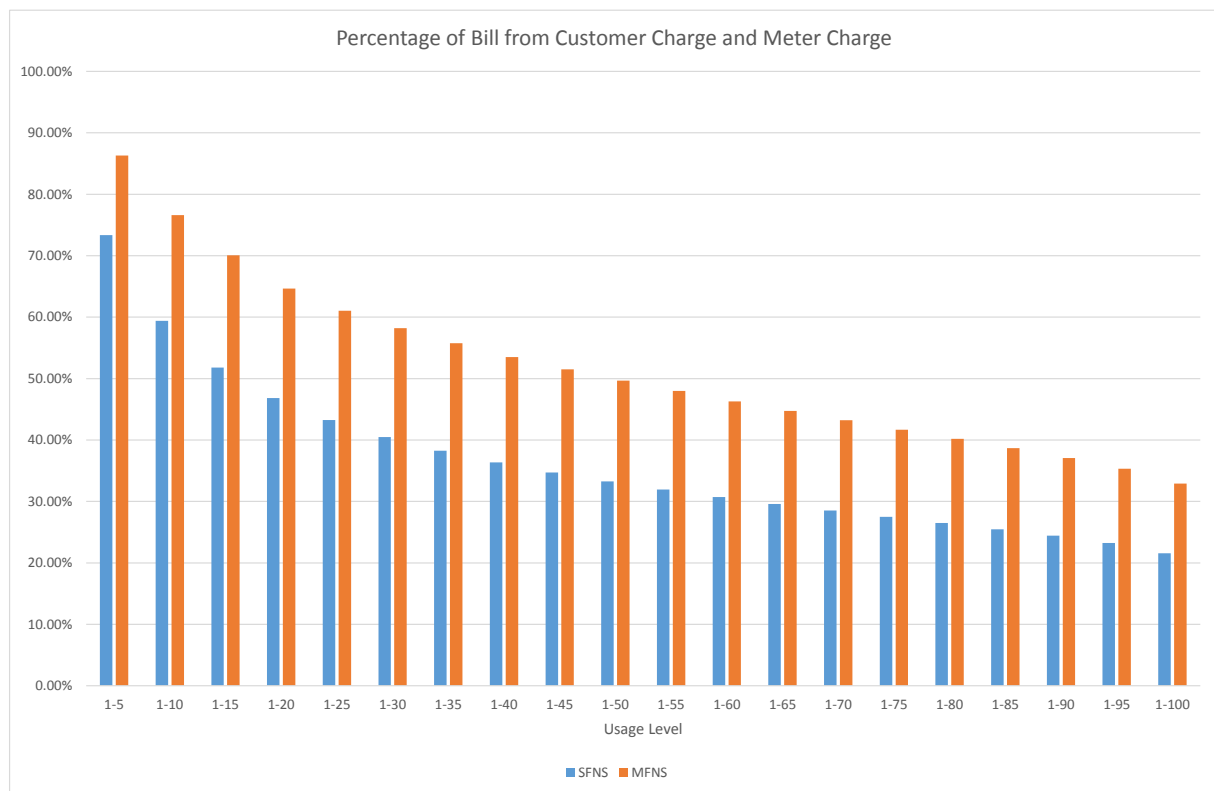
334 **Q. What does all of this mean?**

335 A. The use of AMI data reduces revenues to the multi-family class by \$25.24 and
336 increases revenues to the single family class by \$25.24 million. In terms of
337 distribution costs (i.e. not including customer cost and not including metering cost),
338 the reduction for multi-family consumers amounts to 18.19%. Since the single family
339 class is much larger, the increase in distribution cost for them is much less – 4.32%.
340 From an overall rate perspective the reduction to multi-family consumers would be
341 somewhat more than half of the 18.19% as the customer costs and metering costs
342 represent about 40% of revenues for the class.

CUSTOMER CHARGE AND METER CHARGE

Q. What is the percentage of the pre-tax electric bill for non-space heat residential consumers that are fixed charges?

A. The graph below shows the percentage of a bill that is made up of fixed charges which in turn are those charges supposedly is associated with getting out your bill and measuring how much you use. At the 25% usage level -- for a quarter of the customer base -- these charges for measurement and billing represent more than 40% of the total bill for single-family consumers and more than 60% of the total bill for multi-family users. It is imperative that the Commission ask whether this result is reasonable.



Q. Has ComEd ever studied whether low use, moderate use and high use consumers all incur the same costs, irrespective of their level of usage?

