

**BEFORE THE NORTH DAKOTA PUBLIC SERVICE COMMISSION
STATE OF NORTH DAKOTA**

In the Matter of the Application of the Otter Tail Power Company,
For Authority to Increase Rates for
Electric Service in North Dakota

Case No. PU-08-862

**DIRECT TESTIMONY OF
CHARLES W. KING**

April 6, 2008

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1 TESTIMONY OF CHARLES W. KING

2
3 INTRODUCTION / SUMMARY
4

5 **Q. Please state your name, position and business address.**

6 A. My name is Charles W. King. I am President of the economic consulting
7 firm of Snavely King Majoros O'Connor & Bedell, Inc. (Snavely King). My
8 business address is 1111 14th Street, N.W., Suite 300, Washington, D.C.
9 20005.

10 **Q. Please describe Snavely King.**

11 A. Snavely King, formerly Snavely, King, & Associates, Inc., was founded in
12 1970 to conduct research on a consulting basis into the rates, revenues,
13 costs, and economic performance of regulated firms and industries. The
14 firm has a professional staff of 12 economists, accountants, engineers, and
15 cost analysts. Most of its work involves the development, preparation, and
16 presentation of expert witness testimony before federal and state regulatory
17 agencies. Over the course of its 39-year history, members of the firm have
18 participated in over a thousand proceedings before almost all of the state
19 commissions and all Federal commissions that regulate utilities or
20 transportation industries.

21 **Q. Have you prepared a summary of your qualifications and experience?**

22 A. Yes. Exhibit____(CWK-1) is a summary of my qualifications and
23 experience.

24 **Q. Have you previously submitted testimony in regulatory proceedings?**

25 A. Yes. Exhibit _____(CWK-2) is a tabulation of my appearances as an expert
26 witness before state and federal regulatory agencies.

27 **Q. For whom are you appearing in this proceeding?**

28 A. I am appearing on behalf of the Advocacy Staff of the North Dakota Public
29 Service Commission.

30 **Q. What is the objective of your testimony?**

31 A. The objective of my testimony is to present the position of the Advocacy
32 Staff with respect to the allocation of costs and revenues among the various
33 classes of customers of the Otter Tail Power Company ("OTP" or "the
34 Company") and with respect to the rate design proposals that the Company
35 has made in this case.

36 **Q. Please summarize your recommendations?**

37 A. I generally agree with the approach that OTP has take to designing its rates,
38 which is to allocate revenue among classes based on embedded costs, but
39 to use marginal costs to structure the rate elements within rate schedules.

40 I have made several modifications to the class cost of service study
41 proposed by the Company to reflect better the causation of costs for the
42 distribution system and sales expense. Based on my revised cost of
43 service study, I recommend that the residential class receive the average
44 percentage rate increase, that the Company's proposed increases to the
45 revenue-deficient classes be accepted, and that the excess revenue
46 derived from those increases be applied to reduce the rates for the two
47 revenue-sufficient classes in proportion to their excess earnings over the

48 Company average. The revenue sufficient classes are the large and small
49 general service classes.

50 I recommend that the Company's rate design proposals be
51 accepted subject to the limitation that no customer receive a rate increase
52 greater than 50 percent over the average increase for the class, and for the
53 classes not being significantly increased, no customer receive an increase
54 greater than 10 percent. The Company has revised several of its rate
55 designs to conform to these limitations.

56 Finally, I recommend that facilities-based wholesale margins be
57 credited to the Energy Cost Adjustment and that the Company's proposal to
58 include the full cost of the wholesale trading department in the revenue
59 requirement in return for a 15 percent sharing of non-asset based wholesale
60 margins be denied.

61 **RATEMAKING APPROACH**

62 **Q. How has OTP designed the rates it proposes to charge the respective**
63 **classes of customers?**

64 A. OTP distributes its revenue requirement among classes based on an
65 allocation of embedded costs, reconciled to the overall revenue
66 requirement. The embedded Class Cost of Service ("CCOS") study is
67 sponsored by OTP witness Peter Beithon, as is the Company's
68 recommended distribution of revenue generation among the classes. Once
69 Mr. Beithon has decided how much revenue each class should generate,
70 witness David Prazak then structures the rate elements within each rate

71 schedule based on a marginal cost study performed by National Economic
72 Research Associates and sponsored by witness Hethie Parmesano.

73 **Q. Should class revenue generation be based on an embedded CCOS**
74 **study?**

75 A. Yes. When the objective is to distribute the Company's overall revenue
76 requirement among customer classes, necessarily the allocation must
77 conform to the revenue requirement calculation. The revenue requirement
78 is based on embedded costs, that is, the record of investments and
79 expenses during the test year (in this case calendar 2007).

80 The CCOS study is not a prescription, however, and some
81 judgment is required in translating class cost allocations into a distribution of
82 revenue generation. First, the principle of rate continuity requires that
83 abrupt rate changes be avoided. This issue is particularly relevant in this
84 case, where the Company is restructuring its rates for the first time in 25
85 years. Second, the allocation of costs among customer classes is not
86 always straightforward. As the record of this case will demonstrate, there
87 are legitimate differences of opinion as to the appropriate assignment of
88 costs that are shared among customer classes.

89 **Q. Should the rate structures within customer classes be based on**
90 **marginal costs, as OTP proposes?**

91 A. In general, yes. In her testimony, Dr. Parmesano presents the conventional
92 argument in favor of using marginal costs to design rates – that they will

93 lead to economically efficient decisions by ratepayers seeking to minimize
94 their energy costs.

95 The strength of this argument, however, is largely a function of the
96 price elasticity of demand, that is, the extent to which customers adjust their
97 energy consumption in response to price differences. For electricity, price
98 elasticity varies by customer class and by rate element. For the most part,
99 residential demand is price inelastic. Except when there are very large
100 changes in rates, residential customers consume electricity according to
101 their life styles, not the per-kWh price of electricity. Commercial and
102 industrial customers are much more price-sensitive. Large industrial
103 customers in particular will expend considerable effort to reduce electricity
104 costs by only a few percentage points.

105 Within rate schedules, it is reasonable to assume that flat monthly
106 charges are totally price-inelastic. No customer is going to abandon electric
107 service because the customer charge is too high or subscribe to electric
108 service because it is low. What price elasticity exists pertains to the energy
109 and demand charges. Any customer response will be made in light of these
110 charges.

111 This observation suggests that deviations from marginal costs
112 should be concentrated in the flat monthly charges. All of OTP's rates are
113 below marginal costs, so that they are arguably inefficient. To the extent
114 that this inefficiency is unavoidable, it should be reflected more in the level
115 of monthly charges and less in energy and demand charges. I will apply

116 this principle in my recommendations concerning the reductions in class
117 revenue recovery later in this testimony.

118 Marginal costs are most useful in designing the relative levels of
119 energy and demand charges and of time and seasonally differentiated rates.
120 This is the principal use that OTP has made of its marginal cost study. It
121 has used marginal costs to determine the relative levels of demand and
122 energy rates and of rates during peak and off-peak hours and seasons.

123 **CLASS COST OF SERVICE STUDY**

124 **Q. Please describe OTP's Class Cost of Service Study.**

125 A. OTP's 2006 Class Cost of Service (CCOS) study is presented in Schedule
126 10 to Exhibit ___(PJB-1) attached to the testimony of Company witness
127 Peter Beithon. In response to a data request, the Company has submitted a
128 2007 CCOS Study reflecting its going forward rate base and expense
129 adjustments. This study allocates all of the costs for calendar year 2007
130 among 10 customer classes. It then computes the rate of return for each
131 class at present rates. To the extent that any class earns less than the
132 jurisdictional average rate of return, it is deemed revenue-deficient. If it
133 earns more than the overall return, it is revenue-sufficient. The Company's
134 CCOS study suggests that the two general service classes are revenue
135 sufficient, and that all other classes are revenue deficient. The irrigation,
136 controlled service water heating and controlled service interruptible classes
137 are particularly revenue deficient.

138 **Q. Do you agree with the Company's CCOS study?**

139 A. No. OTP's CCOS study is deficient in three respects. First, it allocates a
140 portion of the primary distribution system on the basis of the number of
141 customers on the system. This allocation is inconsistent with the marginal
142 cost study sponsored by witness Hethie Parmeso. Dr. Parmesano finds that
143 the cost driver for the primary distribution system is coincident peak
144 demand.¹ She makes no reference to the number of customers.

145 Second, the Company's CCOS study allocates a portion of the
146 secondary distribution system on the basis of the number of customers. It is
147 appropriate to allocate Account 369, Customer Services, on the basis of the
148 number of customers, but the Company's allocator does not recognize that
149 the cost of services to large customers is considerably greater than to small
150 customers, particularly residential customers.

151 Finally, the cost of the Sales Department is allocated based on the
152 number of customer meters. There is no justification for this allocation,
153 particularly as the Sales Department is principally focused on attracting
154 industrial and commercial customers, not residential customers, to OTP's
155 service territory.

156 **Q. What adjustments have you made to OTP's CCOS Study?**

157 A. First, I have allocated all of the primary distribution system on the basis of
158 peak demand. Second, I have weighted the customer allocation of the
159 secondary distribution system according to the respective customer service

¹ Marginal Cost Study, Response to ND PSC IR 01-039, Attachment 1, page 19.

160 costs as reported in Dr. Parmesano's marginal cost study.² Third, I have
 161 allocated the Sales Department expense based on class MWh sales.

162 **Q. What are the results of your adjusted CCOS Study?**

163 A. The results of the CCOS Study with the foregoing adjustments are
 164 presented in Schedule 2 of Exhibit____(CWK-3). The schedule shows the
 165 revenue adjustments that would be required in order for all customer
 166 classes to generate the 2007 system average rate of return . A summary
 167 of these rates of return and revenue adjustments is as follows:

	Current	Earned	Increase (Decrease)	
	<u>Revenues</u>	<u>Return</u>	<u>Revenue</u>	<u>Percent</u>
Residential	36,574,921	6.24%	641,106	1.75%
General Service	34,012,150	11.66%	(3,935,201)	-11.57%
Large General Service	36,231,788	9.90%	(2,430,542)	-6.71%
Farms	1,601,767	2.68%	222,250	13.88%
Irrigation	45,963	-4.18%	35,904	78.11%
Lighting	2,095,668	-1.09%	767,039	36.60%
Other Public Authorities	967,569	-0.08%	220,941	22.83%
Controlled Service Water Heating	1,185,332	-3.26%	652,305	55.03%
Controlled Service Interruptible	4,744,402	-10.07%	3,551,197	74.85%
Controlled Service Deferred	<u>849,617</u>	<u>-1.74%</u>	<u>275,001</u>	<u>5.80%</u>
	\$118,309,177	6.91%	0	0.00%

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169

170 **CLASS REVENUE CHANGES**

171 **Q. How should any rate increase be distributed among the classes of**
 172 **customers?**

173 A. The CCOS Study indicates that the residential class is earning slightly
 174 below the system average, that the two general service classes are
 175 earning more than the average, and that the remaining classes are

² Schedule 1 of Exhibit____(CWK-3) is the worksheet on which I developed the alternative allocators.

176 earning substantially less than the system average. The deficiencies of
177 these latter classes are so great that they cannot be resolved in one rate
178 case. To eliminate the apparent disparities in earned returns would violate
179 the principle of rate continuity.

