

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

Northern Illinois Gas Company)
d/b/a Nicor Gas Company)
Proposed general increase in gas)
rates, and revisions to other)
terms and conditions of service)

Docket No. 04-0779

Direct Testimony and Schedules of

Dr. Alan Rosenberg

On Behalf of

Illinois Industrial Energy Consumers

March 1, 2005
Project 8319



BRUBAKER & ASSOCIATES, INC.
ST. LOUIS, MO 63141-2000

1 **Q WHAT IS THE SUBJECT MATTER OF YOUR TESTIMONY?**

2 A My testimony covers the following subject areas:

- 3 ▪ A critique of the Company embedded cost of service study.
- 4 ▪ A critique of the Company marginal cost of service study (MCOSS).
- 5 ▪ The appropriate role of embedded versus marginal costs in the ratemaking
6 process.
- 7 ▪ A recommendation on the appropriate allocation of the total revenue requirement
8 (and thus any increase or decrease) found sufficient in this filing.
- 9 ▪ Recommendations on the Company proposal to change Rider 6 – Gas Supply
10 Cost.
- 11 ▪ Recommendations on the Company proposal to change Rider 7 – Governmental
12 Agency Compensation Adjustment.
- 13 ▪ Rate design recommendations for Rate 76 – Large General Transportation
14 Service and Rate 77 – Large Volume Transportation Service.
- 15 ▪ Recommendation on the level of the appropriate unbundled storage charge for
16 Storage Banking Service (SBS) for transportation customers.

17 **Q DO YOU MAKE ANY RECOMMENDATIONS ON THE APPROPRIATE REVENUE**
18 **REQUIREMENT FOR NICOR?**

19 A No, I do not. I use the Company's requested rate relief in several of my schedules,
20 but this is only meant to facilitate comparisons between my recommended revenue
21 distribution and that proposed by Nicor. It should not be construed as endorsing any
22 particular aspect of the Company filing.

23 **Q WHAT ARE YOUR GENERAL OBSERVATIONS ABOUT NICOR'S FILING FROM**
24 **THE PERSPECTIVE OF TRANSPORTATION RATE DESIGN AND TARIFFS?**

25 A In my view, Nicor has digressed from proper cost of service principles, both in theory
26 and application. It has also proposed restrictions on the use of its storage fields. If

1 Nicor's proposals are adopted, it will make transportation unnecessarily more difficult
2 and expensive for its large industrial customers. This could exacerbate the already
3 steep slide in industrial load Nicor has experienced since its last rate case and could
4 quite possibly accelerate the need for another rate case in the future.

5 **Q PLEASE SUMMARIZE YOUR FINDINGS AND CONCLUSIONS.**

6 A My findings and conclusions are as follows:

- 7 1. With but a facile modification to properly account for the transportation customer's
8 option to use storage, the embedded cost of service study (ECOSS) sponsored
9 by Nicor is suitable to derive cost-based delivery rates.
- 10 2. The marginal cost of service study prepared by NERA should not be used as a
11 guide for the revenue allocation in this case.
- 12 3. The Company proposal seriously overcharges Rate 76 and Rate 77, based on
13 either the marginal or embedded study. Both these classes should see their base
14 rates decrease.
- 15 4. The Company proposed rate design for Rate 76 and Rate 77 deviates from cost
16 causation and will exacerbate revenue instability.
- 17 5. Hub revenues should be used as an offset to the base revenue requirement for all
18 customers who take storage service.
- 19 6. The proposal for Rider 7 should not be implemented on a uniform cents per therm
20 basis. A far better method would be per customer or as a percentage of base
21 revenue.
- 22 7. The SBS charge should be set at 0.215¢ per therm per month.

23 **Critique of the Company Embedded Cost of Service Study**

24 **Q HAVE YOU EXAMINED THE COMPANY EMBEDDED COST OF SERVICE**
25 **STUDY?**

26 A Yes.

1 **Q WHAT IS YOUR OPINION OF NICOR'S EMBEDDED COST OF SERVICE STUDY?**

2 A I find that, with one notable exception (and one minor oversight), the study conforms
3 to generally accepted techniques and methodologies for gas embedded cost of
4 service studies with respect to functionalization (storage, transmission, distribution,
5 metering, etc.), classification (customer, demand, or volumetric) and allocation. It
6 also seems to comply with the methodology and philosophy previously accepted by
7 the Illinois Commerce Commission (ICC). In fact, the notable exception is made in
8 order to comply with prior decisions by this Commission.

9 **Q WHAT IS THE NATURE OF THOSE PRIOR DECISIONS TO WHICH YOU REFER?**

10 A Most cost analysts recognize that one cost driver of the distribution system of mains
11 is the number of customers that must be connected to the system. In previous cases,
12 Nicor has supported this factor as one influencing the costs of its own system.
13 However, the ICC has in the past rejected classifying any portion of the distribution
14 mains as customer related. The embedded cost of service study presented by the
15 Company in this case respects those prior decisions. Given that history, I am not
16 proposing any change to the Company methodology for allocating mains in this case.

17 **Q IN YOUR OPINION, WHAT IS THE IMPACT OF IGNORING THE ROLE OF**
18 **CUSTOMERS IN THE DESIGN OF THE COMPANY SYSTEM OF MAINS?**

19 A The result is to understate the cost of the residential service classification. In fact, the
20 Company has noted:

21 The Company is faced with a situation in which its prices may not
22 provide sufficient funds to support the costs of expanding the network
23 to serve new customers in its outlying areas. Many of these customers
24 are costly to serve because of the low-density nature of (sprawl)
25 development. (Nicor Gas Exhibit 2.0, page 20)

1 In my view, this is evidence of the misallocation of costs because the dispersion of
2 the system is not explicitly recognized in the Company cost of service study. It also
3 demonstrates the need for the direct assignment of mains study that is reflected in
4 the embedded cost of service study. A more precise determination of Nicor's cost to
5 serve, and a rate design that is more reflective of that cost causation, should help
6 ameliorate the need for future rate cases.

7 **Q ARE THERE ANY OTHER INHERENT BENEFITS OF A DIRECT ASSIGNMENT OF**
8 **A LARGE PORTION OF MAINS?**

9 A Yes. Allocation methods, however well established, are only broad rules of thumb.
10 They try to capture the key service characteristics, such as customer growth or peak
11 demand, that form the impetus for expanding the system and on that basis assign
12 responsibility. However, they are broad-brush approaches and, by necessity, cannot
13 capture the nuances that are also real factors in cost causation. For example,
14 because the cost per foot of main typically rises at a much lower rate as a function of
15 diameter than does the capacity, there are economies of scale associated with
16 serving large volume customers. Normal allocation methods capture the effect of
17 load factor on cost of service but they lack the granularity to capture these economies
18 of scale. Consequently, direct assignment is recognized as a more accurate way of
19 apportioning responsibility based on cost causation than allocation methods. Of
20 course, direct assignment also has its limits when portions of the system serve a
21 diverse group of customers in which case we still must utilize these widely used
22 allocation methods.