A. No, ComEd has never studied the issue. In Docket 08-0532, ComEd introduced a “study” but it was nothing other than simply stating that a series of accounts do not vary with usage. This did not come close to resembling a study and must not be

deemed some kind of verification of the unreasonable results that are currently part of ComEd's rate design.

Q. Has ComEd recognized that the results of its cost analysis should be adjusted with respect to low use consumers?

A. Apparently the company has. In his testimony, Mr. Tenorio states that an "unintentional consequence" limited the imposition of fixed costs when the SFV was originally allowed in Docket 10-0467: "an unintentional consequence was that a portion of the fixed customer-related costs allocated to the MFNH Delivery Class began to be recovered via the variable DFC." (ComEd Exhibit 2.0, LL 287-288) The odd phrase "unintentional consequence" seems to imply that ComEd did not make a simple error, or at least the company does not want to admit that it made an error.

Q. What does ComEd propose to do about the "unintentional consequence" for calculation of multi-family rates?

A. ComEd wants to "remedy" the "unintentional consequence" by creating a floor that the sum of customer charges and metering costs cannot go beneath.

Q. Is it a good idea to limit the customer and metering charges through creating a cap, instead of creating a floor under which they cannot go beneath?

A. It certainly is. Imposing extremely high customer and metering charges as a percentage of a bill simply does not make sense. The monies that are not recovered by the customer charge should be recovered across the whole class. Clearly it is the Commission and not ComEd who should decide what the limit (i.e. the 50%) should be in an analogous manner to the 50/50 SFV decision from the 2010 case.

Q. What do you recommend that the Commission consider when it decides at what level the customer and meter costs should be capped?

382 A. The Commission can consider various different factors. One possibility is to use the
383 idea that I presented in my testimony in the 2013 RDI case that customer costs should
384 be limited to the amount of money for sending a bill and the cost of a standard meter
385 which results in a limitation of about 10% in fixed charges. The 10% limitation is
386 consistent with the notion that the only appropriate fixed account costs are the carrying
387 costs of depreciated meters and the costs of paper and stamps associated with sending
388 out a bill and nothing else. These are the costs that are actually caused by virtue of the
389 existence of a ratepayer account and can be defined by the costs ComEd incurs when a
390 house is split into a duplex or an apartment building is separated into smaller units.

391
392 **RESPONSE TO THE TESTIMONY OF SHERMAN ELLIOT**

393 **Q. What are your general comments about the presentation of Mr. Sherman Elliot,**
394 **who was recently a Commissioner at the ICC, and who is now a ComEd**
395 **consultant?**

396 A. The essence of Mr. Elliot's arguments amount to investor protection in the face of
397 energy conservation and distributed generation. He is worried that the owners of
398 utility stock will lose money when consumers conserve energy and he wants to make
399 sure that consumers will have as little incentive to conserve energy as possible. There
400 is nothing new about any of his ideas. Some of his ideas, if implemented, would lead
401 to serious and negative policy outcomes.

402 **Q. Comment on Mr. Elliot's assertion that "Recovery of the fixed costs of electricity**
403 **distribution through volumetric rates is an artifact of a much earlier time and is**
404 **no longer justified given today's environment and technology." (ComEd Exhibit**
405 **3.0, LL 43-45 page 2)**