180 I therefore recommend that the residential class be given the
181 system average increase. In its initial filing, the Company has
182 recommended a set of increases for the revenue-deficient classes that
183 reduce, but do not eliminate the earnings deficiencies that they display. I
184 recommend that these increases be accepted. The added revenue from
185 these class rate increases should then be applied to reduce the rates to
186 the two general service classes.

187 These revenue changes are fairly dramatic. To some extent they
188 are the consequence of the absence of any comprehensive rate case for
189 OTP since 1983. The rate levels and rate structures that seemed
190 appropriate 25 years ago no longer apply. For this reason, significant rate
191 adjustments now need to be made. In particular, it is appropriate to
192 reduce the revenue-to-cost imbalances between rate schedules that
193 effectively compete with each other. For example, the all controlled
194 service customers have the option of subscribing to the general service
195 rate schedules. If their rates are artificially low relative to the general
196 service rates, then customers may make uneconomic choices in selecting
197 among service options.

198 **Q. Have you calculated the rate changes that you recommend under a**
 199 **hypothetical rate increase?**

200 A Yes. For purposes of illustration I have assumed an overall 2 percent rate
 201 increase. In Schedule 3 of Exhibit____(CWK-3) I have calculated the
 202 class rate increases that would be indicated using the guidelines I have
 203 described. A summary of the rate changes is as follows:

	Current <u>Revenues</u>	<u>Increase (Decrease)</u> Revenue	<u>Percent</u>
Residential	\$ 36,574,921	\$ 731,498	2.00%
General Service	34,012,150	(631,059)	-1.86%
Large General Service	36,231,788	(390,893)	-1.08%
Farms	1,601,767	120,133	7.50%
Irrigation	45,963	4,596	10.00%
Lighting	2,095,668	523,917	25.00%
Other Public Authorities	967,569	135,460	14.00%
Controlled Service Water Heating	1,185,332	118,533	10.00%
Controlled Service Interruptible	4,744,402	1,660,541	35.00%
Controlled Service Deferred	<u>849,617</u>	<u>93,458</u>	<u>11.00%</u>
	<u>\$118,309,177</u>	<u>\$ 2,366,184</u>	<u>2.00%</u>

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205 **RATE CHANGES WITHIN CLASSES**

206 **Q. Are there issues with respect to rate changes within the respective**
 207 **classes?**

208 A. Yes. OTP is proposing to modify severely the structure of its rates within
 209 classes. First, it is changing the application of many of its rate schedules,
 210 eliminating some and adding others. Second, it is eliminating all declining
 211 block rates. Third, it is proposing to apply the Energy Adjustment Rider
 212 (“EAR”)³ to all rate schedules other than the fire sirens and the real time
 213 and marginal energy price schedules. Finally, it is structuring the

³Company witness Prazak refers to the “FCA,” which stands for Fuel Cost Adjustment, but its actual name on Sheet 13.01 of the tariff is the “Energy Adjustment Rider.”

214 individual energy and demand charges to reflect marginal costs, which
215 requires the introduction of seasonally differentiated rates throughout the
216 tariff.

217 These rate structure modifications can result in fairly dramatic
218 changes in individual customer's bills, even when the overall change in the
219 class revenue is relatively modest. These various effects can be seen in
220 the bar charts in Mr. Prazak's testimony showing the varying impacts on
221 the duo-deciles of bill size for each rate schedule. For this reason, it is
222 appropriate to place some limits on the extent to which OTP's rate
223 structure changes impose unreasonable increases in customer bills.

224 **Q. Have you proposed such limitations to the Company?**

225 A Yes. I have proposed limiting any one customer's rate increase to 50
226 percent over the class increase or, for those classes receiving less than a
227 6.7 percent increase, 10 percent on an annualized basis. Exceptions
228 would be customers with average monthly bills of less than \$10 and
229 customers who are able to switch to other rate schedules that would result
230 in increases below the cap limits.

231 **Q. Has the Company responded to this proposal?**

232 A. Yes. Exhibit_____(CWK-4) is my request and the Company's response,
233 inclusive of attachments. In this response, the Company has restructured
234 the Residential, Residential Demand Controlled and Farm Service rate
235 schedules to conform to the rate increase limitations that I have

236 recommended. It has listed a number of reasons why these limitations
237 should not be applied to the other rate increases.

238 **Q. Do you recommend that the Company's modifications be adopted?**

239 A. OTP's response assumes the adoption of all of the Company's rate
240 increase proposals including the 7.5 percent residential rate increase, and
241 I have recommended that the residential increase be capped at the
242 system average, 5.14 percent in the Company's filing. If the final rate
243 increase is substantially below the Company-proposed 7.5 percent, then
244 the modifications to the residential rate schedules may not necessary. In
245 any case, the adjustments to the Farm Service rate schedule should be
246 adopted.

247 I am not persuaded by the Company's disclaimers with respect to
248 the other rate schedules. In particular, they relate to the duo-decile rate
249 analyses that combine a number of customer bills into groups. Individual
250 customers may still experience rate increases that exceed the limits I have
251 recommended and the Company appears to have accepted. For this
252 reason, I recommend that the Company notify each customer subject to a
253 rate increase that there is a cap on the increase. If the customer's annual
254 bill exceeds that cap, the Company should refund the excess. The caps
255 would expire at the end of the second year of the effectiveness of the new
256 rates.

257 **Q. If the Commission approves rate increases less than the Company**
258 **has requested, how should the Company's proposed rates be scaled**
259 **back?**

260 A. The Company has sought to reflect marginal costs in its seasonal rates for
261 the residential class, and I recommend that these rates be retained. As
262 discussed earlier in this testimony, the reduction from the Company's
263 proposal should come out of the flat monthly charge. The Company
264 proposes a separate customer charge of \$3.00 plus a "facilities charge" of
265 \$5.00. I see no reason for these separate charges. The same is true for
266 the proposed \$9.38 customer charge and \$9.00 facilities charge for
267 residential demand control service. They should be combined and
268 reduced from their proposed levels to match the revenue requirement for
269 this class. This modification would reduce the very high increases
270 otherwise imposed on customers with minimal usage.

271 My recommendation for the general service classes parallels that
272 for the residential class. I recommend that the small general service
273 customer and facilities charges be combined and reduced no lower than
274 the current \$7.90 level currently applicable to the zone 9 customers under
275 this rate. Similarly, the \$12 monthly charge for the large general service
276 customers should be reduced to no lower than \$7.95 rate currently applied
277 to zone 9 customers. These modifications would reduce the very large
278 percentage increases to customers at the low-usage end of these rate
279 schedules.

280 **Q. Are there any other rate structure recommendations you would like**
281 **to make?**

282 A. Yes. The energy rates proposed by the Company incorporate a fuel and
283 purchased power cost of 3.0945¢ per kilowatt-hour. The Energy
284 Adjustment Rider passes through any variations from this value on a
285 month-to-month basis. It might be more straightforward to express all fuel
286 and purchased power costs in a separate energy charge. In this manner,
287 customers would be able to identify those costs they are paying that are
288 pass-throughs from third-party providers from those that cover Company
289 costs. This has become standard practice in much of the gas utility
290 industry.

291 Additionally, there is a timing mismatch between the cost of energy
292 and the energy charges. The EAR is based on the average cost of fuel
293 and purchased power during the most recent four months. Given that it
294 takes at least a month to record energy costs, that means that there is a
295 average lag of three to four months in the application of the EAR. For
296 example, the EAR applied in July when energy costs are high will likely
297 reflect the actual cost of energy during the months February through
298 March, when energy costs are lower. Then, the October EAR will reflect
299 the high costs of fuel and purchased power during the summer months,
300 even though October energy costs are likely to be low.

301 This mismatch was evident during the winter of 2007- 2008. In the
302 autumn of 2007, the Big Stone base load plant was out of commission.

303 During those low-load months, the EAR was only 0.26 cents per kWh. Big
304 Stone came back on line in December. Because of the lagging nature of
305 the EAR, the effect of the high cost of replacement power during the
306 outage was not felt until after the plant was back in service. As a result,
307 the EAR jumped to 1.53 cents in January, and then spiked to 3.5 cents in
308 February, just when space heating customers most needed electricity. It
309 remained at approximately that level through April, declining only during
310 the spring months of May and June. By July and August, peak-load
311 months, the EAR was less than 0.8 cents per kWh.⁴

312 The Company witnesses stress the importance of “price signals” in
313 proposing the use of marginal costs to develop seasonal rates. If price
314 signals are important, then it is relevant that the EAR during the summer
315 should reflect summer fuel and purchase power costs, and the EAR during
316 the winter should reflect winter costs.

317 Based on the foregoing, I recommend that the Company explore
318 the idea of an all-in fuel and purchased power energy charge that is
319 calibrated to the season in which it applies. This will require some degree
320 of forecasting prices and fuel mix, but such forecasting should be feasible
321 in competitive fuel and purchased power markets where forward
322 purchases are made. I request that the Company submit its comments on
323 this proposal in its rebuttal testimony in this case.

324 **WHOLESALE MARGINS**

325 **Q. What are “wholesale margins?”**

⁴ Attachment 1 to ND PSC IR 01-064.

326 A. Wholesale margins are the difference between the cost of power sold to
327 wholesale customers – other utilities or power marketers -- and the
328 revenue that the Company receives for that power. There are two types of
329 wholesale margins, “asset-based” margins that result from the sale of
330 power generated by OTP’s own production plants, and “non-asset-based”
331 margins that result from the resale of power or capacity that the Company
332 acquires from other generators in the competitive power markets.

333 **Q. How are wholesale margins currently treated?**

334 A. Currently, asset-based margins are treated as a offset to the Company’s
335 base-rate revenue requirement. Non-asset-based margins are treated
336 “below the line” and are excluded from the revenue requirement
337 calculation. A portion of the wholesale sales department’s expenses are
338 also excluded based on the relative mix of asset-based and non-asset-
339 based power.

340 **Q. What are the Company’s proposals regarding the treatment of**
341 **wholesale margins?**

342 A. OTP proposes to continue to include an allowance for asset-based
343 margins as an adjustment to base rate revenue requirements. It is
344 proposing that 15 percent of non-asset-based wholesale margins be
345 credited to the EAR. In return, all of the wholesale sales department’s
346 expenses would be incorporated into the base rate revenue requirement.

347 **Q. What is your response to these proposals.**

348 A. Asset-based wholesale margins vary from year to year depending upon
349 the market for power in the MISO transmission area. Given this variability,
350 it is not appropriate to fix a level of wholesale margin into the revenue
351 requirement calculation that will apply to base rates in effect for a number
352 years. Additionally, there is a matter of symmetry. The EAR includes
353 wholesale power purchases. It should include wholesale power sales as
354 well. For these reasons, I recommend that asset-based margins be
355 treated as offsets to the EAR.

356 It is clear from page 27 of Mr. Beithon's testimony that the
357 Company's proposed sharing mechanism for non-asset-based margins is
358 a losing proposition from the ratepayers' standpoint. Ratepayers' 15
359 percent share of these margins in 2007 would have been \$293,667. In
360 return, they would have been asked to absorb an additional \$674,590 in
361 wholesale trading department expenses, for a net loss of \$380,923.