1 **Q HAS THE DIRECT ASSIGNMENT OF MAINS METHODOLOGY BEEN ACCEPTED**
2 **IN THE PAST?**

3 A Yes. It was also endorsed by the Staff witness, Mr. Peter Lazare, in the previous
4 case, Northern Illinois Gas Company, Docket No. 95-0219. That witness observed
5 that Nicor's distribution system of mains is like a tree, with gas flowing first down the
6 main trunks (the largest size [diameter] mains), then to the large branches, then to
7 the smaller branches and then to the twigs. Larger volume customers take their gas
8 directly off the trunks or the large branches and do not make use of the smaller size
9 diameter mains. Consequently, it would not be appropriate to allocate the costs of
10 these smaller diameter mains to these larger volume customers.

11 **Q WHAT IS THE RESULT OF THE COMPANY COST OF SERVICE STUDY?**

12 A The results are shown in **Schedule 1**. I have shown the rate of return on investment
13 for each class, as well as expressing this rate of return as an index. An index of 120
14 for example, indicates that this class is providing a rate of return 20% greater than the
15 system average at current rates. Such a class is providing more than its fair share of
16 cost of service. However, because customers pay their bills with dollars, I have also
17 depicted the interclass subsidy that each class is paying (positive number) or
18 receiving (negative number). The subsidies indicate how much each class's revenue
19 would need to go up (for a negative subsidy) or come down, in order for that class to
20 provide a system average rate of return, i.e., to bring it to cost of service at the
21 currently authorized level of rates for Nicor.

1 **Q DO YOU HAVE ANY CORRECTIONS TO THE COMPANY COST OF SERVICE**
2 **STUDY THAT WOULD RENDER IT MORE ACCURATE?**

3 A Yes. The Company allocates storage costs to all classes based on peak day
4 demand. However, the transportation classes Rate 74, Rate 76, Rate 77 and Rate
5 81 do not normally have rights to storage capacity, or withdrawal from storage,
6 absent an election of an unbundled storage service option. In other words, the study
7 by Mr. Heintz implicitly assumes that the cost of storage will be bundled into the
8 transportation rates, much the same as it is with the sales classifications. He makes
9 absolutely no distinction between the two categories of customers. That of course is
10 incorrect. Nicor's policy is to unbundle the storage service and allow transportation
11 customers to choose only the amount of storage they require and are willing to pay
12 for.

13 **Q WHAT IS THE RESULT OF MR. HEINTZ'S OVERSIGHT?**

14 A The result makes the study not as reliable for allocating the revenue requirement as it
15 could be if this oversight were corrected.

16 **Q DOES THE COMPANY USE ALLOCATION OF STORAGE COSTS TO THE**
17 **VARIOUS CLASSES AS THE BASIS FOR ITS OPTIONAL STORAGE SERVICE?**

18 A No, it does not. Instead, it takes the total embedded cost of storage, and divides it by
19 the total capacity of the storage fields, to arrive at the unbundled storage charge.
20 This is yet another reason why storage costs should not be allocated to the
21 transportation classes. The allocation is totally irrelevant to establishing the storage
22 revenues to recover from these classes.

1 **Q HOW CAN MR. HEINTZ’S STUDY BE RECTIFIED FOR THIS OVERSIGHT?**

2 A The only appropriate treatment of storage costs in the study is to eliminate both cost
3 allocation to these transportation classes, as well as the revenue from this storage
4 option, i.e., the revenue derived from the SBS charge, that Mr. Heintz includes in the
5 revenues from these classes. Instead, the SBS revenue from this storage service
6 should be allocated back to the same classes that are allocated the storage costs. In
7 this way, these classes (i.e., the sales classes) benefit from this storage service
8 because the transportation storage revenues are used as an offset to costs.

9 **Q SPECIFICALLY, HOW HAVE YOU MODIFIED MR. HEINTZ’S EMBEDDED COST**
10 **OF SERVICE STUDY?**

11 A It was only necessary to make three simple changes to his study.

12 First, I “zeroed out” any allocation of storage-related facilities and costs to the
13 transportation classes. Implicitly this assigns all these costs to only those classes for
14 whom storage is an integral component of their service, and for whom storage costs
15 are bundled into their rates.

16 Second, because the transportation classes no longer have storage costs
17 allocated to them (because of the previous change), I also eliminated the storage-
18 related *revenues* from these classes. In other words, the cost of service study that I
19 rely upon is an apples-to-apples comparison between the transmission, distribution
20 and customer costs properly allocable to these classes and the revenues being
21 charged to recover these non-storage costs.

22 Third, in order to keep the same total revenue, I reallocated the same
23 revenues eliminated in the above step, to the classes that have storage costs
24 embedded in their rates (and in proportion to how those storage costs are assigned).

1 Q WHAT IS THE RESULT OF THE COMPANY STUDY WITH YOUR MORE
2 ACCURATE AND RELEVANT STORAGE ALLOCATION?

3 A The results are shown in **Schedule 2**. As can be clearly seen, the Rate 4 and the
4 Rate 76 and Rate 77 classes are currently paying charges far above their cost of
5 service and are subsidizing the other classes.

6 **Critique of the Company Marginal Cost of Service Study**

7 Q HAVE YOU REVIEWED THE MARGINAL COST OF SERVICE STUDY
8 SPONSORED BY NICOR IN THIS CASE?

9 A Yes. Nicor engaged NERA to conduct and present the results of a marginal cost of
10 service in this proceeding.

11 Q WHAT IS A MARGINAL COST OF SERVICE STUDY?

12 A Unlike an embedded study which starts with the actual book investment and costs,
13 and apportions them to each class based on the service characteristics of each class,
14 a marginal study makes no reference at all to actual book costs. Instead, it tries to
15 estimate the cost of each increment of service, and then multiplies that cost by the
16 units of service applicable to each class. The product of this calculation, summed
17 over all the types of service, then becomes the marginal cost of serving that class.

18 Q WHAT ARE THE UNITS OF SERVICE?

19 A The units of service in Nicor's marginal cost of service study are:

- 20
- 21 ▪ Delivering an additional Mcf on the Transmission (High Pressure) system on the design day.
 - 22 ▪ Delivering an additional Mcf on the Low Pressure system on the design day.
 - 23 ▪ Delivering one more Mcf of gas in the winter.

- 1 ▪ Storing one more Mcf of gas.
- 2 ▪ Servicing one more customer on the system.

3 **Q WHY IS THERE NOT A MARGINAL COST OF DELIVERING ONE MORE MCF OF**
4 **GAS DURING THE NON-WINTER MONTHS?**

5 A NERA concluded that there was no need to calculate that cost because the marginal
6 cost of delivering one more Mcf of gas is essentially zero, if the commodity cost is
7 excluded. This is because the mains, services, meters and expenses are essentially
8 fixed if no new capacity is added or if no customers are added. Since commodity
9 costs are recovered through Rider 6, which is separate from the base rates that form
10 the crux of this rate case, NERA apparently felt that no marginal costs associated with
11 an increment of throughput need be calculated.

12 **Q DO YOU AGREE WITH THAT POSITION?**

13 A Yes. I agree that the costs included in base rates are fixed as far as investment and
14 depreciation, and operation and maintenance are concerned. These costs do not
15 vary as annual throughput rises and falls, assuming peak demand and number of
16 customers remain unchanged.

