

**STATE OF ILLINOIS**  
**ILLINOIS COMMERCE COMMISSION**

NORTHERN ILLINOIS GAS COMPANY :  
D/B/A NICOR GAS COMPANY : No. 04-\_\_\_\_\_  
:  
Proposed general increase in rates, and revisions to :  
other terms and conditions of service.

**Direct Testimony Of**

**ALAN C. HEINTZ**  
**Vice President**  
**Brown, Williams, Moorhead & Quinn, Inc.**  
**On Behalf Of**  
**Northern Illinois Gas Company**

1 Q 1 Please state your name and your business address.

2 A 1 My name is Alan C. Heintz. My business address is Brown, Williams, Moorhead &  
3 Quinn, Inc., 1155 Fifteenth Street, NW, Suite 400, Washington, DC 20005. I am  
4 testifying on behalf of Northern Illinois Gas Company d/b/a Nicor Gas Company  
5 (“Nicor Gas” or the “Company”).

6 Q 2 By whom are you currently employed and in what capacity?

7 A 2 I am a Vice President of Brown, Williams, Moorhead & Quinn, Inc.

8 Q 3 What is the purpose of your direct testimony?

9 A 3 The purpose of my direct testimony is to present and discuss the Embedded Cost of  
10 Service Study (“ECOSS”) that I have prepared on behalf of Nicor Gas. The study, which  
11 is attached to my testimony, is identified as Nicor Gas Exhibit No. 14.1 and consists of a  
12 List of Schedules and Schedules A through M. I will explain in detail how the  
13 Company’s estimated 2005 plant balances and expenses, taxes and revenues are first  
14 functionalized and then allocated to rate classes. I note that in their direct testimony  
15 other Nicor Gas witnesses -- especially Albert E. Harms (Nicor Gas Exhibit (“Ex.”) 17.0)  
16 -- sponsor and provide support for the plant, expense, tax and revenue data that are inputs  
17 to the ECOSS, as well as the data that the ECOSS uses as external allocation factors.

18 Q 4 Please summarize your conclusions.

19 A 4 The ECOSS shows the distribution of revenue changes by rate class necessary to achieve  
20 the Company’s proposed operating income if the criterion for rate development is equal  
21 rates of return for each rate class based on embedded costs. Schedule C of Ex. 14.1

22 shows the proposed base rate revenue levels in column C. The ECOSS also shows that,  
23 since the Company's last general rate filing in 1995, embedded costs have shifted from  
24 non-residential to residential classes, primarily due to the long-term trend in firm peak  
25 day demands for residential compared non-residential customers. Between 1995 and  
26 2005, the residential share of firm peak day demands will have risen from 52.5% to  
27 57.8%.

28 I also note that while the ECOSS allocates costs to the Rate 17 customers, the  
29 Company is not proposing that rates for this group be changed by Commission action;  
30 rather, they will continue to be negotiated rates.

31 **I. BACKGROUND AND QUALIFICATIONS**

32 Q 5 What are your duties in your current position?

33 A 5 I provide consulting services on matters relating to cost of service and cost allocation for  
34 regulated gas and electric utilities. I also provide consulting services on power sales,  
35 transmission, and ancillary service issues associated with the Federal Energy Regulatory  
36 Commission's ("FERC") Notice Of Proposed Rulemaking concerning open access  
37 transmission service, and FERC's Order Nos. 888, 889, and 2000. I have provided  
38 consulting services to numerous Independent System Operators ("ISO") and Regional  
39 Transmission Organizations ("RTO"), including the transmission owners of Midwest  
40 Independent Transmission System Operator, Inc. ("Midwest ISO" or "MISO"),  
41 DesertSTAR, to such entities as American Transmission Company, LLC, Trans-Elect,

42 Inc., and to participants in other ISOs and RTOs – Alliance, GridFlorida, New York ISO,  
43 SeTrans ISA, ISO New England Inc, and California ISO.

44 Q 6 Please describe your professional experience.

45 A 6 I was employed by FERC from November 1985 to February 1995. I served as a Public  
46 Utilities Specialist in the [Electric] Rate Filings Branch from November 1985 to October  
47 1989. In November 1989, I was promoted to Section Chief in the Division of [Electric]  
48 Applications, and was responsible for supervising the review of the terms, conditions,  
49 and rates of electric rate applications for such services as interchange power,  
50 requirements power, and transmission. During my tenure with the FERC, I prepared or  
51 supervised the preparation of memoranda recommending acceptance, rejection,  
52 deficiency, or investigation in hundreds of cases. Those included cases that set important  
53 precedents on electric transmission pricing, such as the merger compliance transmission  
54 tariffs for Northeast Utilities, the first generation of open access transmission tariffs  
55 (“OATT”) filed by utilities such as Entergy Services, Louisville Gas & Electric Co.,  
56 Florida Power & Light Co., Kansas City Power & Light Co., and American Electric  
57 Power Co., and the Pennsylvania Electric Company case involving Penntech Papers, Inc.