362 Presumably, this infirmity could be resolved by increasing the
363 sharing percentage. But even then, the incorporation of non-asset
364 margins into ratepayer's bills is a poor idea. These margins have nothing
365 to do with the generation and distribution of electric power to OTP's North
366 Dakota ratepayers. They are conducted totally outside of regulated
367 operations, and they expose OTP and its customers to increased risk from
368 which there is no regulatory protection.⁵ I recommend that non-asset-
369 based margins and the associated wholesale transaction department

⁵ It should be noted that in September of 2008 Constellation Energy was forced to seek a merger partner to cover the collateral obligations associated with its energy trading activities.

370 expenses continue to be treated below the line. Indeed, it would be better
371 for ratepayers if non-asset-based trading should be spun off into an
372 unregulated subsidiary that is “ring-fenced” from the Company’s regulated
373 operations.

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

375 **A.** Yes. It does.

376

Experience

Snavely King Majoros O'Connor & Lee, Inc. Washington, DC

*President (1989 to Present)
Vice President (1970 - 1989)*

Mr. King, a founder of the firm and acknowledged authority on regulatory economics, brings over thirty years of experience in economic consulting to his direction of the firm's work in transportation, utility and telecommunications economics.

Mr. King has appeared as an expert witness on over 300 separate occasions before more than thirty state and nine U.S. and Canadian federal regulatory agencies, presenting testimony on rate base calculations, rate of return, rate design, costing methodology, depreciation market forecasting, and ratemaking principles. Mr. King has also testified before House and Senate Committees on energy and telecommunications legislation pending before the U.S. Congress.

In telecommunications, Mr. King has testified before the Federal Communications Commission on a number of policy issues, service authorization, competitive impacts, video dialtone, and prescription of interstate depreciation rates. Before state regulatory bodies, he has presented testimony in proceedings on intrastate rates, costs earnings and depreciation.

Mr. King has testified in electric, gas and water utility cases on virtually every aspect of regulation, including cost of capital, revenue requirements, depreciation, cost allocation and rate design. Mr. King is one of the nation's leading authorities on utility depreciation practices, having testified on this subject in several dozen cases before state regulatory bodies.

In addition to his appearances as a witness in judicial and administrative proceedings, Mr. King has negotiated settlements among private parties and between private parties and regulatory offices. Mr. King also has directed depreciation studies, investment cost benefit analyses, demand forecasts, cost allocation studies and antitrust damage calculations. Mr. King directed analyses of the prices of services under Federal Government's FTS2000 long distance system.

In Canada, Mr. King designed and directed an extended inquiry into the principles and procedures for regulating the telecommunication carriers subject to the jurisdiction of the Canadian Transport Commission. He also was the principal investigator in the Canadian Transport Commission's comprehensive review of rail costing procedures.

EBS Management Consultants, Inc., Washington, DC

*Director, Economic Development Department
(1968-1970)*

Mr. King organized and directed a five-person staff of economists performing research, evaluation, and planning relating to economic development of depressed areas and communities within the U.S. Most of this work was on behalf of federal, state, and municipal agencies responsible for community or regional economic development.

Principal Consultant (1966-1968)

Mr. King conducted research on a broad range of economic topics, including transportation, regional economic development, communications, and physical distribution.

W.B. Saunders & Company, Inc., Washington, DC

Staff Economist (1962-1966)

For this economic consulting firm, which later merged with EBS Management Consultants, Inc., Mr. King engaged in numerous research efforts relating primarily to economic development and transportation.

U.S. Bureau of the Budget, Office of Statistical Standards

Analytical Statistician (1961-1962)

Mr. King was responsible for the review of all federal statistical and data-gathering programs relating to transportation.

Education

Washington & Lee University, B.A. in Economics

*The George Washington University, M.A. in
Government Economic Policy*

Exhibit_____ (CWK-2)

**Appearances of Charles W. King before Regulatory
Agencies**

CHARLES W. KING
Snavely King Majoros O'Connor & Lee, Inc.
1220 L Street, N.W., Suite 410
Washington, D.C. 20005
(202) 371-1111

Appearances before State Regulatory Agencies

State	Electric, Gas, Water Utility Cases			Date of Cross-Examination
	Client	Case		
		Case Number	Utility	
AK	Exxon USA	P-89-1,2	Trans Alaska Pipeline System	October 18, 1990
AZ	Arizona Corporation Commission Arizona Retailers Association	U-1345-I U-1345-II	Arizona Public Service Co. Arizona Public Service Co.	December 16, 1980 January 15, 1981
CA	California Retailers Association California Retailers Association California Retailers Association California Retailers & California Manufacturers California Retailers Association	57666 57602 59351 59351 61138	Pacific Gas & Electric Co. Southern California Edison Pacific Gas & Electric Co. Southern California Edison Southern California Edison	March 6, 1978 April 25, 1978 June 12, 1981 May 20, 1982 May 28, 1982
CO	U. S. Department of Defense J.C. Penney Company U.S. Department of Defense U. S. Department of Defense U.S. Department of Defense U.S. Department of Defense U.S. Department of Defense U.S. Department of Defense	I&S 1100 5693 I&S 1339 I&S 1540 C. Council C. Council C. Council C. Council	Colorado Springs (Elec) All Electric Utilities Colorado Springs DPU (Gas) Colorado Springs DPU (Gas) Colorado Springs DPU (Gas) Colorado Springs DPU (Elec) Colorado Springs DPU (Elec) Colorado Springs DPU (Elec)	June 14, 1977 March 8, 1978 October 18, 1979 February 9, 1982 September 30, 1984 June 6, 1985 May 19, 1986 June 30, 1987
CT	Retailers Merchants Association Division of Consumer Counsel Public Utilities Control Auto Division of Consumer Counsel Division of Consumer Counsel Division of Consumer Counsel Division of Consumer Counsel Coalition of Hotels, Alloys & Retailers Coalition of Hotels, Alloys & Retailers	72-0204 76-0604,5 78-0303 90-0403,4 81-0413 81-0602,4 82-0701 85-10-22 87-07-01	Various Electric Utilities CL&P and HELCO Bridgeport Hydraulic Co. CL&P and HELCO United Illuminating Company CL&P and HELCO CL&P CL&P CL&P	July 22, 1976 November 10, 1977 (none) August 11, 1980 July 20, 1981 October 5, 1981 September 28, 1982 (none) April 25, 1988

State	Electric, Gas, Water Utility Cases			Date of Cross-Examination
	Client	Case		
		Case Number	Utility	
DC	D.C. People's Counsel	685	Potomac Electric Power Company	March 6, 1978
	D.C. People's Counsel	715	Potomac Electric Power Company	(none)
	D.C. People's Counsel	725	Potomac Electric Power Company	April 4, 1980
	D.C. People's Counsel	737	Potomac Electric Power Company	January 1, 1981
	Washington Metro Area Transit Authority	748	Potomac Electric Power Company	June 26, 1981
	Washington Metro Area Transit Authority	758	Potomac Electric Power Company	December 15, 1981
	D.C. People's Counsel	785	Potomac Electric Power Company	September 21, 1982
	Washington Metro Area Transit Authority	759	Potomac Electric Power Company	March 29, 1984
	D.C. People's Counsel	685 Remand	Potomac Electric Power Company	June 10, 1985
	D.C. People's Counsel	905	Potomac Electric Power Company	August 20, 1991
	D.C. People's Counsel	912	Potomac Electric Power Company	May 7, 1992
	D.C. People's Counsel	834, III	Potomac Electric Power Company	May 22, 1992
	D.C. People's Counsel	917	Potomac Electric Power Company	September 24, 1992
	D.C. People's Counsel	922	Washington Gas Light Company	June 15, 1993
	D.C. People's Counsel	929	Potomac Electric Power Company	December 16, 1993
	D.C. People's Counsel	934	Washington Gas Light Company	Filed April 22, 1994
	D.C. People's Counsel	939	Potomac Electric Power Company	March 16, 1995
	D.C. People's Counsel	917	Potomac Electric Power Company	April 16, 1995
	D.C. People's Counsel	951	Potomac Electric Power Company	February 20, 1997
	D.C. People's Counsel	945	Potomac Electric Power Company	September 29, 1999
D.C. People's Counsel	847	Washington Gas Light Company	June 27, 2001	
D.C. People's Counsel	989	Washington Gas Light Company	May 22, 2002	
D.C. People's Counsel	1016	Washington Gas Light Company	September 23, 2003	
D.C. People's Counsel	1053	Potomac Electric Power Company	June 27, 2007	
DE	Delaware PSC Staff	94-164	Artesian Water Company	Filed March 10, 1995
	Delaware PSC Staff	94-149	Wilmington Suburban Water Company	March 10, 1995
	Delaware PSC Staff	04-152	Tidewater Utilities Company	Filed July 26, 2004
FL	Florida Retail Federation	790593-EU	All Electric Utilities	March 5, 1981
	Florida Retail Federation	810002-EU	Florida Power and Light Company	July 23, 1981
	Florida Retail Federation	820097-EU	Florida Power and Light Company	September 22, 1982
	Florida Retail Federation	820097-EU	Florida Power and Light Company	April 11, 1983
	Florida Retail Federation	830012-EU	Tampa Electric Company	August 19, 1983
	Florida Retail Federation	830465-EI	Florida Power and Light Company	April 19, 1984
		830465-EI	Tampa Electric Company	(none)

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Appearances before State Regulatory Agencies

State	Electric, Gas, Water Utility Cases			Date of Cross-Examination
	Client	Case		
		Case Number	Utility	
GA	Georgia Retail Federation Georgia Public Service Commission Georgia Public Service Commission Georgia Public Service Commission Georgia Public Service Commission Georgia Public Service Commission Georgia Public Service Commission Georgia Public Service Commission Georgia Public Service Commission Georgia Public Service Commission Georgia Public Service Commission Georgia Public Service Commission Georgia Public Service Commission Georgia Public Service Commission	3270-U	Georgia Power Company	September 3, 1981
		4007-U	Georgia Power Company	August 21, 1991
		4384-U	All Electric Utilities	August 1, 1993
		4755-U	Georgia Power Company	January 25, 1994
		4697-U	All Utilities	May 10, 1994
		9355-U	Georgia Power Company	November 4, 1998
		1400-U	Georgia Power Company	October 23, 2001
		14618-U	Savannah Electric & Power Company	March 27, 2002
		14311-U	Atlanta Gas Light Company	April 8, 2002
		17066-U	Georgia Power Company	July 31, 2003
		18300-U	Georgia Power Company	October 26, 2004
		18638-U	Atlanta Gas Light Company	March 14, 2005
		19758-U	Savannah Electric & Power Company	March 29, 2005
		20298-U	Atmos Energy Corp.	October 11, 2005
25060-U	Georgia Power Company	Filed October 22, 2007		
27163	Atmos Energy Corp.	August 16, 2008		
HI	Public Utilities Department Hawaii Consumer Advocate	2793	All Electric Utilities	February 14, 1978
		4536	Hawaiian Electric Company	February 1, 1983
IL	Illinois Retail Merchants Association ("IRMA")/ Chicago Bldg. Mgrs. Association ("CBMA") IRMA/CBMA IRMA/CBMA IRMA/CBMA IRMA/CBMA IRMA/CBMA City of O'Fallon, IL	76-0698	Commonwealth Edison	June 22, 1977
		76-0568	All Electric Utilities	(none)
		80-0546	Commonwealth Edison	March 5, 1981
		82-0026	Commonwealth Edison	July 22, 1982
		83-0537	Commonwealth Edison	March 19, 1984
		87-0427	Commonwealth Edison	March/April 22, 1988
		90-0169	Commonwealth Edison	October 29, 1990
02-0690	Illinois-American Water Company	Filed Feb.5, Apr.11,2003		
IN	Indiana Retail Council Indiana Retail Council Indiana Retail Council	35780-S2	N. Ind. Public Service co.	June 1, 1980
		35780-S1	Public Service of Indiana	October 15, 1980
		36318	Public Service of Indiana	May 4, 1982
KS	J.C. Penney Company	115,379-U	All Kansas Utilities	January 22, 1981