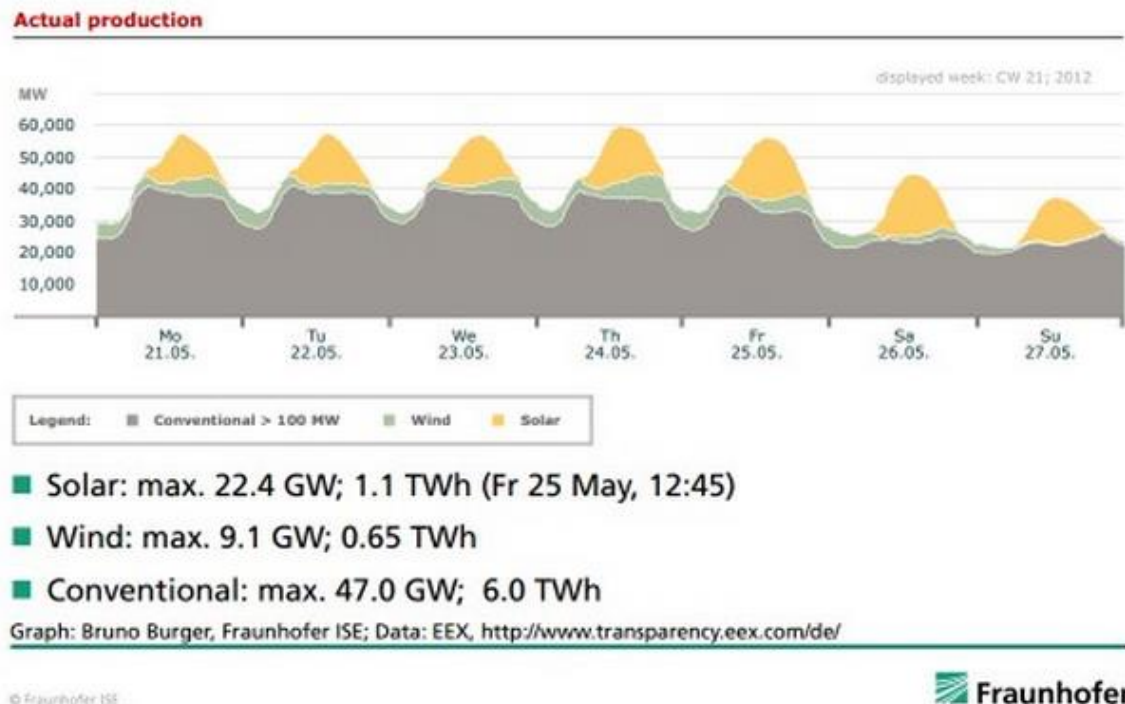
406 A. By “today’s environment and technology” Mr. Elliot is apparently referring to the use
407 of AMI equipment as well as the potential for roof-top solar applications and other
408 forms of energy conservation and distributed generation. To the extent that “today’s
409 environment” means the use of AMI technology, the whole issue of massively
410 increasing the customer charge in the SFV will go away. There is one thing that the
411 company, CUB, the City and Staff apparently agree on and that is distribution costs
412 are caused by regional peak demand. With AMI meters, consumers can be directly
413 charged on the basis of their coincident peak usage which ComEd has confirmed is
414 their intention. In the meantime, the central question is not whether usage based rates
415 are bad, but whether peak load usage is more closely correlated with energy usage or
416 alternatively with the simple existence of a consumer. CUB Exhibit 1.03
417 demonstrates in a rigorous manner the very strong relationship between usage and
418 peak demand and the lack of correlation between the existence of a customer and peak
419 demand. There is simply no getting around the point that setting very high customer
420 charges is not equitable and is not cost-based.

421 **Q. Comment on Mr. Elliot’s statement that “More importantly, while distributed**
422 **generation, energy efficiency, and other conservation activities can serve to**
423 **reduce the energy commodity consumed, the fixed cost of system delivery cannot**
424 **be conserved.” (ComEd Exhibit 3.0, LL 66-68 page 4)**

425 A. Mr. Elliot confirms that at utility conferences the issue of what to do about load
426 reductions from solar power is a hot topic. If consumers do not receive lower bills for
427 the portion of their electric bill when they install solar panels on their roof-top, they
428 will have much less incentive to install those panels. ComEd would argue that the
429 need for distribution lines are not reduced from the solar panels and somebody –
430 investors or other consumers - should have to pay.

431 There are many problems with this anti-solar argument as it applies to SFV.
432 First, for just about any good or service, when you decide you don't want it anymore,
433 you don't have to pay for it. Second, and more importantly, the idea to push up
434 customer charges in order to fend off solar power has such bad side effects that the
435 idea should be considered absurd. The notion of increasing rates above cost for low
436 users and reducing rates for high users just to put negative incentives on solar power
437 results in a much worse outcome than if some energy conservation and some solar
438 installations occur. Third, when ComEd gets its AMI wish it will presumably set its
439 rates on the basis of coincident peak demand. The experience in Germany illustrated
440 in the graph below has demonstrated that solar power can be highly correlated with
441 peak demand as loads have become much smoother after implementation of solar
442 facilities. This means that, when ComEd charges consumers on the basis of demand, it
443 will not recover money from people who install solar power anyway. Fourth, the
444 whole issue of revenue recovery is moot with the automatic revenue formula obtained
445 from the General Assembly. ComEd gets to earn a very good return no matter what
446 happens in terms of conservation, solar power or trends to buy smaller houses. Fifth,
447 as evidenced by black-outs and continued construction of distribution equipment, the
448 addition of large blocks of solar panels would eventually alleviate the need for new
449 distribution equipment.

Electricity Production in Germany: Calendar Week 21



Q. What is your opinion on Mr. Elliot's analogies to other industries after which he concludes that consumers embrace the use of fixed cost recovery?