58 I also taught a one-year course to FERC staff and gave several presentations to  
59 the Edison Electric Institute Interconnection and Interchange Arrangements Committee  
60 on the pricing of power and transmission services. From February 1995 through October  
61 2000, I was a Vice President of Stone & Webster Management Consultants, Inc. In  
62 November 2000, I joined the Washington, D.C., office of R. J. Rudden Associates, Inc. as

63 Vice President. In both of these positions, I provided consulting services to numerous  
64 electric utilities on matters involving rate and implementation strategies for developing  
65 OATT filings and organizing ISOs and RTOs. I also assisted several utilities, including  
66 Commonwealth Edison Company, in preparing their retail delivery services filings. I  
67 joined Brown, Williams, Moorhead & Quinn, Inc., in February 2004.

68 Q 7 Please summarize your other experience testifying before regulatory bodies and courts on  
69 utility-related matters.

70 A 7 During my tenure at FERC, I was assigned to the Commission's advisory staff and  
71 presented cases publicly to the FERC Commissioners at their bi-weekly public meetings  
72 and was the technical contact to the Commissioners in numerous cases. Since leaving the  
73 employ of FERC, I have filed testimony before FERC in numerous proceedings. I have  
74 also testified before the British Columbia Utilities Commission in Canada, the Illinois  
75 Commerce Commission ("ICC"), the Maine Public Utilities Commission, the United  
76 States Court of Federal Claims, and the United States District Court in Florida.

77 Q 8 Please describe your educational background.

78 A 8 I received the degree of Bachelor of Science in Business and the degree of Bachelor of  
79 Arts in Economics from the University of Colorado, Boulder, Colorado, in May 1982. I  
80 also received the degree of Master of Business Administration in Finance from the  
81 George Washington University in Washington, D.C., in December 1988.

82 II. **THE EMBEDDED COST OF SERVICE STUDY**

83 Q 9 Please describe the documents and materials you have reviewed in the process of  
84 preparing the ECOSS and this testimony.

85 A 9 I have reviewed Nicor Gas' 2003 ICC Form 21 and numerous spreadsheets and  
86 workpapers provided to me by the Company that represent Nicor Gas' 2005 forecast of  
87 plant, expenses, taxes and other inputs to the ECOSS. I have also reviewed the ECOSS  
88 portion of Nicor Gas' last general rate case filing (May 8, 1995; ICC Docket 95-0219),  
89 ICC Staff testimony on that ECOSS, and the ICC's Order in that Docket (April 3, 1996).

90 I have reviewed ICC Orders on the ECOSS portion of several general rate case filings  
91 subsequent to Nicor Gas' last filing, specifically, "CIPS" and "UE" (ICC Dockets  
92 95-0545, 95-0546), "Ameren(CIPS)" and "Ameren(UE)" (ICC Dockets 03-0008,  
93 03-0837), the "MEC" case (ICC Docket 01-0696), and the "CILCo" case (ICC Docket  
94 02-0476) . I have also reviewed the ECOSS portions of the recent rate filings by Illinois  
95 Gas Company (ICC Docket 04-0475) and Illinois Power Company (ICC Docket 04-  
96 0476).

97 Q 10 Please summarize the information contained in each of the Schedules A through M of  
98 Exhibit 14.1.

99 A 10 Schedule A – "Rates of Return by Rate Class on Existing Rates" – summarizes for each  
100 customer group: rate base, existing base revenues, operating expenses including income  
101 taxes, operating income, and after-tax rate of return on rate base under existing rates.

102 This table shows both that overall revenues are insufficient to earn an appropriate return

103 and that the return associated with residential customers is significantly lower than the  
104 return associated with nonresidential customers.

105 Schedule B – “Rates of Return at Present Rates – Revenue Adjustments and Rates  
106 of Return at Proposed Rates” – summarizes (columns B through E) for each customer  
107 group the earned after-tax returns at current rates (from Schedule A). Columns F through  
108 J provide revenue adjustment data for all rates except Rate 17; column F shows the  
109 revenue shift at the current level of revenues necessary to equalize the after-tax returns  
110 for all customer groups. In column G is shown the distribution of proposed revenue  
111 increases by customer group; column H shows the total proposed change in revenues by  
112 customer group; column I shows the proposed (equal) after-tax rate of return by customer  
113 group; column J shows the proposed change in revenues by customer group. I note that  
114 the relatively large percent increase in base rates for Rate 10 (Compressed Natural Gas)  
115 is associated with a relatively small absolute number of dollars.