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State	Client	Electric, Gas, Water Utility Cases		Date
		Case Number	Utility	
KY	Seven Kentucky Retailers Attorney General of Kentucky Attorney General of Kentucky Attorney General of Kentucky Attorney General of Kentucky Attorney General of Kentucky	7310	Louisville Gas & Electric Co.	April 25, 1979
		2002-145	Columbia Gas of Kentucky	Filed August 8, 2002
		2003-252	Union Heat Light & Power Co.	September 30, 2003
		2004-67	Delta Gas Company	August 18, 2004
		2006-00646	Airnos Energy Corp.	Filed April 27, 2007
		2007-00008	Columbia Gas of Kentucky	Filed June 12, 2007
		2007-00089	Delta Gas Company	Filed August 14, 2007
MA	Coalition of Municipalities Coalition of Municipalities Coalition of Municipalities Coalition of Municipalities	20279	Western Massachusetts Electric	March 19, 1980
		5571558	Western Massachusetts Electric	May 14, 1981
		957	Western Massachusetts Electric	March 9, 1982
		1300	Western Massachusetts Electric	January 1, 1983
		85-270	Western Massachusetts Electric	March 26, 1986
MD	Maryland People's Counsel Maryland People's Counsel Maryland People's Counsel Maryland People's Counsel Maryland People's Counsel Maryland People's Counsel Maryland People's Counsel Retail Merchants of Baltimore Maryland People's Counsel Maryland People's Counsel Maryland People's Counsel Organization of Consumer Justice Maryland People's Counsel Maryland People's Counsel Retail Merchants of Baltimore Retail Merchants of Baltimore Genstar Stone Products, et al. Industrial Intervenors Maryland People's Counsel Giant Foods, Inc. Maryland People's Counsel Maryland People's Counsel Maryland People's Counsel Maryland People's Counsel Maryland People's Counsel	6977	Washington Gas & Light Company	September 17, 1976
		6814	Potomac Electric Power Company	September 1, 1977
		6807	All Electric Utilities	(none)
		6882	Baltimore Gas & Electric Company	September 28, 1976
		6985	Baltimore Gas & Electric Company	December 20, 1976
		7070	Baltimore Gas & Electric Company	April 18, 1978
		7149	Potomac Electric Power Company	January 17, 1979
		7163	All Electric Utilities	October 23, 1978
		7236	Delmarva Power & Light Company	June 20, 1980
		7397	Baltimore Gas & Electric Company	September 8, 1980
		7427	Delmarva Power & Light Company	December 2, 1981
		7574	Baltimore Gas & Electric Company	February 16, 1982
		7597	Potomac Electric Power Company	April 20, 1982
		7604	Potomac Electric Power Company	October 19, 1982
		7588	Baltimore Gas & Electric Company	November 22, 1982
		7685	Baltimore Gas & Electric Company	April 12, 1983
		7878	Potomac Electric Power Company	December 9, 1985
		7893	Potomac Electric Power Company	June 28/July 1986
		8855	Baltimore Gas & Electric Company	March 4, 1987
		9036	Baltimore Gas & Electric Company	January 8, 2003
9092	Baltimore Gas & Electric Company	September 29, 2006		
9093	Potomac Electric Power Company	April 16, 2007		
9104	Delmarva Power & Light Company	April 9, 2007		
9096	Washington Gas & Light Company	August 23, 2007		
9103	Baltimore Gas & Electric Company	September 24, 2007		
			Washington Gas & Light Company	Filed December 21, 2007

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State	Electric, Gas, Water Utility Cases		Date of Cross-Examination
	Client	Case	
		Case Number	Utility
MI	General Services Administration	U-10102	Detroit Edison Company
	Michigan Attorney General	U-11722	Detroit Edison Company
	Michigan Attorney General	U-11772	Consumers Energy/Detroit Edison
	Michigan Attorney General	U-11495	Detroit Edison Company
	Michigan Attorney General	U-11956	Consumer Energy/Detroit Edison
	Michigan Attorney General	U-12505	Consumers Energy Company
	Michigan Attorney General	U-12478	Detroit Edison Company
	Michigan Attorney General	U-12639	Consumers Energy/Detroit Edison
	Michigan Attorney General	U-13000	Consumers Energy Company
	Michigan Attorney General	U-13380	Consumers Energy Company
	Michigan Attorney General	U-13715	Consumers Energy Company
	Michigan Attorney General	U-13808	Detroit Edison Company
	Michigan Attorney General	U-12999	Consumers Energy Company
	Michigan Attorney General	U-13998,9	Michigan Consolidated Gas Co.
	Michigan Attorney General	U-14201	Detroit Edison Company
	Michigan Attorney General	U-14274	Consumers Energy Company
	Michigan Attorney General	U-14146	Consumers Energy Company
	Michigan Attorney General	U-14399	Detroit Edison Company
	Michigan Attorney General	U-14428	Detroit Edison Company
	Michigan Attorney General	U-14292	All Michigan Utilities
	Michigan Attorney General	U-13808-R	Detroit Edison Company
	Michigan Attorney General	U-14547	Consumers Energy Company
	Michigan Attorney General	U-14701	Consumers Energy Company
Michigan Attorney General	U-14526	Consumers Energy Company	
Michigan Attorney General	U-14561	Consumers Energy Company	
Michigan Attorney General	U-15002	All Gas Distribution Utilities	
Michigan Attorney General/ABATE	U-15245	Detroit Edison Company	
Michigan Attorney General	U-15417	Consumers Energy Company	
Michigan Attorney General/ABATE	U-15244	Detroit Edison Company	
Michigan Attorney General/ABATE	U-15506	Consumers Energy Company	
Michigan Attorney General	U-15002-R	Detroit Edison Company	
MI	Minnesota Retail Federation	EOO26R-77-611	Northern States Power
MO	Missouri Retailers Association	EO-78-161	Kansas City Power & Light Company
	Missouri Public Counsel	ER-2006-0315	Empire District Electric Company
	Missouri Public Counsel	GR-2007-0003	Ameren UE (Gas)
NC	North Carolina Merchants Association	ER-2007-0002	Ameren UE (Electric)
		E-100	All Electric Utilities

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State	Electric, Gas, Water Utility Cases			Date
	Client	Case		
		Case Number	Utility	
ND	North Dakota Public Service Commission	PU-400-00-521	Xcel Energy, Inc.	April 20, 2001
	North Dakota Public Service Commission	PU-399-01-186	Montana-Dakota Utilities (Electric)	February 25, 2002
	North Dakota Public Service Commission	PU-399-02-183	Montana-Dakota Utilities (Gas)	October 7, 2002
	North Dakota Public Service Commission	PU-399-02-183	Montana-Dakota Utilities (Gas Depr.)	Filed April 7, 2003
	North Dakota Public Service Commission	PU-399-03-296	Montana-Dakota Utilities (Electric)	Filed October 15, 2003
	North Dakota Public Service Commission	PU-04-97	Montana-Dakota Utilities (Gas)	Filed July 6, 2004
NH	North Dakota Public Service Commission	PU-06-525	Northern States Power (Gas)	Filed May 1, 2007
	North Dakota Public Service Commission	PU-07-776	Northern States Power (Electric)	June 25, 2008
	Business & Industry Association of N.H. Business & Industry Association of N.H. Business & Industry Association of N.H.	79-187-II 80-260 82-333	Public Service of N.H. Public Service of N.H. Public Service of N.H.	February 6, 1981 February 5, 1981 November 2, 1983
NJ	N.J. Retail Merchants Association	803-151	All New Jersey Utilities	March 31, 1981
	Department of Public Advocate	815-459	N.J. Natural Gas Company	(none)
	Resorts International Hotel, Inc.	8011-827	Atlantic City Sewerage Co.	(none)
	Dept. of Public Advocate	822-116	Atlantic City Electric Co.	August 11, 1982
	Dept. of Public Advocate Dover Township Fire Chiefs	355-87 88-080967	Elizabethtown Gas Tom's River Water Company	June 9, 1987 February 22, 1989
NY	NY Council of Retail Merchants	26806	All Electric Utilities	February 3, 1976
	Metropolitan N.Y. Retail Council	27029	Consolidated Edison Company	(none)
	Metropolitan N.Y. Retail Council	27136	Long Island Lighting Company	July 1, 1977
	N.Y. Metro. Transit Authority	27353	Consolidated Edison Company	September 5, 1980
OH	Ohio Council of Retail Association	88-170-EL	Cleveland Elec. Illuminating	(none)
	Ohio Council of Retail Association Ohio Energy Group	83-1529-EL 08-936-EL-SSO	Cincinnati Gas & Electric FirstEnergy Companies	February 15, 1992 Filed September 25, 2008

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Appearances before State Regulatory Agencies

State	Electric, Gas, Water Utility Cases				Date
	Client	Case		Utility	
		Case Number			
PA	Pennsylvania Retail Association Southeastern Pa. Transp. Authority Eastern Penn Energy Users Group Eastern Penn Energy Association Penn Business Utility User Group Pennsylvania Office of Consumer Advocate Pennsylvania Office of Public Advocate	76-PRMD-7 R-811826 R-822169 R-842661 R-850152 R-00016339 R-2008-203269	All Electric Utilities Philadelphia Electric Company Penn. Power & Light Company Penn. Power & Light Company Philadelphia Electric Company Pennsylvania-American Water Co. Pennsylvania-American Water Co.	September 7, 1977 December 11, 1981 March/April 1983 December 3, 1984 February 19, 1986 September 19, 2001 August 6, 2008; Sept. 15, 2008	
TN	Attorney General of Tennessee Attorney General of Tennessee	07-00105 08-00039	Atmos Energy Corp. Tennessee-American Water Co.	Filed August 21, 2007 August 26, 2007	
TX	Houston Retailers Association Houston Retailers Association Cities for Fair Utility Rates	5779 6765 8425/8431	Houston Lighting Company Houston Lighting Company Houston Lighting Company	October 19, 1984 September 25, 1986 April 25, 1989	
UT	Div. Of Public Utilities Dept of Commerce Div. Of Public Utilities Dept of Commerce Div. Of Public Utilities Dept of Commerce	98-2035-33 05-057-101 07-035-13	Pacific Corp Questar Gas Company Rocky Mountain Power Co.	Filed August 16, Sept 22, 1999 May 17, 2008 Filed October 15, 2007	
VA	Consumer Congress of Virginia Consumer Congress of Virginia Va. Business Committee on Energy Virginia Pipe Trades Council	19426 19960 PUE 7900012 PUE 8900051	Virginia Electric Power Company Virginia Electric Power Company Virginia Electric Power Company Old Dominion Electric Corp. &	July 1, 1975 September 19, 1978 February 25, 1981 October 31, 1989	
WA	WA Attorney General - Public Counsel WA Attorney General - Public Counsel WA Attorney General - Public Counsel	UE-072300;UG-072301 UE-080220 UE-08416;UG-08417	Puget Sound Energy PacifiCorp Avista Utilities	Filed May 30, 2008 Filed August 15, 2008 September 19;October 10, 2008	
WI	Wisconsin Merchants Federation	6630-ER-2	Wisconsin Electric Power Company	May 15, 1978	