A. His analogies are not at all comparable to setting a fixed distribution charge on every consumer no matter what is the use. With respect to charging fixed prices, Mr. Elliot wrote:

"... the cable industry has adopted this approach for cost recovery. The provision of internet services has transitioned from a volumetric-based cost recovery method in the days of internet dial-up to a fixed price cost-recovery system for broadband today. The cellphone industry has also adopted a fixed-cost-recovery method. In addition, many niche industries have employed a fixed charge for cost recovery such as the iGO car sharing service and Divvy bicycle sharing service. Retail customers are fully aware of and embrace the use of fixed-cost recovery in this manner." (ComEd Exhibit 3.0, LL 74-80)

Reasons that the analogies are not appropriate include:

1. The cable industry that offers internet services is largely an unregulated monopoly where conservation is certainly not an issue. Further, most charges

468 for cable services are in fact volumetric. When I pay my cable bill, if I use
469 more devices for televisions, I pay a higher rate. When you subscribe to more
470 cable channels, you pay a higher rate. These are all analogous to paying more
471 when you use more. In terms of broadband, the pricing is essentially like a
472 capacity payment whether you buy broadband for your cell phone or for your
473 home. Many cell phone plans have a cap on the amount of data capacity you
474 can use. When you exceed the capacity because you watch a lot of movies on
475 your cell phone, you often have to pay additional charges. In terms of
476 broadband from the cable company, if you have multiple users on the internet
477 at your house such as a teenager who plays a lot of computer games, the
478 internet can get very slow and you may have to pay for an upgrade of your
479 service. This is like ComEd sending electricity to your house at a lower
480 voltage when you use a whole lot of power. Charges for the internet are more
481 analogous to a capacity price and not a fixed customer charge.

482 2. The cell phone industry still does sometimes charge by usage and they
483 certainly charge according to how many phones you have. ComEd could
484 compute a charge for a refrigerator, an air conditioner and so forth which
485 would be like the cellular telephone company charging per phone. This would
486 ultimately be similar to a volumetric charge and certainly not a fixed charge.

487 3. The examples of bicycles and rental cars are again analogous to capacity
488 payments and not customer charges. If you rent a bike you do not have to pay
489 a flat fee for the rest of your life. You pay a rental charge for the financing and
490 other costs of the bike when you ride the bicycle just like a business consumer
491 pays a capacity charge when they use electricity and avoid the capacity

492 payment when electricity is not used. This is a capacity charge for renting the
493 fixed costs incurred for the equipment. It is not a customer charge.

494 **Q. Mr. Elliot writes extensively about the possibility that ComEd may experience**
495 **continued energy sales declines. Can you elaborate on the issues associated with**
496 **changing rates of sales growth in the context of alternative rate designs and**
497 **regulatory schemes?**

498 A. For a normal regulatory scheme where the utility company decides when to file for
499 increased rates (i.e. not formula rates), if sales grow by more than the inflation rate
500 then a utility has a relatively easy opportunity to earn more than its allowed rate of
501 return, which is in turn more than likely higher than its cost of capital. If operating
502 cost or capital expenditures increase in a subsequent year, the utility can ask for a rate
503 increase. But in other periods without cost increases, the return to investors increases
504 because of sales growth. This upside option that provides investors with a return more
505 than its cost of capital loses its value when sales do not grow. I suppose we should
506 shed tears for investors if this ability to easily earn more than the cost of capital goes
507 away. Certainly Mr. Elliot seems to be very concerned about investors rather than
508 ratepayers.

509 If sales decline rather than increase, one may think that reverse happens and
510 ratepayers win. However this is not the case because it is the utility that has to option
511 to go to the Commission and ask for a rate increase and not the other way around. If
512 the rates are insulated from sales declines, as in the SFV proposal, it simply means that
513 the utility company does not have to bear the pain of continually going in front of the
514 Commission.

515 The real problem for investors for whom Mr. Elliot has such concern is that
516 they lose the upside option when they cannot realize increased revenues and returns