116 Schedule C – “Rates of Return by Rate Class Based on Proposed Rates” – shows  
117 for each rate; rate base, proposed base rate revenues, operating expenses including  
118 income taxes, operating income, and the proposed (equal) after-tax rate of return for all  
119 customer groups except Rate 17.

120 Schedule D – “Revenue Requirements by Cost Classification – Proposed Rates” –  
121 shows for each customer group the distribution of overall proposed revenue requirement  
122 to components – Customer Costs, Demand Costs, Volumetric Costs, and Directly

123 Assigned Costs (Customer and Distribution Main). This Schedule provides information  
124 that, if the methodology of the ECOSS were to be employed, is useful in designing rates.

125 Schedule E (Page 1 of 3) – “Storage Revenue Requirements at Proposed  
126 Operating Income” – is the first page of a three-page Schedule, and summarizes the  
127 revenue requirement of the Underground Storage function for each customer group.  
128 Storage is the only function that Nicor Gas “unbundles” from the ECOSS; thus, it is the  
129 only function for which the Company’s ECOSS must generate a revenue requirement.  
130 The second and third pages of Schedule E – “Development of Components of Storage  
131 Revenue Requirement” – provide detail showing how the Storage revenue requirement is  
132 derived from the ECOSS.

133 Schedule F – “Embedded Cost of Service Study – Revenue Requirement by  
134 Classification by Rate Schedule” – summarizes the following ECOSS results for each  
135 customer group by classification (customer, demand, volume, other and distribution  
136 mains): rate base, operations and maintenance expenses (“O&M”), depreciation expense,  
137 taxes other than income, return including income taxes, and revenue requirement. This  
138 Schedule provides additional detail supporting the revenue requirement information  
139 shown in Schedule D.

140 Schedule G – “Classification and Allocation of Costs” – is the ECOSS itself.  
141 Schedule G is organized in groups of seven pages (1-7; 8-15; 16-23, etc.). Each seven-  
142 page group reads “across” the ECOSS spreadsheet and shows the classification and  
143 allocation of the specific plant-related (gross plant, depreciation reserve, adjustments,

144 rate base) or expense accounts identified in columns A through F. Columns G through L  
145 show, first, the identification of the classification factor and then the classification of  
146 each of these cost elements. Page 1, line 2, for example, shows that miscellaneous  
147 intangible plant (Account (“Acct.”) 303) is classified by the labor allocator, comprising  
148 the (classified) wages and salaries component of all O&M expenses excluding  
149 administrative and general expenses (“A&G”). Reading across the ECOSS (pages 2  
150 through 7) displays first the identification of the allocation factor and then the actual  
151 allocation of classified costs to each of the 13 rates. Pages 2 through 7 (line 2) show the  
152 allocations of the classified subtotals of Acct. 303 to the Customer, Demand, Volume,  
153 Other, and Distribution Mains components of each rate; for this plant account, labor is  
154 the appropriate allocator.

155 Schedule H – “Embedded Cost of Service Study – Classification and Allocation  
156 Factors” – is organized as follows: pages 1 and 2 provide a list of the classification  
157 factors and their values; pages 3 and 4 provide a list of the allocation factors and their  
158 values for Rates 1 and 4; pages 5 through 14 provide the allocation factor values for  
159 Rates 6 through 81. The ECOSS uses 17 classification factors and 22 allocation factors.

160 Schedule I – “Embedded Cost of Service Study – Classification and Allocation of  
161 Wages & Salaries Component of Expenses” – is organized in a manner similar to  
162 Schedule G – in groups of seven pages which read “across” the underlying spreadsheet.  
163 Schedule I identifies (column C) the wages and salaries (“W&S”) component of each  
164 O&M expense (excluding A&G) and classifies and allocates each such W&S component

165 in the same manner as the O&M expense account of which it is component. In this  
166 manner, the data is assembled that is necessary to develop the labor allocator used in the  
167 ECOSS (see Schedule H, line 118, beginning at page 25).