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State	Telecommunications Cases			Date of Cross-Examination
	Client	Case		
		Case Number	Utility	
AL	U.S. Department of Defense	24472	All Telephone Companies	June 14, 1995
AK	GCI Communications, Inc. GCI Communications, Inc.	U-97-82,U-97-143 U-05-46	Alaska Communications Systems Matanuska Telephone Association	Filed Feb 25, April 5, 2004 October 28, 2005
AZ	Arizona Burglar & Fire Alarm Association Arizona Burglar & Fire Alarm Association Federal Executive Agencies U.S. Department of Defense	9981-E- 1051-80-64 E-1051-88-146 T-01051B-99-0105	Mountain State Telephone Mountain State Telephone Mountain State Telephone US WEST Communications	(none) (none) Filed July 26, Sept 8, 2000
CA	Western Burglar & Fire Alarm Association Western Burglar & Fire Alarm Association Western Burglar & Fire Alarm Association Western Burglar & Fire Alarm Association Western Burglar & Fire Alarm Association Western Burglar & Fire Alarm Association Western Burglar & Fire Alarm Association California Cellular Resellers Federal Executive Agencies California Cellular Resellers California Cellular Resellers Cellular Services, Inc. Federal Executive Agencies	59849 5984cont. A83-01-22 A83-02-02 A82-11-07 A85-01-034 A87-01-02 A89-07-17019 A.88-11-1040 1.87-11-033 1.88-11-040 1.88-11-040 A92-05-004	Pacific Telephone & Telegraph Pacific Telephone & Telegraph Pacific Telephone & Telegraph General Telephone of California Pacific Telephone & Telegraph Pacific Telephone & Telegraph General Telephone of California Pac. Bell Tel. & GTE of CA. All Cellular Carriers All Telephone Companies All Cellular Carriers All Cellular Carriers Pacific Telephone & Telegraph	March 25, 1981 June 23, 1982 June 29, 1983 January 17, 1984 Jan. 18, Oct. 31, Nov 28, 1984 June 4, 1985, October 2, 1986 October 22, 1987 January 23, 1989 August 11, 1989 March 6-7, 1991 August 19, 1991 October 3, 1991 June 9, 1993
CO	U.S. Department of Defense U.S. Department of Defense U.S. Department of Defense U.S. Department of Defense Colorado Municipal League U.S. Department of Defense U.S. Department of Defense U.S. Department of Defense U.S. Department of Defense U.S. Department of Defense U.S. Department of Defense AT&T	I&S 717 I&S 1700 Appl. I&S 1766 Appl 36883 I&S 891-082T 905-544T 90A-665T 92M-039T 92S-229T 90A-665T 96S-331T	Mountain Bell Telephone Company Mountain Bell Telephone Company Mountain Bell Telephone Company Mountain Bell Telephone Company U.S. West Communications U.S. West Communications U.S. West Communications U.S. West Communications U.S. West Communications U.S. West Communications	1972 (none) September 18, 1986 November 28, 1988 December 13, 1988 February 21, 1990 July 17, 1991 October 23, 1991 February 24-24, 1992 July 30-31, 1992 November 6, 1996 April 17, 1997

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State	Telecommunications Cases				Date of Cross-Examination
	Client	Case		Utility	
		Case Number			
CT	Connecticut Consumer Counsel CT Cellular Resellers Assn. CT Cellular Resellers Coalition AT&T Connecticut Consumer Counsel Connecticut Consumer Counsel	770526 89-12-05 94-03-27 AT&T/SNET Arbitration 96-04-07 00-07-17	Southern New England Telephone Co. Southern New England Telephone Co. Springwich Cellular/Bell Atlantic Southern New England Telephone Co. Southern New England Telephone Co. Southern New England Telephone Co.	November 10, 1977 (none) May 16, June, 1994 Filed October 28, 1996 February 10, 1998 December 5, 2000	
DC	D.C. People's Counsel D.C. People's Counsel General Services Administration General Services Administration General Services Administration General Services Administration	729 798 827 854 850 926	Chesapeake & Potomac Tel. Co. Chesapeake & Potomac Tel. Co. Chesapeake & Potomac Tel. Co. Chesapeake & Potomac Tel. Co. Chesapeake & Potomac Tel. Co. Chesapeake & Potomac Tel. Co.	May 13, 1980 July 18, 1983 May 7, 1985 April 16, 1987 October 7, 1991 October 7, 1993	
DE	Public Service Commission Federal Executive Agencies Public Service Commission	Depr.Repre 86-20 Depr.Repre	Diamond State Telephone Co. Diamond State Telephone Co. Diamond State Telephone Co.	April 1, 1985 July 31, 1987 March 8, 1988	
FL	GTE Sprint Communications Company Office of Public Counsel Federal Executive Agencies Federal Executive Agencies Federal Executive Agencies	720536-TP Depr.Repre 880069-TL 880069-TL 880069-TL	All Telephone Companies Southern Bell Southern Bell Southern Bell Southern Bell	September 12, 1983 July 30, 1986 July 21, 1988 November 30, 1990 February 11, 1992	
GA	Georgia Attorney General Federal Executive Agencies Federal Executive Agencies Georgia Public Service Commission	3893-U 3905-U 3987-U 4018-U	Southern Bell Telephone Co. Southern Bell Telephone Co. Southern Bell Telephone Co. Southern Bell Telephone Co.	January 8, 1990 June 12, 1990 February 13, 1992 Jan 14, Feb 10, 1993	
HI	Hawaii Public Utility Commission Four Hawaii Counties Department of Defense Department of Defense Department of Defense Department of Defense	1871 4588 7579 94-0093 7702 94-0298 7720	Hawaiian Telephone Company Hawaiian Telephone Company Hawaiian Telephone Company Oceanic Communications All Communications Carriers GTE Hawaiian Telephone Company Verizon-Hawaii	July 8, 1971 December 15, 1983 April 26, 1994 March 13, 1995 June 2, 1995 May 7, 1996 November 15, 2000	

State	Telecommunications Cases				Date of Cross-Examination
	Client	Case Number	Case		
			Utility		
ID	U.S. Department of Energy U.S. Department of Energy	U-1000-63 U-1000-70	Mountain Bell Telephone Co. Mountain Bell Telephone Co.		May 16, 1983 March 6, 1984
IL	Illinois Alarm Companies Attorney General of Illinois GTE Sprint Communications Co. Federal Executive Agencies	79-0143 81-0478 83-0142 89-0033	Illinois Bell Telephone Illinois Bell Telephone All Telephone Companies Illinois Bell Telephone		September 26, 1979 December 28, 1981 August 4, 1983 June 12, 1989
KS	State Corporation Commission Federal Executive Agencies Federal Executive Agencies	Depr. Repr. 166.856-U 190, 492	Southwestern Bell Southwestern Bell All Telephone Companies		May 12-14, 1986 November 7, 1989 November 4, 1994
KY	Kentucky Cable Telecommunications Assn. Kentucky Cable Telecommunications Assn.	2000-414 2000-39	Blue Grass Energy Cooperative Cumberland Valley Electric, Inc.		January 11, 2001 January 11, 2001
MD	Maryland People's Counsel Maryland People's Counsel Maryland People's Counsel Maryland People's Counsel Federal Executive Agencies Federal Executive Agencies Federal Executive Agencies	6813 6881 7025 7467 7851 8106 8274	C&P Telephone Company C&P Telephone Company C&P Telephone Company C&P Telephone Company C&P Telephone Company C&P Telephone Company C&P Telephone Company		1975 December 17, 1975 March 15, 1975 October 20, 1981 March 20, 1985 May 9, 1988 August 2, 1990
MI	Michigan Attorney General Michigan Attorney General	U-8911 U-9553	Michigan Bell Telephone Co. AT&T Communications/MCI		November 7, 1988 December 4, 1990
MN	GTE Sprint Communications Co. U.S. Department of Defense	83-102-HC 87-021-BC	All Telephone Companies Northwest Bell Telephone Co.		August 5, 1983 (none)

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State	Telecommunications Cases				Date of Cross-Examination
	Client	Case		Utility	
		Case Number			
MO	GTE Sprint Communications Co. Federal Executive Agencies Federal Executive Agencies	TR83-253 TC-89-14 TO-89-56	Southwestern Bell Tel. Co. Southwestern Bell Tel. Co. Southwestern Bell Tel. Co.		September 5, 1983 (none) November 7, 1990
MS	Federal Executive Agencies	U-5453	South Central Bell Tel. Co.		May 15, 1990
NJ	Department of Public Advocate Department of Public Advocate Department of Public Advocate Department of Public Advocate Department of Public Advocate	Depr.Repr. 815-458 Depr.Repr. Depr.Repr. T092030358 TMO05080739	N.J. Bell Telephone Company N.J. Bell Telephone Company N.J. Bell Telephone Company N.J. Bell Telephone Company N.J. Bell Telephone Company United Telephone Co. of New Jersey		Mar-79 October 15, 1981 March 1, 1982 February 1, 1985 September 30, 1992 January 5, 2006
NM	New Mexico Corporation Commission New Mexico Corporation Commission	1032 86-151-TC	Mountain Bell Telephone Co. General Telephone of Southwest		November 14, 1983 February 5, 1987
NV	Prime Cable of Las Vegas Prime Cable of Las Vegas	95-8034/8035 96-9035	Central Telephone - NV Sprint/Centel, Nevada Bell		Filed November 22, 1995 June 2, 1997
NY	Holmes Protection, Inc. Holmes Protection, Inc. 5 Alarm Companies GTE Sprint Communications Co.	27350 27469 27710 28425	New York Telephone Company New York Telephone Company New York Telephone Company All Telephone Companies		October 17, 1978 May 17, 1979 July 24, 1980 July 8, 1983
PA	City of Philadelphia	R-832316	Pennsylvania Bell Telephone		September 20, 1983
SC	Office of Consumer Advocate Office of Consumer Advocate Office of Consumer Advocate Office of Consumer Advocate Office of Consumer Advocate	Depr.Repr. 86-511-C 86-541-C Depr.Repr. 89-180-C	Southern Bell Southern Bell General Telephone of South Southern Bell ALLTEL of South Carolina		July 1, 1986 December 11, 1986 April 8, 1987 July 10, 1989 September 26, 1989