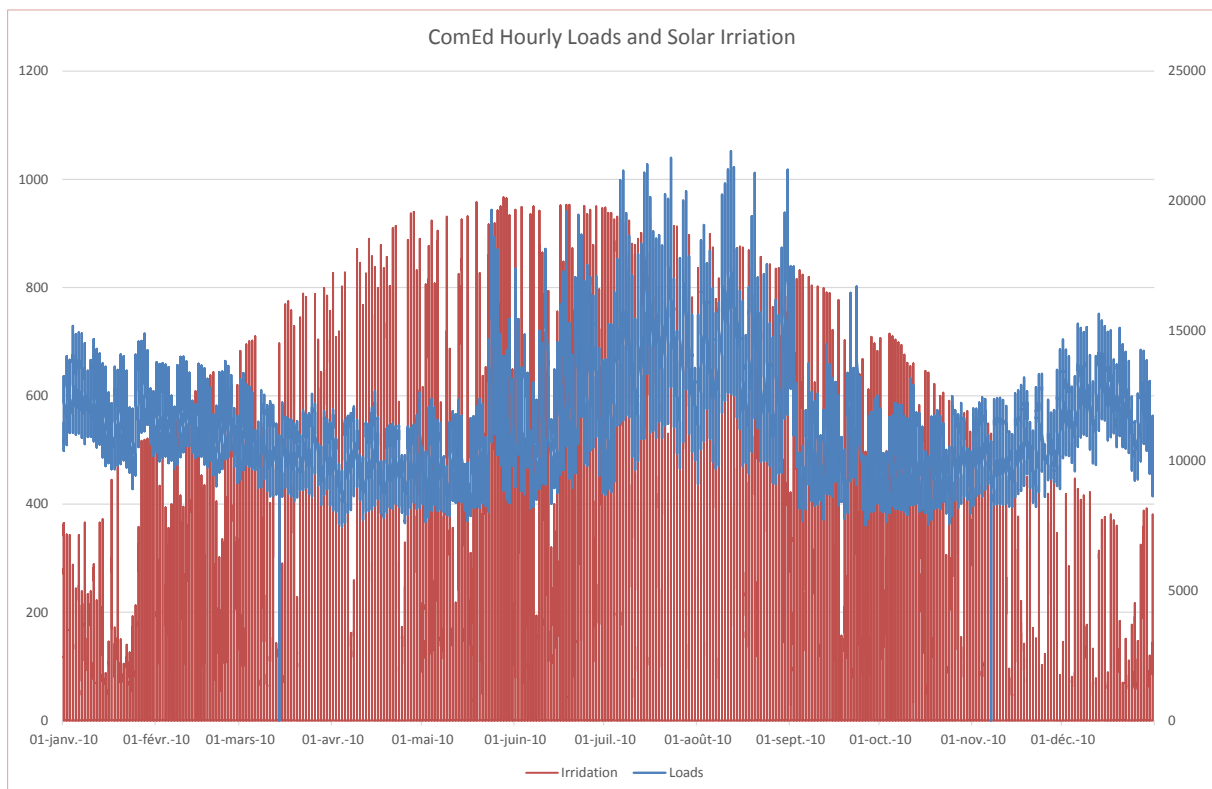
above their cost of capital when sales are stagnant. It is not changes in technology; it is not distributed generation; it is all about investors and their quest to earn higher returns. If sales were increasing faster than costs, one could be assured that both the SFV and formula rates would not be issues important to ComEd.

Q. If distribution equipment becomes obsolete or surplus because of the addition of roof-top solar panels by many consumers, what is the regulatory solution?

A. Solar power is arguably one of the very serious issues of our time and implementing dis-incentives to build solar power panels on your roof cannot be acceptable public policy. The best form of energy is the energy that one does not consume. In Chicago, the sun shines during peak demand periods of air conditioning that are also the cost causer of distribution, as identified by ComEd itself. The correlation between solar energy in Chicago and ComEd's hourly loads is demonstrated on the graph below. The graph shows the hour by hour solar irradiation at Meigs field from the NRDC which drives production from solar panels. The hourly solar data is for 2010 which is the latest year available. The graph implies that solar panels do reduce the requirement for distribution facilities in the long-run as sunlight (especially when used with tracking) correlates to peak load.

In the short-run, the addition of solar panels can render distribution capacity surplus or obsolete. The regulatory policy issue then is who should bear the cost of this obsolete or surplus equipment. Some would argue that obsolete equipment should be borne by investors; others would suggest that the entire group of existing consumers should bear the costs; Mr. Elliot wants to put the costs on the people who decided to use new technology and make the distribution facilities obsolete. If the entire system would become obsolete and no consumers were left, the only possible outcome is that investors would have to bear the brunt. This is not the case for

ComEd. The company is in the lucky position that even consumers who install solar panels still will need the system at night and when there are a lot of clouds. This means the costs of obsolete equipment can theoretically be attributed directly to people who install solar panels or to the overall consumer group. Given the issues of global climate change that are universally accepted by all but a few extremists, the idea of protecting consumers who do not engage in distributed generation or conservation and penalizing consumers who chose to protect the planet is bad policy.



Q. Do you agree that creation of low-use subgroups can alleviate some of the problems with ComEd's SFV approach?

A. I certainly agree with Mr. Elliot on this matter. In addition, the customer cost should be capped.

Q. Does this conclude your direct testimony?

A. Yes.