17 **Q IS A MARGINAL STUDY MORE PROBLEMATIC THAN AN EMBEDDED STUDY?**

18 A Yes. Because marginal studies are not tethered to actual costs, the marginal cost
19 analyst has much more latitude in developing these marginal costs. Usually these
20 costs are estimates based on correlation studies between growth in the units of
21 service and additions in investment. However, because additions in investment are
22 made in lumpy increments, the time horizon used in the study can have a material

1 impact on the derived marginal cost. Further complications are the assumed
2 incremental cost of long-term debt and also converting the marginal cost into a
3 revenue stream at some estimated rate of inflation. At each step, the judgments
4 exercised by the analyst can materially impact the result.

5 For example, NERA used just a three year projected time horizon 2004 –
6 2006 to estimate the capital investment needed to serve the incremental load. That is
7 a very short time horizon, considering that many investments are made in “lumps.”
8 Consequently, such a short time span may be insufficient to accurately capture the
9 correlation between the investment and the growth in demand. Another judgment call
10 is the inflation rate used to calculate the carrying charge on the plant identified as
11 meeting the incremental unit of service. A more fundamental issue is NERA’s choice
12 to use an “economic” carrying charge, rather than a levelized one. An economic
13 carrying charge assumes that the Company’s authorized revenue requirement will
14 increase each year. While this may be an appropriate hypothesis if we are going to
15 reset rates each year, it does not comport with reality. Nicor applies for a change in
16 rates very infrequently. The last time was ten years ago. This is yet another
17 presumption on the part of NERA that further divorces the marginal study with reality.

18 **Q YOU STATED THAT THE MARGINAL COST STUDY DOES NOT UTILITZIE THE**
19 **DIRECT ASSIGNMENT OF MAINS. HOW DOES THE ALLOCATION OF**
20 **RESPONSIBILITY FOR MAINS DIFFER BETWEEN THE EMBEDDED AND**
21 **MARGINAL STUDIES SUBMITTED BY NICOR?**

22 **A** The comparison of relative responsibility for mains is shown on **Schedule 3**. As can
23 be seen the marginal study inflates the cost responsibility of the Rate 77 customers
24 by a factor of 4.50 and the Rate 76 customers by a factor of 2.28.

1 Q WHAT ARE THE RESULTS OF NERA'S MARGINAL COST OF SERVICE STUDY?

2 A The results are shown on my **Schedule 4**.

3 Q DO YOU RECOMMEND ANY CHANGES TO THE MARGINAL COST OF SERVICE
4 STUDY?

5 A Yes. NERA has mistakenly used an improper ratio for the allocation of High Pressure
6 marginal costs to Rate 76. According to Nicor Gas Exhibit 13.1, Schedule 23, the
7 Seasonal HP Marginal Cost per winter-delivered Therm is 3.00 cents per winter-
8 delivered therm for Rate 76. This is based on a seasonal HP Marginal Cost of \$14.57
9 per Peak Day MCF multiplied by the ratio of class' Design Day to Class' Peak Day
10 Demand, and the ratio of Class' Peak Day Demand to winter-delivered Therms.
11 Since the denominator of the first ratio is equivalent to the numerator of the second
12 ratio, the Class Peak Day Demand terms cancel each other out. This simplifies the
13 product of these two ratios to simply the ratio of Class' Design Day to winter-delivered
14 Therms. Checking NERA's product of its two ratios against the simplified ratio shows
15 that NERA has used improper ratios for Rate 76. In fact, the product of NERA's Rate
16 76 ratios is **exactly** the same as the product of the ratios NERA used for Rate 77.
17 When I corrected Rate 76 ratios based on the correct Class' Design Day and winter-
18 delivered Therms, the seasonal HP Marginal Cost for Rate 76 drops from 3.00 cents
19 to 2.86 cents per winter-delivered therm. There are 98,817,000 winter-delivered
20 therms for Rate 76. The total HP marginal cost component for Rate 76 is thus
21 reduced from the \$2,966,000 that NERA's study shows to \$2,823,000 ($\$0.0286 \times$
22 $98,817,000$), or a reduction of \$143,000.

23 I also checked the other class's ratios to ensure that NERA's ratios are
24 correct. For the Seasonal HP Marginal Cost per winter-delivered Therm, all other

1 class' product of ratios matched the simplified ratio. Rate 76 is the only class which
2 appears to be in error.

3 **Q WHAT ARE THE RESULTS OF NERA'S MARGINAL COST STUDY WITH THAT**
4 **ONE CORRECTION?**

5 A The results are shown on my **Schedule 5**. As explained earlier, the total marginal
6 cost for Rate 76 is \$143,000 lower as corrected.

7 **The Appropriate Role of Embedded versus**
8 **Marginal Costs in the Ratemaking Process**

9 **Q WHICH COSTING ANALYSIS DID NICOR USE TO ALLOCATE THE REVENUE**
10 **REQUIREMENT IN THIS CASE?**

11 A The Company claims to have used the marginal cost of service study. In actuality, it
12 departed quite a bit from the results of the study.

13 **Q DO YOU AGREE WITH NICOR'S CHOICE TO RELY ON THE MARGINAL COST**
14 **STUDY TO THE EXCLUSION OF THE EMBEDDED COST STUDY?**

15 A No. First, it flies in the face of prior decisions in Illinois. I am not aware of any gas
16 rate case Order in Illinois over the last twenty years or so where it was not the
17 decision of the ICC to use the embedded study for revenue distribution purposes, to
18 the virtual exclusion of any marginal cost analysis or consideration.

19 Second, the prevailing practice of the vast preponderance of utilities and
20 Commissions speaks in favor of embedded analysis. In fact, despite my involvement
21 in gas rate cases in Alberta, Montana, Colorado, Delaware, Virginia, Ohio,
22 Pennsylvania, New York, Iowa and of course Illinois, over the last twenty plus years, I
23 cannot recall one instance where the LDC has favored using a marginal study for

1 allocating revenue requirement, or where the Commission has even relied exclusively
2 on a marginal study for its decision on this issue. Nicor itself relied upon its
3 embedded study in its last rate application. If marginal analysis were that useful, I
4 would expect that we would have seen much more use of marginal studies. Instead,
5 the use of a marginal study in gas cases remains a rarity.

6 Third, the use of a marginal study entails another complicating step in the
7 allocation process. This is because marginal studies make no reference to the
8 utility's actual book costs. However, these book costs form the basis of the utility's
9 regulated revenue requirement. Thus, the use of marginal cost analysis to allocate
10 the revenue requirement necessarily entails a "reconciliation" algorithm to "shoehorn"
11 (or "enlarge") the totality of marginal costs to coincide with the embedded revenue
12 requirement. In this case, Nicor has chosen to use the Equal Percentage of Marginal
13 Cost (EPMC) method. While this method does have some support, classical
14 economic theory suggests that a more efficient way of reconciliation is to diverge from
15 marginal costs in inverse proportion with elasticity. Thus, the least elastic classes
16 (such as the Residential class), or the least elastic portion of the rate (usually
17 considered the customer charge) would bear the largest portion of the "reconciliation"
18 adjustments in order to hit the embedded revenue target. Of course, these thorny
19 issues are not necessary if we rely instead on the embedded cost analysis.