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State	Telecommunications Cases				Date of Cross-Examination
	Client	Case Number	Case		
			Utility		
TX	U.S. Department of Defense	8585/8218	Southwestern Bell Telephone Co.	(none)	
VA	U.S. Dept. Of Defense, GSA, et Federal Executive Agencies	19696 PUC 890014	C&P Telephone Company All Telephone Companies	October 6, 1976 February 13, 1989	
VI	V.I. Department of Commerce V.I. Public Service Commission	205 341	Virgin Islands Telephone Co. Virgin Islands Telephone Co.	April 29, 1980 March 20, 1991	
WA	U.S. Department of Defense U.S. Department of Defense U.S. Department of Defense U.S. Department of Defense WA Attorney General/TRACER U.S. Department of Defense U.S. Department of Defense WA Attorney General/TRACER WA Attorney General/TRACER U.S. Department of Defense WA Attorney General/WeBTEC/AARP WA Attorney General WA Attorney General	U-72-39 U-87-796-T U-88-20524 U-89-2698-F UT-940641 UT-941464 UT-961425 UT-961632 UT-021120 UT-040788 UT-040520 UT-050814	Pacific Northwest Bell Pacific Northwest Bell Pacific Northwest Bell US West Communications US West Communications US West Communications US West Communications US West Communications GTE Northwest, Inc Qwest Communications Verizon Northwest, Inc. Verizon Northwest, Inc. Verizon - MCI Merger	1973 December 20, 1983 November 8, 1988 November 28, 1989 Filed October 14, 1994 June 22, 1995 January 22, 1996 Filed June 23, 1997 July 29, 1997 May 22, 2003 August 12, 2004 February 2, 2005 November 2, 2005	
WI	GTE Sprint Wisconsin Consumers Utility Board Wisconsin Consumers Utility Board	6720-TR-38 2055-TR-102 5846-TR-102	All Telephone Companies CenturyTel of Central Wisconsin Telephone USA, LCC	October 20, 1983 June 26, 2002 June 26, 2002	

Federal Communications Commission			
Client	Docket	Subject	Date of Cross-Examination
Department of Defense Airline Parties Airline Parties National Data Corporation Press Wire Services Aeronautical Radio Department of Defense State of Hawaii International Record Carriers ITT World Communications Aeronautical Radio MCI Ind. Data Com. Mfg. Assn. Tymnet, Inc. Adelphia Jones Intercable, et. al. Adelphia Jones Intercable, et. al. Adelphia Jones Intercable, et. al.	16020 16258 18128 19989 19919 20814 20690 21263 CC78-97 CC84-633 CC78-72 CC84-800 CC85-26 ENF84-22 Bell Atlantic Bell Atlantic Bell Atlantic	Consat Rate of Return Bell System Rates TELPAK WATS Private Line Rates Private Line Rates 1,544 Mbps Service Interstate Separation Telex/TWX Rates Rate of Return Access Line Charges Rate of Return AT&T Accounting Plan Packet Switching Costs Video Dialtone Video Dialtone Video Dialtone	1973 July 22, 1968 3/22, 10/15 1971, Feb. 22, 1972 (none) (none) October 5, 1978 January 30, 1979 February 7, 1979 March 6, 1980 (none) (none) (none) (none) (none) Filed 7/29/94 Filed 8/23/94 Filed 2/21/95
Nuclear Regulatory Commission			
Fauquier League for Environment Protection	50-328 50-329	Va. Electric Power Co.	1976
Postal Rate Commission			
Association of Third Class Mail Users Dow Jones & Company Dow Jones & Company Dow Jones & Company Dow Jones & Company Dow Jones & Company Warshawsky & Company Dow Jones & Company Dow Jones & Company Dow Jones & Company Dow Jones & Company	R71-1 R72-1 R74-1 MC76-2 MC79-3 R80-1 C82-1 R84-1 R87-1 R90-1 MC91-1 MC91-3	Rates Rates Rates Rate Structure Rate Structure Rates Rate Structure Postal Costs Rate Structure Costs Rate Structure Costs Pre-barcoding Discounts Palletization Discounts	1970 1972 September 13, 1974 January 6, 1979 September 12, 1979 November 25, 1980 (none) June 14, 1984 November 2, 1987 Sept 12, Oct 10, 1990 November 19, 1991 March 2, 1992

Client	Docket	Subject	Date of Cross-Examination
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U.S. Congress

National Retail Merchants Association National Wireless Resellers Association	House/Senate Hearings House Commerce Committee	Electric Rate Reform Legislation Interconnection & Resale of Wireless Services	1976, 1977 & 1979 October 12, 1995
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Federal Maritime Commission

State of Hawaii Foss Alaska Line Palmetto Shipping and Stevedoring	71-18 79-54 85-20	Ocean Shipping Rates Barge Rate Increase Vessel Charge Liability	October-71 July 1979 October 27, 1986
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Interstate Commerce Commission - Surface Transportation Board

Western Coal Traffic League Western Coal Traffic League Western Coal Traffic League Arkansas Power & Light Co. Central Illinois Light Co. Western Coal Traffic League Snavey King Majors O'Connor & Lee, Inc. Williams Energy Services, Inc	Ex Parte 349 Ex Parte 357 Ex Parte 375 (Sub 1) 37276 37450 Ex Parte 347 Ex Parte 664 Ex Parte 582, Sub 1	R.R. Rate Increase R.R. Rate Increase R.R. Rate Increase Cost of Capital Cost of Capital Costing Methods Cost of Capital Rail Merger Guidelines	May-76 Oct-78 June 1, 1980 (none) March 10, 1981 (none) December 8, 2006 April 5, 2001
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Civil Aeronautics Board

Thomas Cook, Inc.	36596	Air Fare Deregulation	(none)
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Copyright Royalty Tribunal

Public Broadcasting Service	88-2-86CD	Television Valuation	(none)
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CHARLES W. KING
Appearances before Federal Regulatory Agencies

Client	Docket	Subject	Date
Federal Energy Regulatory Commission			
Exxon USA Consumer Advocates of DE, DC, OH, MD, NJ, PA, WV, VA Consumer Advocates of DE, DC, OH, MD, NJ, PA, WV Maryland Office of People's Counsel Maryland Office of People's Counsel	OR89-2-000 Pipeline Quality Bank ER08-386-000 Electric Transmission Cost of Equity ER08-23-000 Electric Transmission Cost of Equity ER08-686-01 Electric Transmission Cost of Equity ER08-1329 Electric Transmission Cost of Equity	Pipeline Quality Bank Electric Transmission Cost of Equity Electric Transmission Cost of Equity Electric Transmission Cost of Equity Electric Transmission Cost of Equity	October 18, 1990 March 26, 2008 May 21, 2008 April 7, 2008; July 8, 2008, August, 2008
Canadian Transport Commission			
Rail Costing Inquiry, 1967-1969 Telecommunications Costing Inquiry, 1972-1975			

**OTTER TAIL POWER COMPANY
REVISED SERVICE ALLOCATORS**

	TOTAL N. D.	RESIDENTIAL	FARMS	GENERAL SERVICE	LARGE GENERAL SERVICE	IRRIGATION	OUTDOOR LIGHTING	OPA	CONTROLLED WATER HEATING	CONTROLLED SERVICE INTERRUPT	CONTROLLED SERVICE DEFERRED
1 Investment per Service		406.10	434.72	592.07	26,611.21	406.10		687.11		26,611.21	26,611.21
2 Secondary Service Locations	Marginal Cost Study, Table 16 COSS, p 15-2, Factor C3	46,011	1,091	11,876	132	69	33	572	18	85	14
3 Total Service Investment	Ln 8 * Ln 9	18,685,067	474,280	7,031,423	3,512,680	28,021	-	393,027	-	2,261,953	372,557
4 Revised Service Allocator (C3)	Ln 10 Percentages	57.0380%	1.4478%	21.4641%	10.7228%	0.0855%	0.0000%	1.1998%	0.0000%	6.9048%	1.1373%

Marginal Cost Study, Attachment 1 to ND PSC IR 1-39

OTTER TAIL POWER COMPANY
ND PSC STAFF CLASS COST OF SERVICE STUDY
TEST YEAR - 2007 ACTUAL WITH KNOWN AND MEASURABLE CHANGES

LINE NO	ITEM	NORTH DAKOTA	RESIDENTIAL	GENERAL SERVICE	LARGE GENERAL SERVICE	FARMS	IRRIGATION	OUTDOOR LIGHTING	OPA	CONTROLLED WATER HEATING	CONTROLLED SERVICE INTERRUPT	CONTROLLED SERVICE DEFERRED
1	RATE BASE	187,173,203	57,573,505	50,431,292	49,499,960	3,190,190	196,644	5,826,169	1,918,709	3,897,899	12,706,764	1,932,070
2												
3	TOTAL AVAILABLE FOR RETURN	12,942,144	3,591,304	5,878,705	4,899,851	85,514	(8,223)	(63,316)	(1,607)	(126,917)	(1,279,628)	(33,539)
4												
5	RATE OF RETURN EARNED	6.91%	6.24%	11.66%	9.90%	2.68%	-4.18%	-1.09%	-0.08%	-3.26%	-10.07%	-1.74%
6												
7	RATE OF RETURN REQUESTED	6.91%	6.91%	6.91%	6.91%	6.91%	6.91%	6.91%	6.91%	6.91%	6.91%	6.91%
8												
9	OPERATING INCOME REQUIRED	12,942,144	3,980,936	3,487,086	3,422,689	220,587	13,597	402,852	132,670	269,521	878,613	133,594
10												
11	TOTAL AVAILABLE FOR RETURN	12,942,144	3,591,304	5,878,705	4,899,851	85,514	(8,223)	(63,316)	(1,607)	(126,917)	(1,279,628)	(33,539)
12												
13	OPERATING INCOME DEFICIENCY	-	389,632	(2,391,619)	(1,477,162)	135,073	21,820	466,168	134,277	396,438	2,158,240	167,132
14												
15	INCREMENTAL TAXES	0	251,474	(1,543,582)	(953,380)	87,178	14,083	300,871	86,664	255,867	1,392,956	107,869
16												
17	REVENUE CHANGE REQUIRED	0	641,106	(3,935,201)	(2,430,542)	222,250	35,904	767,039	220,941	652,305	3,551,197	275,001
18	REVENUE AT PRESENT RATES	118,309,177	36,574,921	34,012,150	36,231,788	1,601,767	45,963	2,095,668	967,569	1,185,332	4,744,402	849,617
19	PERCENTAGE CHANGE	0.00%	1.75%	-11.57%	-6.71%	13.88%	78.11%	36.60%	22.83%	55.03%	74.85%	32.37%

Source: Attachment 1 to ND PSC IR 1-36

**OTTER TAIL POWER COMPANY
STAFF RECOMMENDED CLASS RATE ADJUSTMENTS
BASED ON CLASS COST OF SERVICE STUDY (CCOSS) TEST YEAR - 2007 ACTUAL WITH KNOWN AND MEASURABLE CHANGES**