168 Schedules J through M comprise the “input” data to ECOSS and their contents are  
169 adequately described by their titles:

170 Schedule J – “Base Rate Revenues by Rate Class – Present and Proposed Rates”

171 Schedule K – “Current and Proposed Income Taxes”

172 Schedule L – “Allocation Units – Customers, Demand and Volumes by Rate

173 Class” (page 1); “Allocation Units for Directly Assignable O&M Expenses”

174 (page 2); and “Allocation Factors – Directly Assignable Rate Base Amounts”

175 (page 3).

176 Schedule M – “Embedded Cost of Service Study – Direct Assignment Amounts

177 (Other than Main and Meter Investments).

178 Q 11 Referring to these schedules, please identify those that rely, for development of costs and  
179 allocators, on company data sponsored or supported by a Nicor Gas witness other than  
180 yourself.

181 A 11 In Schedules A and B, the current base rate revenues (sourced from Schedule J) were  
182 provided to me by the Company. The total proposed base rate increase before proposed  
183 rate design changes that would allocate certain costs and revenues to the Company’s  
184 Rider 6 - Gas Supply Cost (Schedule B, line 19) is sponsored by the panel direct

185 testimony of Gerald P. O'Connor, F.C.C.A., and James M. Gorenz, C.P.A. (Nicor Gas  
186 Ex. 11.0), which in turn references the testimony of certain other Company witnesses.

187 In Schedule G, the investment, expense, depreciation, and taxes other than income  
188 shown in columns (C) through (F) are sponsored by the direct testimony of Albert E.  
189 Harms (Nicor Gas Ex. 17.0) and the panel direct testimony of Gerald P. O'Connor,  
190 F.C.C.A., and James M. Gorenz, C.P.A. (Nicor Gas Ex. 11.0), which in turn references  
191 the testimony of certain other Company witnesses.

192 In Schedule H, the classification and allocation factors identified as external  
193 ("EXT") are derived from data provided to me by Nicor Gas and displayed in Schedules  
194 L and M. This data is sponsored by Albert E. Harms (Nicor Gas Ex. 17.0).

195 In Schedule I, the wage and salary component [column B] of each O&M expense  
196 is sponsored by Albert E. Harms (Nicor Gas Ex. 17.0).

197 Finally, in Schedule K, the income taxes at current rates and the income tax factor  
198 underlying the calculation of income taxes at proposed rates are sponsored by the panel  
199 direct testimony of Gerald P. O'Connor, F.C.C.A., and James M. Gorenz, C.P.A. (Nicor  
200 Gas Ex. 11.0).

201 Q 12 Please discuss how the ECOSS you have prepared compares to the ECOSS filed by the  
202 Company in ICC Docket 95-0219.

203 A 12 I will answer first in terms of organization and appearance. The current ECOSS is  
204 significantly different in organization and appearance than the original and compliance  
205 studies filed by Nicor Gas in 1995. This difference in appearance and organization is

206 intentional; I have attempted to re-design the Company's ECOSS so that the  
207 methodologies and processes are more transparent. In Schedule G, for example, it is now  
208 possible to trace the classification ("Customer", "Demand", "Volume", "Other", and  
209 "Dist. Mains") and allocation (to each of 11 customer groups) of every element  
210 comprising the cost of service by selecting the row containing that element and following  
211 it horizontally across the classification and allocation pages (groups of seven pages).  
212 Likewise, in Schedules H and I the relevant external and internal allocators can be  
213 associated with these classifications and allocations.

214 Q 13 You just discussed the organization and appearance of the ECOSS. Does the new  
215 ECOSS differ from the old in terms of methodology?

216 A 13 Fundamentally, the new ECOSS is the same as the original in terms of methodology,  
217 with three exceptions. The 1995 ECOSS functionalized and classified General and  
218 Intangible Plant ("G&I") on the basis of allocation factors related to Net Plant other than  
219 G&I (where net plant is defined as gross plant less accumulated reserve for depreciation  
220 and amortization). In 1995, that was a methodology that had been recognized by the  
221 ICC. In more recent years, the most common methodology at the ICC for both gas and  
222 electric companies has been to functionalize, classify, and allocate G&I on the basis of a  
223 labor allocator derived from the wages and salaries component of all expenses other than  
224 Administrative & General ("A&G") expenses. (In making that observation, I am not  
225 intending any implication regarding the relative merits of the use of direct assignment,  
226 when practical and supported by sufficient data, to allocate any of those costs. Direct

227 assignment, in those circumstances, is preferable and more accurate.) Consistent with  
228 recent Staff filings and ICC orders relating to gas cost of service, I have employed the  
229 labor allocator for both G&I and all but a small portion of A&G expenses in this ECOSS.  
230 Recent ICC Orders authorizing functionalization of G&I and A&G on the basis of labor  
231 include the Ameren CIPS and Ameren UE dockets cited above. (A nominal amount of  
232 A&G expense – see Schedule M -- is directly assigned to the Company’s gas  
233 procurement function and is allocated to firm sales customers.)