20 The fourth reason to reject the Company proposal to use the MCOSS to the
21 exclusion of the ECOSS is that the marginal study is much more coarse than the
22 ECOSS. Nicor's ECOSS makes use of a sophisticated and detailed analysis to
23 directly assign mains to those classes that make use of precisely those mains. The
24 MCOSS on the other hand totally ignores this detailed analysis, instead relying on
25 just a broad-brush allocation formula.

1 The fifth reason to reject the MCOSS for revenue allocation is because
2 NICOR itself rejects the major indications of the MCOSS for rate design. For
3 example, NERA's marginal study clearly indicates that seasonal rates would be much
4 closer to cost causation than rates that did not differentiate by season. Yet Nicor has
5 made no proposal in this case to institute seasonal rates. If Nicor can choose to
6 ignore its own marginal study, why should the Commission place any stock in it?

7 **Q WOULD RELIANCE ON THE MARGINAL COST STUDY BENEFIT THE**
8 **RESIDENTIAL CLASS?**

9 A No. The marginal study by NERA indicates that a larger increase to Rate 1 is
10 warranted than does the guidance provided by the embedded study. It is my opinion,
11 however, that it is more appropriate to use the ECOSS, regardless of its indications.

12 **A Recommendation on the Appropriate Allocation**
13 **of the Total Revenue Requirement (and Thus any**
14 **Increase or Decrease) Found Sufficient in this Filing**

15 **Q WHAT IS THE IMPACT OF THE COMPANY'S PROPOSED DISTRIBUTION OF**
16 **THE INCREASE WHEN MEASURED BY THE COMPANY'S EMBEDDED COST OF**
17 **SERVICE STUDY?**

18 A **Schedule 6** shows the impact of the Company proposal as measured by the
19 embedded cost of service study as I have corrected for the SBS revenues, as
20 explained in the initial section of this testimony. The impact of the Company proposal
21 is to move rates away from cost of service as measured by the Company study.
22 Specifically:

- 23 ▪ The Company ECOSS shows that both Rate 76 and Rate 77 are above the
24 Company requested rate of return, even at current rates. In other words, *even if*
25 *the Company were to receive one hundred percent of its requested revenue*
26 *request, Rate 76 and Rate 77 warrant a decrease from current rate levels.*

- 1 ▪ Instead of a decrease, the Company is proposing to increase base rates by
2 13.4% for Rate 76 and by 26.3% for Rate 77.
- 3 ▪ Rate 76 at proposed rates would be providing a rate of return at twice the system
4 average, even by the Company's own ECOSS.
- 5 ▪ The subsidies being provided by Rate 76 and Rate 77 customers are even
6 **greater** under Nicor's proposed rates than they are under current rates.

7 **Q WHAT IS THE IMPACT OF THE COMPANY'S PROPOSED DISTRIBUTION OF**
8 **THE INCREASE WHEN MEASURED BY THE COMPANY'S MARGINAL COST OF**
9 **SERVICE STUDY?**

10 A Even as measured by its marginal study (corrected for the error associated with Rate
11 76 that I discovered), the Company proposal is not cost based. This is shown on
12 **Schedule 7**. When assessed against NERA's marginal cost study, Nicor's proposed
13 increase would recover 168% of Rate 77 marginal costs and yet only 84% of
14 residential marginal costs.

15 **Q WHAT SPREAD OF THE INCREASE WOULD YOU RECOMMEND?**

16 A I recommend that the long-standing ICC policy of moving base rates to cost, based
17 on a proper embedded cost of service study be maintained in this case. Moreover,
18 because the SBS charge is determined external to the ECOSS model, the
19 appropriate revenue levels for each class will also be a function of the level of the
20 SBS charge (and the magnitude of the SBS billing determinants) that are found
21 appropriate in this case. Based on the Company embedded cost study, as
22 appropriately modified to account for the optional storage service and accepting for
23 purposes of illustration the Nicor proposed SBS charge, my recommended
24 distribution of the full increase is shown on **Schedule 8**. For ease of comparison, I
25 have also juxtaposed the Company proposed increase.

1 Q WHAT IS THE IMPACT OF YOUR PROPOSED INCREASE ON TOTAL REVENUE?

2 A This is shown on **Schedule 9**. I have used the Company estimate of Rider 6 gas
3 costs and an estimated cost of purchased gas of \$6.315 per therm for the
4 transportation customers. Admittedly, **Schedule 9** is only an approximation, but it is
5 still informative as a gauge of the total impact on the customers' bills under my
6 proposed spread of the increase.

7 Q HAVE YOU MADE ANY CONCESSIONS TO GRADUALISM OR MODERATION IN
8 YOUR SCHEDULES 8 AND 9?

9 A No, not explicitly. However, the only possible cause of concern on that score is Rate
10 10 and Rate 81, and both classes are miniscule relative to the total system. Thus,
11 even if one did deem it necessary to make judgmental limitations to the increase to
12 these classes, the spillover result on the other classes would be negligible.
13 Moreover, Rate 81 is slated to be phased out. Finally, it must be remembered that
14 **Schedules 8 and 9** are predicated on the Company receiving full rate relief, a
15 scenario I consider highly unlikely. For all these reasons, I did not think it necessary
16 to incorporate any explicit limitations to the class increases on **Schedules 8 and 9**.

17 Q DO SCHEDULES 8 AND 9 REFLECT THE COMPANY PROPOSAL FOR A
18 CHANGE IN RIDER 6 OR RIDER 7 AS PROPOSED BY THE COMPANY?

19 A No. For purposes of these schedules, I have assumed the status quo with regards to
20 the Company proposal to change these riders. I address the Company proposals on
21 Rider 6 and Rider 7 in a separate section of this testimony.

1 **Q PLEASE EXPLAIN HOW YOU TREATED SBS REVENUES WHEN YOU DERIVED**
2 **A COST-BASED ALLOCATION OF THE INCREASE.**

3 A Because the SBS charges are calculated external to the cost of service study, I first
4 derived a cost based revenue for each class assuming no change to the SBS charge.
5 Then I added in the Company proposed SBS charge for the transportation class.
6 Finally, I made the necessary adjustment to the base rate charges of the sales
7 classes (the difference between the current SBS revenues and proposed SBS
8 revenues), since these customers are credited with the current SBS revenues in my
9 cost of service study.

10 **Q SO DOES SCHEDULE 8 PRESUME THE COMPANY PROPOSED SBS**
11 **CHARGES?**

12 A Yes. It also presumes current SBS billing units because, I believe, that is the most
13 conservative assumption.

14 **Q DO YOU CONCUR WITH THE NICOR PROPOSED SBS CHARGE?**

15 A No, I do not. In a subsequent section of this evidence, I demonstrate why a cost-
16 based SBS charge should be significantly lower than that proposed by Nicor.

17 **Q HAVE YOU PREPARED A SCHEDULE SHOWING YOUR RECOMMENDATION**
18 **FOR COST-BASED RATES REFLECTING THE LOWER SBS CHARGE?**

19 A Yes. I have prepared **Schedules 8A and 9A**. These schedules are derived in a
20 similar fashion to **Schedules 8 and 9**, and are based on the same cost of service
21 study. The only difference is that these schedules reflect an SBS charge of 0.215¢

1 per therm per month at proposed rates. I support this charge in the section of this
2 testimony dealing with the derivation of the SBS charge.