LINE NO	ITEM	SOURCE	A NORTH DAKOTA	B RESIDENTIAL	C GENERAL SERVICE	D LARGE GENERAL SERVICE	E FARMS	F IRRIGATION	G OUTDOOR LIGHTING	H OPA	I CONTROLLED WATER HEATING	J CONTROLLED SERVICE INTERRUPT	K CONTROLLED SERVICE DEFERRED
1	RATE BASE	2007 CCOSS, Excel Ln 15	187,173,203	57,324,168	50,593,875	49,539,005	3,199,920	197,178	5,825,067	1,926,610	3,897,780	12,732,425	1,936,176
2	TOTAL AVAILABLE FOR RETURN	2007 CCOSS, Excel Ln 17	12,942,144	3,591,304	5,878,705	4,899,851	85,514	(8,223)	(63,316)	(1,607)	(126,917)	(1,279,628)	(33,539)
3	RATE OF RETURN EARNED	Ln 2 / Ln 1	6.91%	6.26%	11.62%	9.89%	2.67%	-4.17%	-1.09%	-0.08%	-3.26%	-10.05%	-1.73%
4	REVENUE AT PRESENT RATES - CCOSS	2007 CCOSS, Excel Ln 577	118,309,177	36,574,921	34,012,150	36,231,788	1,601,767	45,963	2,095,668	967,569	1,185,332	4,744,402	849,617
5	RATE INCREASE	Assumed		2.0%									
6	REVENUE INCREASE		2,366,184										
7	REVENUE REQUIREMENT	Ln 4 * Ln 5	120,675,361										
RESIDENTIAL CLASS													
8	RESIDENTIAL INCREASE AT CO. AVERAGE	Ln 4 * Ln 5	731,498	731,498									
REVENUE DEFICIENT CLASSES:													
9	COMPANY PROPOSED INCREASE %	Beithon Test. P. 61					7.50%	10.0%	25.0%	14.0%	10.0%	35.0%	11.0%
10	REVENUE INCREASE	Ln 4 * Ln 8	2,656,637				120,133	4,596	523,917	135,460	118,533	1,660,541	93,458
REVENUE SUFFICIENT CLASSES:													
11	REVENUE ADJUSTMENT	Ln 6 - Ln 8 - Ln 10	(1,021,952)										
12	ROE EXCESS	Ln 3, Class - Co. ROR			4.70%	2.98%							
13	RETURN EXCESS	Ln 1 * Ln 12	3,854,840		2,380,377	1,474,463							
14	ALLOCATION OF AVAILABLE REVENUE	Ln 11 by Ln 13	(1,021,952)		(631,059)	(390,893)							
15	RATE REDUCTION	Ln 14/Ln 4			-1.86%	-1.08%							
SUMMARY													
16	RATE ADJUSTMENT PERCENT	Lns 5, 9, 1516	2.00%	2.00%	-1.86%	-1.08%	7.50%	10.00%	25.00%	14.00%	10.00%	35.00%	11.00%
17	RATE ADJUSTMENT - REVENUE	Ln 17 * Ln 5	2,366,184	731,498	(631,059)	(390,893)	120,133	4,596	523,917	135,460	118,533	1,660,541	93,458

Exhibit ____ (CWK-4)

Otter Tail Power's response to ND PSC IR No. 03-002

Otter Tail Corporation d/b/a
OTTER TAIL POWER COMPANY
North Dakota Case No: PU-08-862

Response to: North Dakota Public Service Commission
Analyst: Diller_King_03
Date of Request: 2/27/2009
Date Received: 2/27/2009
Date Due: 3/27/2009

Information Request No. ND 03-002

Staff is concerned with the very large increases that some customers will experience under the revised rate structures proposed by OTP, quite regardless of the overall level of revenue increase. Staff is considering a recommendation of limiting any one customer's rate increase to 50% over the class increase or, for those classes receiving less than a 6.7% increase, 10 percent on an annualized basis in the first year. Subsequent annual increases would be capped at 5 percent until the proposed rates are fully implemented. Exceptions would be customers with average monthly bills of less than \$10 and customers who are able to switch to other rate schedules that would result in increases below the cap limits. The revenue shortfall from the capped bills would be made up in the form of across-the-board increases on all other customers.

- a. Would OTP oppose this plan and, if so, why?
- b. What would be the obstacles to implementing this plan?
- c. Can OTP recommend an implementation program for this plan?

RESPONSE:

OTP has reviewed its proposed rate design with the above parameters in mind. The following response discusses the results of that review and suggests rate design modifications that could meet the majority of the parameters suggested in this IR without the need for a "phasing-in" of rate design.

- a. OTP does not oppose the majority of Staff's proposal, but, as explained in this response, OTP would prefer to establish a rate design in this case that does not require the design to be "phased-in." Therefore, OTP is providing an alternative rate design in this response that would not require a phasing-in, while both accommodating the majority of the Staff's recommended increase limitations and most of OTP's rate design objectives (including those that would make progress toward meeting the new Federal Economic Stimulus package's goals of efficient use of energy (Section 410)). See OTP's Attachment 1 to IR ND 03-002 for details on this alternative proposal.

Responding Witness: David G. Prazak
Title: Supervisor, Pricing
Department: Regulatory Services
Telephone: (218) 739-8595
Date of Response: 4/1/2009

- b. There are a few obstacles to a "phase-in" approach to rate design. Such an approach would add significant additional administrative expense in developing and implementing each phase of such a plan, however designed. Additional customer notices would need to be provided in years subsequent to final rates in this case. Those notices and the frequency of rate adjustments during the phase-in period would likely be confusing to many customers. An obstacle might also be created by phasing-in rate design, as OTP expects that it may file another general rate case within three years. It would be an obstacle to implement any portion of the phase-in of rate design at the same time interim rates for the next case are being applied.

If a current non-phase-in approach is taken to accommodate the request, as proposed in Attachment 1 to IR ND 03-002, there is an obstacle to meeting precisely each criteria identified in the Staff's request. However, because the proposal included in Attachment 1 to IR ND 03-002 comes so very near to meeting each criteria of the request and does not require a phasing-in, OTP believes it is preferable to a plan that would phase-in rate design changes.

- c. Attachment 1 to IR ND 03-002 is OTP's matrix of rates, issues and explanations relating to OTP's recommended alternative to meeting Staff's request. As explained in that attachment, there are some rates (very few) that cannot be reasonably adjusted to meet the precise limitations recommended by Staff. OTP's footnotes in the attachment explain the logic of why these few rates should not be adjusted. There are four basic categories into which OTP's rates fall compared to the increase limitations suggested in Staff's request:

- i. Category 1. OTP's originally proposed rate meets the criteria without any change. These rates include: Large General Service, Large General Service Off-Peak Rider, Irrigation Option 1 and Controlled Service-Interruptible Load (CT Metering) Rider.
- ii. Category 2. The rate is being cancelled. When looking at the duo-decile chart for the rate, the impact shown is that of customers moving to other rates. The duo-decile is not for the cancelled rate. These rates include: Commercial Demand Control Customers Billed on Small General Service Less Than 20 kW, Electric Climate Control Customers Billed on Small General Service Less Than 20 kW, Commercial Demand Control Customers Billed on General Service Equal to and Greater Than 20 kW Electric Climate Control and Customers Billed on General Service Equal to and Greater Than 20 kW.

Responding Witness: David G. Prazak
Title: Supervisor, Pricing
Department: Regulatory Services
Telephone: (218) 739-8595
Date of Response: 4/1/2009

- iii. Category 3. OTP has modified its originally proposed rate to accommodate Staff's increase limitations. OTP's modifications include moving revenue requirements to another rate in the class, adding a declining block component to the rate, or modifying the customer and/or facilities charge. These rates include: Residential Service, Residential Controlled Demand, and Farm Service.
- iv. Category 4. OTP's originally proposed rate is very close to meeting Staff's increase limitation, but does not exactly meet all limitations. These rates include: Small General Service Less Than 20 kW, Small General Service 20 kW and Greater, Irrigation Option 2, Municipal Pumping, Civil Defense-Fire Siren, Water Heating – Controlled Service Rider, Controlled Service-Interruptible Load (Self-Contained) Rider, Deferred Load Rider Fixed Time of Delivery (Self-Contained Meter) Rider and Fixed Time of Delivery (CT Meter) Rider.

OTP determined the parameters of this IR as follows, based on its understanding of the request: Limit rate increases to 50% over the class increase and, for those classes receiving less than a 6.7% increase, limit the increase to 10%. OTP's plan limits the increase at the duo-decile level.

Attachment 1 to IR ND 03-002 lists the duo-decile figures, from Mr. Prazak's testimony, that prior to any modifications would have met or not met the limiting criteria recommended by Staff's request. Out of the 22 duo-decile figures, 17 duo-decile figures have one or more duo-deciles that would have exceeded the limitations.

For those duo-deciles that did not meet the limiting criteria, a different set of criteria (impacts from dollar and percent, usage predictability, and rates to be closed) were identified and catalogued for each of the 17 duo-decile figures. Based on these results, OTP selected three rate designs for adjustments based mainly on the criteria contained in B1 or B4 (i.e. percent impacts) listed at the bottom of Attachment 1 to IR ND 03-002.

Attachment 2 to IR ND 03-002 contains the three rate design adjustments identified in column H of Attachment 1 to IR ND 03-002, with one exception (Municipal Pumping, which is explained later). The adjustment techniques used included: (1) changing customer and/or facilities charge; (2) re-introducing declining blocks; and (3) shifting revenue requirements within a class (e.g., Residential Demand Control to Residential Service). Shifting revenue requirements across classes was not used.

Responding Witness: David G. Prazak
Title: Supervisor, Pricing
Department: Regulatory Services
Telephone: (218) 739-8595
Date of Response: 4/1/2009

As shown in Attachment 2 to IR ND 03-002, each of the three rate design adjustments shows two duo-decile bar graphs (on the left - per Mr. Prazak's testimony, and on the right – a revised duo-decile graph to meet the criteria recommended by Staff). Below the duo-decile graphs are the originally proposed and revised rate designs.

The Municipal Pumping duo-decile is included for discussion purposes. Even though it received a B4 criterion (i.e. only the last duo-decile exceeded the limit), the rate re-design was not performed as it only exceeded the limit by one (1) percent.

Responding Witness: David G. Prazak
Title: Supervisor, Pricing
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Date of Response: 4/1/2009

OTP's Overall Matrix of Results - Limiting Bill Impacts & Potential Rate Design Adjustments