234           The second difference between the current and 1995 ECOSS relates to the manner  
235 by which certain components of rate base (G&I, Accumulated Deferred Income Taxes  
236 (“ADIT”), and other rate base adjustments, for example) are incorporated into the  
237 ECOSS. In the 1995 ECOSS, such rate base components or adjustments were allocated  
238 to each plant sub-account on the basis of the Net Plant value of that sub-account.  
239 Essentially, all rate base adjustments were “loaded” proportionately to plant sub-accounts  
240 on the basis of Net Plant. In the current ECOSS, each individual element of rate base  
241 (G&I, other plant, ADIT, and other rate base adjustments) is classified and allocated  
242 separately, based on an appropriate allocation factor. G&I, as noted above, is allocated  
243 by the labor allocator; ADIT is allocated on depreciable net plant; additions and  
244 deductions to rate base that are pension-related are allocated on labor; while certain other  
245 adjustments are directly assigned where practical and supported by sufficient data.

246                   The third difference is that A&G expenses are not proportionately “loaded” to all  
247                   other expenses in the current model. They are individually allocated based on an  
248                   appropriate labor-related or plant-related allocator.

249   Q 14   How does the current ECOSS classify and allocate distribution mains plant and  
250           associated expenses?

251   A 14   Distribution Mains investment and associated expenses are classified and allocated in the  
252           current ECOSS on the same basis as the 1995 ECOSS – by direct assignment to customer  
253           groups. Specifically, the Company updated the Modified Distribution Main (“MDM”)  
254           study approved by the ICC in its Docket 95-0219. This engineering study identifies main  
255           investment for each group on the basis of main sizes and peak day flow. The ECOSS  
256           classifies Mains investment and associated expenses as a direct assignment to “Dist.  
257           Mains” and allocates these amounts to classes based on peak day demands.

258   Q 15   Please discuss in general your choice of allocators for some of the other major investment  
259           and expense components of the ECOSS.

260   A 15   Underground Storage (“UG”) plant, depreciation reserve, related O&M and depreciation  
261           expense are allocated in part by direct assignment to Rate 17, which has contractual  
262           rights to a portion of UG storage capacity. The allocator, “34-UG-DEM” -- firm demand  
263           other than that of Rate 17 -- apportions to all other classes the UG-related plant and  
264           expenses not directly assigned to Rate 17.

265                   Transmission plant and associated expenses are allocated to classes on the basis  
266                   of total peak day demand – “35-DEM-TOT”.

267 As noted earlier, the largest component of Distribution plant – Mains – is  
268 allocated on the basis of the MDM study (“40-DXMAINS”), while distribution stations  
269 and regulating/measuring equipment are allocated on the basis of firm demands (“32-  
270 DEM-FIRM”). Services, the second largest component of distribution plant, is allocated  
271 on the basis of meter investment by class (“36-METERS\$”).

272 Q 16 Please explain why the ECOSS classifies no plant or expenses to the “volume”  
273 classification, specifically with respect to all transmission and that distribution plant not  
274 directly assigned on the basis of the modified distribution mains analysis discussed  
275 above.

276 A 16 First, I note that the vast majority of all purchased gas costs are intended to be fully  
277 recovered through the Purchased Gas Adjustment (“PGA”) clause of the company’s  
278 tariffs (Rider 6); thus, these costs are not included in ECOSS. (Minor exceptions to PGA  
279 recovery include Company use and franchise gas costs, which are included in expenses  
280 and allocated by the ECOSS.)

281 I have discussed with Company personnel the factors it considers in determining  
282 how to size its Transmission and Distribution Mains. The primary “driver” in its  
283 investment decision is that the facilities must be of sufficient size to serve peak day  
284 coincident demands. The fixed costs (and associated revenue requirements) of  
285 constructing and maintaining these facilities do not vary with volumes (throughput).  
286 Therefore, in my opinion the classification and allocation of these fixed costs should in  
287 no way reflect throughput, if the Company is to attain cost-based rates consistent with

288 cost causation, because the costs do not change with changes in throughput. Indeed,  
289 because purchased gas costs essentially are excluded from ECOSS, there are, indeed, no  
290 significant actual costs in ECOSS the amounts of which are related to throughput or  
291 volumes sold.

292 Q 17 Does this complete your direct testimony?

293 A 17 Yes, it does.