3 **Q WHAT WOULD BE THE IMPACT OF YOUR PROPOSED REVENUE ALLOCATION**
4 **SHOULD THE FINAL REVENUE INCREASE IN THIS CASE BE ONE-HALF THE**
5 **FULL AMOUNT REQUESTED BY NICOR?**

6 A The analogous schedules to **Schedule 8 (and 8A)** and **Schedule 9 (and 9A)** are
7 shown on **Schedules 10 (and 10A) and 11 (and 11A)**. The only difference is that I
8 have used one-half of the Company's proposed revenue increase in the preparation
9 of these latter schedules.

10 **Q DOES YOUR PROPOSAL ALSO MOVE RATES TOWARD MARGINAL COSTS?**

11 A By and large, yes. This is shown on **Schedule 12**. The first column of **Schedule 12**
12 depicts, for each class, the ratio of the Company's proposed base revenue to that
13 class's marginal cost as determined by the NERA study. The second column shows
14 the revenue/marginal cost ratio under my proposed base rates as results from the
15 recommended spread of the increase shown in Column 1 of **Schedule 8A**. Oddly
16 enough, even though Mr. Harms professes to eschew the embedded study in favor of
17 the marginal study, **it is my recommended rates that are, in general, closer to**
18 **marginal cost than those proposed by Nicor**. For example, under the Company
19 proposal, the revenues of the Residential class, Rate 1, are only 84% of marginal
20 cost. Under my proposed rates, that class would produce revenue that is 93% of
21 marginal cost. To take another example, Mr. Harms' proposal results in Rate 77
22 paying 168% of marginal cost. Under my proposal, the base revenues from this class
23 are only 107% of marginal cost.

1 Q ARE THERE ANY CLASSES FOR WHICH NICOR'S PROPOSED RATES ARE
2 SIGNIFICANTLY CLOSER TO NERA'S DETERMINED MARGINAL COSTS THAN
3 THE RATES PROPOSED BY YOU?

4 A Yes, there are two such classes, Rate 10 and Rate 11. However, together, these
5 classes account for about two-hundredths of one percent (0.02%) of current base
6 rates. **Moreover, Nicor proposes to eliminate both these rates.**

7 **The Company Proposal for Rider 6 – Gas Supply Cost**

8 Q WHAT IS THE COMPANY PROPOSAL FOR MODIFYING RIDER 6?

9 A There are really two distinct, and unrelated changes that the Company is proposing.
10 Although the Company testimony lumps the two together, they should be considered
11 separately.

12 Q WHAT IS THE FIRST CHANGE IN RIDER 6 BEING PROPOSED BY THE
13 COMPANY?

14 A In the first change, Nicor is proposing to transfer the recovery of \$20.2 million in
15 commodity uncollectibles out of base rates and into Rider 6.

16 Q WHAT IS YOUR OPINION OF THIS PROPOSAL?

17 A These costs relate to Nicor's provision of gas supply as a commodity. As such, this
18 proposal does not, and should not, impact the transportation customers. As the
19 members of IIEC in this case are transportation customers, and not sales customers,
20 they are unaffected whether this aspect of the proposal is accepted or rejected.
21 Consequently, I have not been asked to analyze the Company proposal in this regard
22 to any extent and so cannot offer an opinion either for or against the Company

1 proposal. If accepted, however, it would obviously change the revenue targets for
2 base rates that I used in the preparation of **Schedules 8 and 9**. It should not,
3 however, have any material change on the ultimate bill impact.

4 **Q WHAT IS THE SECOND CHANGE IN RIDER 6 BEING PROPOSED BY THE**
5 **COMPANY?**

6 A The Company is proposing to transfer Hub revenues, which currently act as an offset
7 or credit to the Company's base costs, and instead pass these revenues through
8 Rider 6?

9 **Q DO YOU AGREE WITH THE COMPANY PROPOSAL FOR TREATMENT OF HUB**
10 **REVENUES AS AN OFFSET TO COMMODITY COSTS?**

11 A No. In the first place, these revenues are derived from the Company provision of
12 interruptible transportation and storage services. Consequently, these revenues are
13 not directly correlated with the price of gas. Moreover, these revenues are not
14 commodity related in the sense that Nicor could perfectly well provide these services
15 regardless of whether or not it was engaged as a supplier (or middleman) of gas to its
16 sales customers.

17 In the second place, because these Hub services are provided with
18 investment and expenses that are fully includable in the base rate charges (primarily
19 its underground storage aquifers and related plant), these revenues should properly
20 be credited to all customers who support these facilities. Flowing these revenues
21 through Rider 6 would deprive transportation customers who utilize storage from
22 getting their fair and proportionate share of these revenues.

1 In the third place, the primary reasons that Nicor offers as justification for its
2 proposed treatment of uncollectible expense through Rider 6, are simply not
3 applicable to Hub revenues. Nicor has not shown that these revenues are (a) beyond
4 any realistic control by the Company (b) volatile or (c) significant. In fact, these
5 revenues are only about 1 percent of proposed base revenues. Unless Nicor can
6 demonstrate that Hub revenues satisfy all three of these conditions, it would not be
7 appropriate to accord these revenues the Rider treatment being proposed.

8 **Recommendations on the Company Proposal to Change Rider 7 – Government**
9 **Agency Compensation Adjustment**

10 **Q WHAT IS THE COMPANY PROPOSAL WITH REGARD TO RIDER 7?**

11 A Commencing on January 1, 2007 the Company is proposing to expand Rider 7 to
12 include recovery of all franchise and related costs, imposed by certain local
13 governments. Presumably the base rates would then be reduced commensurately to
14 offset the revenues being collected in the expanded Rider 7.

15 **Q WHAT RATIONALE DOES NICOR OFFER FOR THIS CHANGE?**

16 A The change is being made so that all such franchise and related costs are recovered
17 solely from customers taking service within the boundaries of the unit of local
18 government, and not from all customers in general.

19 **Q DO YOU AGREE WITH THIS PROPOSED CHANGE TO RIDER 7?**

20 A To the extent that this better matches cost responsibility and cost recovery, I would
21 agree that this refinement of the ratemaking process is appropriate. However, I
22 disagree with how Nicor proposes to implement the rate mechanism in Rider 7.

1 Q HOW DOES THE COMPANY PROPOSE TO IMPLEMENT THIS REVISION TO
2 RIDER 7?

3 A The proposed language in Rider 7 reads as follows:

4 The costs of providing such service, or installing, removing, replacing,
5 modifying or maintaining such facilities, paying such fees or charges
6 and the costs of any franchise agreements shall be charged to the
7 Company's customers within the boundaries of such local
8 governmental unit *on a per therm basis*. (Emphasis added)

9 Q WHAT IS THE PROBLEM WITH RECOVERING THESE COSTS WITH A
10 UNIFORM PER THERM CHARGE, SIMPLY DIVIDING THE COSTS BY THE
11 NUMBER OF THERMS?

12 A This would be diametrically opposed to the concept of cost causation. Note that these
13 costs pertain to facilities. Nowhere does Nicor suggest that these costs are incurred
14 in proportion to therms delivered. In fact, just the opposite is intimated. Specifically,
15 the testimony in Nicor Gas Exhibit 12.0, page 31, states that "these franchise
16 agreements typically provide for reduced fee gas service or a cash payment based on
17 the population of the municipality and other consideration." I would also note that
18 recovering these costs on a per therm basis would violate the marginal cost/pricing
19 concept that Nicor states in its testimony, it seeks to honor. NERA's study shows that
20 the marginal cost of annual throughput is nil so that any additional charge based on a
21 per therm basis moves the rate further away from a marginal cost based rate.