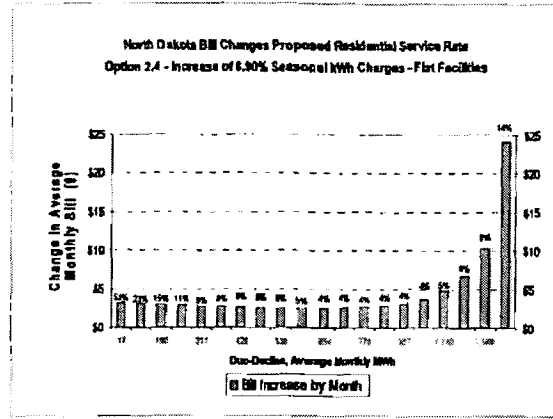
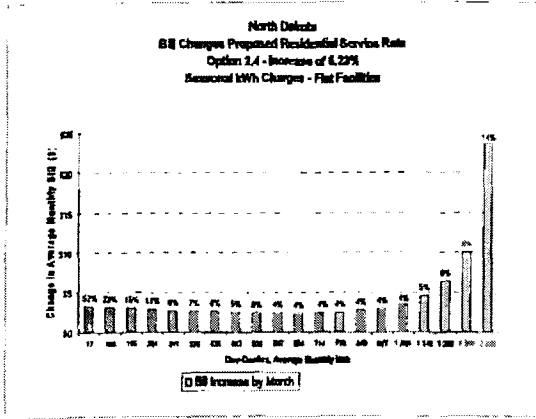
A	B	C	D	E	F	G	H
Figure No.	Figure Name in Testimony (Prszak)	Customer Class	Other Tail's Requested Class Increase	Upper-Limit Class Increase Per ND-03-002	Any Duo-Decile Above Upper Limit	Criteria to Determine Rate Design Adj.	Adj. Rate Design Proposal
Figure 1	Residential Service	Residential	7.50%	11.25%	Yes	A1, B5	Yes
Figure 2	Residential Controlled Demand	Residential	7.50%	11.25%	Yes	B1	Yes
Figure 3	Farm Service	Farm	7.50%	11.25%	Yes	A1, B4, B5	Yes
Figure 4	Small General Service Less Than 20 kW	General Service	0.95%	10.00%	Yes	A1, B5	Yes
Figure 5	Commercial Demand Control Customers Billed on Small General Service Less Than 20 kW	General Service	0.95%	10.00%	Yes	B2, D	-
Figure 6	Electric Climate Control Customers Billed on Small General Service Less Than 20 kW	General Service	0.95%	10.00%	Yes	A1, D	-
Figure 7	Small General Service 20 kW and greater	General Service	0.95%	10.00%	Yes	A1	-
Figure 8	Commercial Demand Control Customers Billed on General Service Equal to and Greater Than 20 kW	General Service	0.95%	10.00%	Yes	A1, B4, D	-
Figure 9	Electric Climate Control Customers Billed on General Service Equal to and Greater Than 20 kW	General Service	0.95%	10.00%	Yes	B2, D	-
Figure 10	Large General Service	Large General Service	1.00%	10.00%	-	-	-
Figure 11	Large General Service Off Peak Rider Customers billed on the Large General Service Rate	Large General Service	1.00%	10.00%	-	-	-
Figure 12	Irrigation Option 1	Irrigation	10.00%	15.00%	-	-	-
Figure 13	Irrigation Option 2	Irrigation	10.00%	15.00%	Yes	C	-
Figure 14	Municipal Pumping	Other Public Authority	14.00%	21.00%	Yes	A1, A2, B4, B5	-
Figure 15	Civil Defense Fire Siren	Other Public Authority	14.00%	21.00%	Yes	A2, B2	-
Figure 16	Water Heating - Controlled Service Rider	Controlled Water Heating	10.00%	15.00%	Yes	A1, A2, B5	-
Figure 17	Controlled Service - Interruptible Load (Self-Contained) Rider	Interruptible	35.00%	52.50%	-	-	-
Figure 18	Standby Service	Interruptible	35.00%	52.50%	Yes	B5	-
Figure 19	Deferred Load Rider	Interruptible	35.00%	52.50%	-	-	-
Figure 20	Fixed Time of Delivery (Self-Contained Meter) Rider	Deferred Load	11.00%	16.50%	Yes	B5	-
Figure 21	Fixed Time of Delivery (CT Meter) Rider	Deferred Load	11.00%	16.50%	Yes	A1, B4	-
Figure 22	Fixed Time of Delivery (CT Meter) Rider	Deferred Load	11.00%	16.50%	Yes	B1	-
					17		3

Legend

- A Dollar (\$) Bill Impact Level/month
- B Percent (%) Bill Impact Level/month
- C Usage - Small Class
- D Rates Proposed to be Eliminated
- A1 Some monthly bill impacts amount or less than \$5/month
- A2 All or some duo-decile bill impacts less than \$1/month
- B1 All duo-deciles exceed limits
- B2 Majority of duo-deciles exceed limits
- B3 Only first duo-decile bill impact exceeds limit
- B4 The last three or less duo-decile bill impacts exceeds limit
- B5 Majority of duo-deciles do not exceed limits
- C Rate Design difficult to adjust for few customers with unpredictable usage
- D Rates Proposed to be eliminated
- Not Applicable

Residential Service

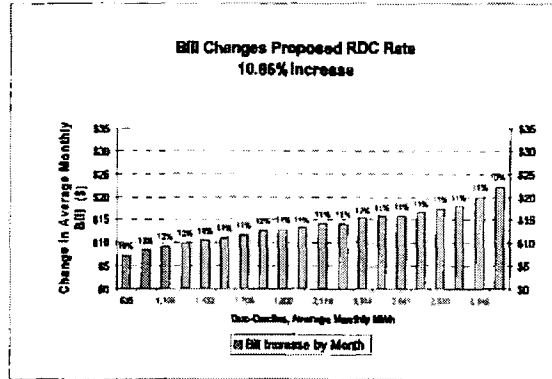
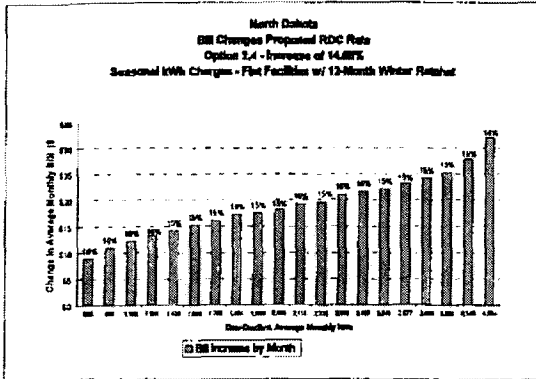
41,638 customers, 2,082 per a decile



Rate Description	Customer Charge per month	Monthly Minimum Bld per month	Facilities Charge per month	Energy Charge per kWh		
				All Year	Summer	Winter
4 Filled - Proposed Rate Customer Charge, Seasonal Energy, No Declining Block Flat Facilities Charge	\$3.00	\$3.00	\$5.00	All kWh	\$0.08520	\$0.07772
				Water Heating Credit	-\$4.00	
4 Adjusted - IR 3-2 Rate Customer Charge, Seasonal Energy, No Declining Block Flat Facilities Charge	\$3.00	\$3.00	\$5.00	All kWh	\$0.08582	\$0.07828
				Water Heating Credit	-\$4.00	

Residential Demand Control (RDC)

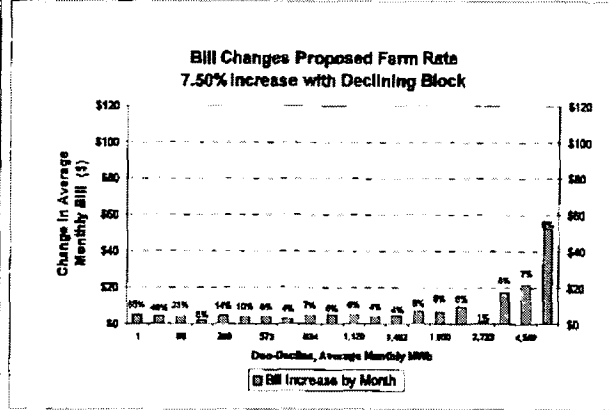
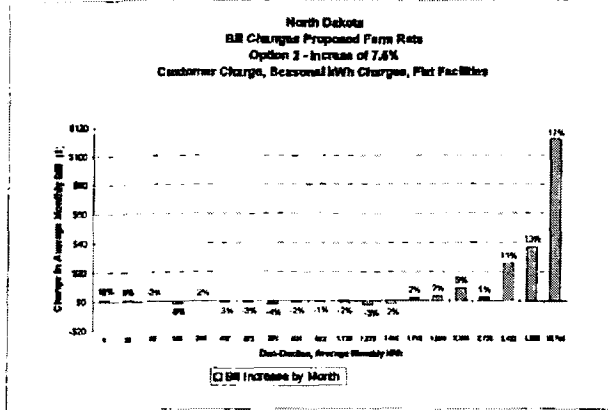
3,815 RDC customers, 191 per a decile



Rate Description	Customer Charge per month	Minimum Bld per month	Facilities Charge per per KW month	Charge per kWh		Demand Charge per kW per mo.	
				Summer	Winter	Summer	Winter
Rate 4 Seasonal with Flat Facilities Charge, with 12-month Winter Ratchet	\$9.35	Customer + Facilities Charge	\$8.00 \$8.00	All kWh	\$0.04897	\$0.04934	\$5.88 \$2.78
Rate 4 Seasonal with Flat Facilities Charge, with 12-month Winter Ratchet	\$9.35	Customer + Facilities Charge	\$8.00 \$8.00	All kWh	\$0.04700	\$0.04745	\$6.82 \$2.68

Farm Service

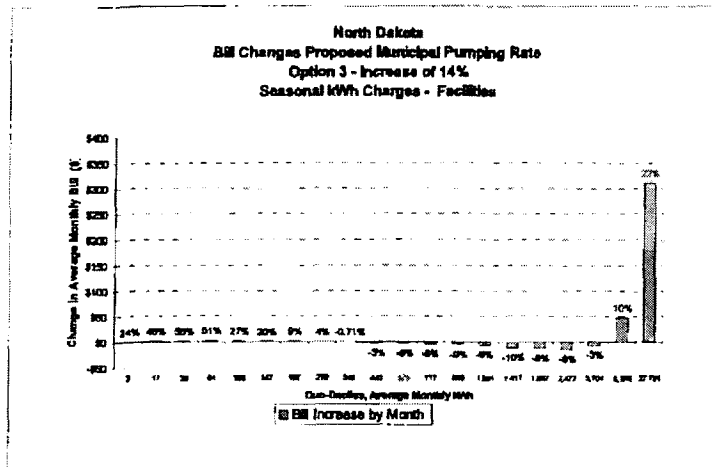
1,049 customers, 52 per a decile



2 Filed Proposed Rate	Customer Charge per month	Monthly Minimum Bill per month	Facilities Charge per kVA of Transformer	3-Phase Surcharge per Mo.			
				Summer	Energy per kWh Winter	All Year	
No Declining Block Seasonal Energy Customer Charge Facilities for 3ph	\$8.00	Cust + Fac	Overhead <25 kVA 25 kVA or more Underground <25 kVA 25 kVA or more	\$4.61 \$5.61 \$13.42 \$21.56	\$0.07327	\$0.06584	All Energy
2 Adjusted Rate	\$12.00	Cust + Fac	Overhead <25 kVA 25 kVA or more Underground <25 kVA 25 kVA or more	\$3.57 \$3.93 \$9.39 \$10.76	\$0.07762 \$0.06597	\$0.07060 \$0.06016	Energy / Trns 1,000 Excess

Municipal Pumping (OPA)

575 customers, 29 per duo-decile



Percent Bill Change	Annual Bill Change	Monthly Bill Change
23.85%	\$3.78	1.73
18.35%	\$1.57	17.36
15.21%	\$2.27	36.43
11.20%	\$2.67	53.62
26.51%	\$2.13	106.36
20.22%	\$2.15	147.14
9.41%	\$1.38	196.86
4.48%	\$0.68	273.29
-0.71%	-\$0.18	347.68
3.22%	-\$1.04	439.67
6.18%	\$2.57	675.28
-7.54%	-\$3.89	717.21
-6.57%	-\$5.48	896.01
-8.70%	-\$2.70	1,061.22
-2.68%	-\$6.91	1,416.55
-6.32%	-\$11.77	1,856.60
-7.95%	-\$13.36	2,477.25
-2.66%	-\$6.92	3,703.59
10.40%	\$47.69	8,196.30
22.26%	\$309.70	27,791.24

	Customer Charge \$ per month	Minimum Bill \$ per month	Facilities Charge \$ per month	Summer \$ per kWh per month	Winter \$ per kWh per month	All Year
Current Rate	na	\$3.30 per metering pt.	na	1st 2500: Next 1500: Excess:	\$0.07152 \$0.05632 \$0.04768	
Rate 3 - Seasonal Energy, Facilities Charge						
Filed - Proposed Rate						
Secondary	\$4.00	Cust + Fac	\$4.00	\$0.06523	\$0.06960	All Energy
Primary	\$4.00	Cust + Fac	\$2.58	\$0.06494	\$0.05922	All Energy