1 Q BASED ON THE COMPANY'S REPRESENTATION OF HOW THESE COSTS ARE
2 INCURRED, WHAT WOULD BE A MORE APPROPRIATE METHOD OF
3 IMPLEMENTING THE RECOVERY OF THESE COSTS THROUGH RIDER 7?

4 A Based on the facts as represented in the Company evidence, these costs should
5 either be recovered on a per customer basis, or if that is not acceptable, as an equal
6 percent of base revenue.

7 **Rate Design Recommendations for Rate 76 and Rate 77**

8 Q DO YOU AGREE WITH THE COMPANY PROPOSAL TO CHANGE THE RATE
9 DESIGN FOR RATE 77?

10 A No. Although the Company is proposing to cut the customer charge in half, it is also
11 proposing radical increases to the blocked demand charge, as well as to the
12 volumetric charge, as shown in Table 1 below:

	<u>Present Charge</u>	<u>Proposed Charge</u>	<u>Percent Increase</u>
<u>Demand Charge</u>			
First 10,000	46.33¢	61.92¢	34%
Over 10,000	1.55¢	5.81¢	275%
<u>Volumetric Charge</u>	0.30¢	0.48¢	60%

13 Clearly, increases of this enormity are inappropriate if only from the
14 perspective of rate moderation and gradualism.

1 Q HOW DOES MR. HARMS, NICOR'S WITNESS ON THE COMPANY'S PROPOSED
2 BASE RATE CHARGES, DEFEND AND SUPPORT THESE DRASTIC REVISIONS?

3 A He does not even discuss these changes in his testimony, let alone defend them.
4 The only "support" I could find in Nicor Gas Exhibit 17.0 was the following very
5 generic and brief statements:

6 The proposed rate design generally draws on the MCOSS and the
7 EPMC method, but with certain important exceptions that are intended
8 to achieve significant, but moderate, movements toward marginal cost
9 pricing while accommodating and reflecting other important ratemaking
10 objectives. (Nicor Gas Exhibit 17.0, pages 17-18)

11 The proposed rate design, in comparison to the existing rates,
12 recovers more of the Company's fixed costs through its fixed charges,
13 by which I mean the customer charges. The proposed approach is
14 preferable to the existing approach because the Company's recovery
15 of its total fixed costs should not be dependent, or at least should be
16 much less dependent, on the weather and other variable factors that
17 can impact usage. (Nicor Gas Exhibit 17.0, page 18)

18 Q WITH RESPECT TO RATE 77 DO YOU BELIEVE MR. HARMS HAS SUCCEEDED
19 IN HIS STATED OBJECTIVES?

20 A No. He has failed in both respects. As far as the first, there is no way that a 275%
21 increase can in any way, shape or form be characterized as "moderate". He also fails
22 in the second. Currently Nicor collects 30% of its delivery (non-storage) base rates
23 for Rate 77 with the volumetric charge. Under the proposed rates, it would collect
24 37% through the volumetric charge.

25 Q IS THE RATE DESIGN SUPPORTED FROM THE PERSPECTIVE OF NERA'S
26 MARGINAL COST OF SERVICE STUDY?

27 A Only peripherally. While it is true that the customer charge appears to be supported
28 by the MCOSS, the customer charge is the least elastic component of the rate.

1 Consequently it is this charge that is the least important to be set at marginal cost, as
2 long as it at least recovers the marginal cost. Thus, I would recommend that the
3 customer charge be increased by setting it at the maximum of:

4 a) The amount proposed by the Company

5 or

6 b) The amount necessary to reach the revenue target for the class.

7 **Q IS THE VOLUMETRIC CHARGE SUPPORTED BY THE MARGINAL COST OF**
8 **SERVICE STUDY?**

9 A No. As I understand the Company cost of service study, the only volumetric marginal
10 cost for Rate 77 is 0.0303 cents per therm delivered during the months December
11 through February. It is zero for the other months. Frankly, I am not convinced that
12 even the winter “volumetric” costs are not more properly characterized as capacity-
13 related. Consequently, I would recommend a seasonal volumetric rate for Rate 77 at
14 that level, applicable for the three winter months. (I should note that Illinois Power, in
15 its most recent rate case, opted to eliminate the volumetric charge for its Large
16 Volume transportation rate.)

17 **Q IS THE VOLUMETRIC CHARGE SUPPORTED BY THE EMBEDDED COST OF**
18 **SERVICE STUDY?**

19 A No. As Mr. Heintz notes in his testimony:

20 I have discussed with Company personnel the factors it considers in
21 determining how to size its Transmission and Distribution Mains. The
22 primary “driver” in its investment decision is that **the facilities must be**
23 **of sufficient size to serve peak day coincident demands. The**
24 **fixed costs (and associated revenue requirements) of**
25 **constructing and maintaining these facilities do not vary with**
26 **volumes (throughput). Therefore, in my opinion the classification**
27 **and allocation of these fixed costs should in no way reflect**

1 **throughput, if the Company is to attain cost-based rates**
2 **consistent with cost causation, because the costs do not change**
3 **with changes in throughput.** Indeed, because purchased gas costs
4 essentially are excluded from ECOSS, **there are, indeed, no**
5 **significant actual costs in ECOSS the amounts of which are**
6 **related to throughput or volumes sold.** (Nicor Gas Exhibit 14.0,
7 pages 14-15, emphasis added)

8 Mr. Heintz's position is consistent with my own as well as conventional thinking on
9 gas cost of service studies across North America.

10 **Q IS IT FAIR TO SAY THAT THE DEMAND CHARGES ARE SUPPORTED BY**
11 **NERA'S MARGINAL COST OF SERVICE ANALYSIS?**

12 A I cannot agree with that proposition either. As Dr. Parmesano agreed (in response to
13 IIEC Data Request 1.64), there is a different marginal cost per unit of capacity,
14 depending upon the size of the main off which the customer is served. Larger
15 diameter mains exhibit tremendous economies of scale. This is because while the
16 cost per foot of main goes up linearly (more or less) in proportion to the diameter, the
17 capacity (MCF per day) of mains goes up exponentially with the diameter. Greater
18 pressure mains exhibit further economies of scale. The MCOSS, however, only
19 shows a weighted average (over several diameters) marginal cost of service. To
20 further complicate matters, NERA has identified other factors that influenced the
21 samples used to estimate marginal cost, such as the distance between the existing
22 source and the customer and the pressure. Furthermore, if the distribution system
23 has adequate capacity, the short run cost of capacity could even be close to zero.
24 The net result is that the marginal costs per capacity may have only the most tenuous
25 of relationships to the actual circumstances of any customer.

1 **Q HOW WOULD YOU RECOMMEND ESTABLISHING THE DEMAND CHARGES**
2 **FOR RATE 77?**

3 A My recommendation is to decrease (or increase as the case may be) the initial block
4 demand charge by the same percentage by which the total delivery revenue target
5 (i.e., excluding consideration of the storage revenues) is slated to increase (or
6 decrease). For example, if the revenue targets that I recommend in **Schedule 8** were
7 adopted, I calculate that the total delivery charges for Rate 77 would be decreased by
8 1%. In that case, I would set the first block demand charge at 1% less than the
9 current demand charge.

10 **Q HOW WOULD YOU RECOMMEND ESTABLISHING THE TAIL BLOCK DEMAND**
11 **CHARGE FOR RATE 77?**

12 A If the total delivery revenues for Rate 77 are slated to decrease, I would leave the tail
13 block unchanged from current levels. If, however, the Rate 77 delivery revenues
14 were targeted to increase, I would raise the tail block charge by that same level of
15 increase, thus maintaining the relationship between the two demand charges as they
16 are now. (Because of rate impact considerations, it is more important to preserve
17 existing relationships in the event of an increase. If there is an overall decrease,
18 there is more flexibility because customers rarely complain of a decrease.)

1 Q ASSUMING, FOR PURPOSES OF ILLUSTRATION, FULL RATE RELIEF FOR
2 NICOR AND ADOPTION OF YOUR RECOMMENDED DISTRIBUTION OF THE
3 INCREASE, WHAT WOULD BE THE RESULTANT DELIVERY CHARGES FOR
4 RATE 77, UNDER YOUR RECOMMENDATION FOR RATE DESIGN?

5 A The results, as well as a comparison to present rates, are shown in the following
6 Table 2.

TABLE 2			
<u>Present and Recommended Charges for Rate 77</u>			
	<u>Present Charge</u>	<u>Recommended Charge</u>	<u>Percent Increase (Decrease)</u>
Customer Charge	\$597	\$1,474	147%
<u>Demand Charge</u>			
First 10,000	46.33¢	45.67¢	(1)%
Over 10,000	1.55¢	1.55¢	0%
<u>Volumetric Charge</u>			
December-February	0.30¢	0.30¢	0%
Other Months	0.30¢	--	(100)%

7 Q BESIDES BEING MORE ALIGNED WITH BOTH MARGINAL AND EMBEDDED
8 COST CAUSATION, ARE THERE ANY OTHER ADVANTAGES TO YOUR
9 RECOMMENDED RATE DESIGN VIS-A-VIS THAT PROPOSED BY THE
10 COMPANY?

11 A Yes. Under my recommended rate design, the Company's annual revenue stream
12 should be more impervious to changes in throughput or periodic fluctuations in

1 demands. This should provide Nicor with greater stability and lessen the possibility of
2 windfall profits on the one hand or the need to file another rate case on the other.

3 **Q DO YOU AGREE WITH THE COMPANY PROPOSAL TO CHANGE THE RATE**
4 **DESIGN FOR RATE 76?**

5 A No. Although the Company is proposing to cut the customer charge in half, it is also
6 proposing to increase the volumetric charge by 60%. This is in stark contrast to Mr.
7 Harms' assertion that he wishes to collect a greater portion of the revenue
8 requirement with fixed charges.

9 **Q WHAT IS YOUR RECOMMENDATION FOR RATE DESIGN FOR RATE 76?**

10 A I recommend that there be a seasonal delivery charge for Rate 76. Because there is
11 no demand charge for Rate 76, it is all the more important that the cost
12 consequences of winter usage – which is supported by both the marginal and
13 embedded cost analysis – be reflected in the volumetric charge. Specifically, I would
14 set the winter (December through February) delivery charge at the current volumetric
15 charge, adjusted up or down by the percentage change targeted for the Rate 76 total
16 delivery charges (excluding storage). I would then set the volumetric charge for the
17 remaining months at one-half the winter charge. The cost analysis would suggest an
18 even greater differential but I recommend setting the ratio of winter to non-winter at
19 2:1 for purposes of rate continuity and moderation. I would then set the customer
20 charge at a residual amount that would be necessary to reach the revenue target, but
21 not less than the marginal cost of \$205 per month. If the customer charge needs to
22 be raised (in order to cover the marginal cost), then both volumetric charges (winter
23 and non-winter) should be adjusted downward accordingly.

1 Q AGAIN, ASSUMING FULL RATE RELIEF FOR NICOR, WHAT WOULD BE THE
2 RESULTANT RATE DESIGN FOR RATE 76 EMANATING FROM YOUR
3 RECOMMENDATIONS?

4 A The results, as well as a comparison to present rates, are shown in the following
5 Table 3.

	<u>Present Charge</u>	<u>Recommended Charge</u>	<u>Percent Increase (Decrease)</u>
Customer Charge	\$474	\$972	105%
<u>Volumetric Charge</u>			
December-February	1.38¢	1.20¢	(13)%
Other Months	1.38¢	0.60¢	(57)%

6 **Recommendation on the Level of the Appropriate**
7 **Unbundled Storage Charge for Transportation Customers**

8 Q HOW HAS NICOR DETERMINED THE UNBUNDLED STORAGE CHARGE FOR
9 TRANSPORTATION CUSTOMERS?

10 A Transportation customers are allowed to select a level of Storage Banking Service
11 (SBS) capacity, within limits, and pay a separate charge for that service. To
12 determine that charge, Nicor took the cost of storage developed by the embedded
13 cost of service study, deducted the cost related to top gas (since transportation
14 customers supply their own top gas) and divided that amount by 1.2 billion therms, or
15 the amount that the Company can cycle (inject and withdraw) from its owned storage

1 fields. This calculation, when expressed as a monthly charge, was found to be equal
2 to 0.38 cents per therm of SBS.

3 **Q DO YOU AGREE WITH THE CALCULATION?**

4 A Only up to a point. I do agree with Mr. Harms that the SBS charge should be derived
5 by dividing the cost of storage by the appropriate volume. However, I disagree with
6 the numerator used, and I disagree with the denominator he used. Moreover, I
7 recommend that the quotient should be multiplied by an adjustment factor.

8 **Q WHAT IS THE BASIS FOR YOUR DISAGREEMENT ON THE NUMERATOR?**

9 A Mr. Harms used the embedded cost of storage. However, he neglected to recognize
10 that the Company receives Hub revenues for offering off-system storage services.

11 **Q HOW SHOULD THE HUB REVENUES BE TREATED?**

12 A As explained in the testimony of Mr. Bartlett, Hub services are provided mainly by
13 Nicor's gas storage resources. Consequently, the embedded cost of storage of \$55
14 million should have been reduced by the \$6.7 million in Hub revenues. Making this
15 correction to the numerator would have yielded a net cost of storage of \$48.3 million,
16 which would translate to a monthly SBS charge of 0.335 cents per therm.

17 **Q WHAT IS THE BASIS FOR YOUR DISAGREEMENT ON THE DENOMINATOR?**

18 A Mr. Harms has used a denominator of 120 Bcf because that is allegedly the quantity
19 that Nicor intends to cycle in 2005. However, the denominator should appropriately
20 be the total capability that Nicor can cycle. Mr. Bartlett quite unequivocally states:

21 The Company maintains gas storage fields with a total capacity
22 determined recently to be 466.266 Bcf. Of this amount, 149.740 Bcf is

1 available to be filled by top gas, that is, gas that can be injected and
2 effectively recovered during a storage cycle. (Nicor Gas Ex. 8.0 at 38)

3 Simply because Nicor does not intend to fully cycle the gas (which oddly enough Mr.
4 Bartlett argues *should* be done [Nicor Gas Exhibit 8.0 at 25]), is not a reason to inflate
5 the SBS charge. The correct denominator should clearly be the 149.74 Bcf figure
6 cited by Mr. Bartlett.

7 **Q HOW WOULD THAT CHANGE THE CALCULATION OF THE SBS CHARGE?**

8 A If the Hub revenues are appropriately credited to the numerator and the denominator
9 is set at the cycling capability of 149.74 Bcf, the monthly SBS charge would be 0.269
10 cents per therm.

11 **Q SHOULD THAT LATTER FIGURE BE ADJUSTED TO ACCOUNT FOR THE**
12 **STORAGE CHARACTERISTICS OF THE TRANSPORTATION CUSTOMERS?**

13 A I believe it should. Historically, as noted by Mr. Bartlett, transportation customers do
14 not cycle the full amount of gas that they bank with the Company. That of course is
15 an advantage to the Company because it enables the Company to cycle more of the
16 gas on behalf of its sales customers. (Think of a transportation customer who banked
17 gas with the Company but never bothered to cycle any of it. That customer would
18 simply be making a permanent loan to the Company of its gas, and Nicor would have
19 to own that much less "top gas," i.e., the rate base for sales customers would be that
20 much less.)

1 **Q HAVE YOU EXAMINED THE RELATIONSHIP BETWEEN THE AMOUNT OF SBS**
2 **CAPACITY THAT TRANSPORTATION CUSTOMERS HAVE RESERVED AND THE**
3 **AMOUNT OF GAS THAT THEY ACTUALLY CYCLE?**

4 A Yes. I looked at the history of transportation customer-owned banked levels from one
5 month to the next over the last four years. If the bank went down from one month to
6 the next I considered that a withdrawal and calculated the amount. Conversely, if the
7 bank went up, I considered that an injection. For each year I summed the injections
8 for that year and then summed the withdrawals, and took the maximum of those two
9 sums. I then compared that amount to the SBS capacity that the transportation
10 customers had elected. The greatest ratio in any year was 59% of the SBS capacity.
11 However, I also analyzed the maximum storage bank at any month end and also
12 compared that to the SBS capacity. These ratios ranged from 65% to 93%, with an
13 average of 80%. To be conservative, I would therefore recommend that the SBS
14 charge, heretofore derived without regard to the pattern of the transportation
15 customers' utilization of their reserved storage bank, be multiplied by an adjustment
16 factor of 80%. This would yield a final SBS charge calculation of 0.269 times 0.8, or
17 0.215 cents per therm per month.

18 **Q HOW DOES YOUR RECOMMENDATION OF AN SBS CHARGE OF 0.215 CENTS**
19 **PER THERM PER MONTH COMPARE TO THE MARGINAL COST OF STORAGE**
20 **CALCULATED BY DR. PARMESANO IN HER COST OF SERVICE STUDY?**

21 A Dr. Parmesano found the marginal cost of storage to be 0.190 cents per month, or
22 somewhat less than the level of charge that I am recommending in this case.

1 Q MR. HARMS STATES THAT USE OF THE *ECOSS* FOR PRICING SBS SERVICE
2 YIELDS A COST THAT IS SIMILAR TO WHAT WOULD *BE PAID TO AN*
3 *INTERSTATE PIPELINE* TO OBTAIN EQUIVALENT PEAK DAY DELIVERIES. HE
4 GOES ON TO ASSERT THAT USING THE MARGINAL STORAGE SERVICE COST
5 AS A PRICING GUIDE WOULD UNDER-PRICE THE *VALUE OF SERVICE* BEING
6 OFFERED TO THE COMPANY'S TRANSPORTATION CUSTOMERS. HOW
7 WOULD YOU RESPOND TO MR. HARMS?

8 A I would respond as follows.

9 First, my recommendation *does* use the *ECOSS* to derive the SBS charge.

10 Second, the price that would need to be paid to an interstate pipeline for an
11 equivalent service is irrelevant to the task at hand. Nicor's rates are, and should be,
12 based on its *own* costs, not the costs of some hypothetical interstate pipeline.

13 Third, my recommended charge *is* higher than the price that would be
14 obtained by relying on the *MCOSS*.

15 Fourth, the *value of service* should have nothing at all to do with the charge.
16 As Mr. Harms should know, Nicor's rates and tariffs are based on *cost of service*, not
17 value of service.

18 Finally, Mr. Harms seeks to rely on marginal price signals when it suits his
19 purposes, but ignores marginal price signals when it does not.

20 Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

21 A Yes.

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Qualifications of Alan Rosenberg

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A My name is Dr. Alan Rosenberg. My business address is 1215 Fern Ridge Parkway,
3 Suite 208; St. Louis, Missouri 63141.

4 **Q WHAT IS YOUR OCCUPATION?**

5 A I am a consultant in the field of public utility regulation with Brubaker & Associates,
6 Inc. (BAI), energy, economic and regulatory consultants.

7 **Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

8 A I was awarded a Bachelor of Science Degree from the City College of New York in
9 1964 and a Doctorate of Philosophy in Mathematics from Brown University in 1969.
10 Subsequently, I held an Assistant Professorship of Mathematics at Wesleyan
11 University in Connecticut. In the summer of 1975, I was a Visiting Fellow at Yale
12 University. From July, 1975 through January, 1981, I was Assistant Controller and
13 Project Manager for a division of National Steel Products Company. My
14 responsibilities there included supervision of management accounting, cost
15 accounting and data processing functions. I was also responsible for internal control,
16 general ledger systems, working capital levels, budget preparation, cash flow
17 forecasts and capital expenditure analysis.

18 I have published in major academic journals and am a member of the
19 International Association for Energy Economics. I was an invited speaker at the
20 NARUC Introductory Regulatory Training Program and a panelist at a conference on
21 LDC and Pipeline Ratemaking sponsored by the Institute of Gas Technology. I have

1 presented a paper on stranded costs at the 21st Annual International Conference of
2 the International Association for Energy Economics. I have had two papers on
3 transmission congestion pricing published in The Electricity Journal. I am also a
4 Certified Energy Procurement Professional by the Association of Energy Engineers.

5 In January, 1982, I joined the firm of Drazen-Brubaker & Associates, Inc., the
6 predecessor of Brubaker & Associates. Since that time, I have presented expert
7 testimony on the subjects of industry restructuring, open access transmission,
8 marginal and embedded class cost of service studies, prudence and used and useful
9 issues, electric and gas rate design, revenue requirements, natural gas transportation
10 issues, demand-side management, and forecasting.

11 I have previously testified before the Federal Energy Regulatory Commission
12 as well as the public service commissions of Arizona, Connecticut, Delaware, Florida,
13 Idaho, Illinois, Iowa, Massachusetts, Michigan, Montana, New Jersey, New Mexico,
14 New York, Ohio, Pennsylvania, Rhode Island, Vermont, Virginia, Wyoming and the
15 Provinces of Alberta, British Columbia, Nova Scotia, and Saskatchewan in Canada.

16 In addition to our main office in St. Louis, the firm also has branch offices in
17 Phoenix, Arizona; Chicago, Illinois; Corpus Christi, Texas; and Plano, Texas.