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1 Q. Please state your name and business address.

2 A. My name is George A. Williams. My business address is 2 Lincoln Centre, 10th Floor,
3 Oakbrook Terrace, Illinois 60181.

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

5 A. I am Senior Vice President of Operations for Commonwealth Edison Company
6 (“ComEd”).

7 **I. Executive Summary and Introduction**

8 Q. What are the purposes of your testimony?

9 A. The purposes of my testimony are to discuss why the cost of providing distribution
10 service has risen, despite careful cost controls, and to explain the importance to
11 customers of the additional activities and costs that ComEd is requesting be reflected in
12 its rates.

13 In ComEd’s last rate case¹, the Illinois Commerce Commission (“Commission”)
14 approved rates using an adjusted 2004 test year, but those rates do not reflect our current
15 costs. Through the end of the adjusted test year, ComEd has or will have invested
16 \$1,698.7 million in distribution infrastructure that is not yet included in its rate base.
17 ComEd’s operating expenses (before income taxes) have increased by \$199 million to
18 \$1,357.5 million since its last rate case. Those investments and increased expenditures
19 were required so that ComEd could:

- 20
- continue to serve the needs of its existing customers;

¹ *Commonwealth Edison Co.*, Docket No. 05-0597 (the “2005 Rate Case”).

- 21 • expand the distribution system, especially in rapidly growing areas, as customers
22 have demanded;
- 23 • deploy innovative new technologies, including technologies that increase the
24 reliability and resiliency of the distribution system; and
- 25 • address the wide variety of other changing needs and rising costs of operating a
26 distribution system.

27 ComEd is being called upon to do more, to invest more and to meet greater
28 customer demands every day. We continue to invest in our distribution infrastructure and
29 technologies to increase our level of service. Customers have benefited from our efforts.
30 If distribution system investment is to continue, if future system improvements are to be
31 made, if new and innovative technologies are to be rolled out, and if ever-increasing
32 customer demands are to be met, our rates must fairly reflect our increasing costs of
33 serving customers.

34 **A. Summary of Testimony by Section**

35 Q. Can you summarize, by section, your testimony?

36 A. In Section II, I provide an overview of ComEd's delivery system, explaining the
37 functions ComEd performs and the distribution and customer-related assets and expenses
38 required to perform them. I describe the operational needs ComEd has faced since 2004
39 and ComEd's vision for a more technologically advanced and an even more capable and
40 reliable delivery system, including its proposed system modernization program rider.

41 In Section III, I address in particular ComEd's rate base – the assets it uses to
42 provide delivery services.² I identify the types of Distribution Plant, General Plant, and
43 Intangible Plant included in ComEd's rate base. Together with Mr. McMahan, whose
44 testimony (ComEd Ex. 5.0) discusses our largest distribution investments and projects,³ I
45 confirm that the equipment, facilities, and other assets in ComEd's rate base are serving
46 ComEd's retail customers and are the right types of assets to provide that service. I
47 explain how ComEd determines if and when investment in new plant is reasonable and
48 necessary, and the rigorous operational controls we apply when making investments to
49 ensure that our acquisitions are prudent and reasonable in cost.

50 At the end of Section III, I present ComEd's proposed *pro forma* adjustments to
51 its rate base and explain that they represent known and presently measurable changes to
52 our cost of providing service. Additional support for these adjustments and evidence
53 concerning non-operational issues is found in the direct panel testimony of Mses.
54 Houtsma and Frank (ComEd Ex. 7.0).

55 In Section IV, I address ComEd's Distribution Operating and Maintenance
56 ("O&M") Expenses. I explain how ComEd determines what expenses to incur and how
57 we know that these expenses support the provision of utility service and are reasonable
58 and prudently incurred. I also address certain operational issues concerning
59 Administrative & General ("A&G") expenses incurred by ComEd that support our

² When I refer to ComEd's "rate base," I mean ComEd's Illinois Commerce Commission rate base and not the rate base used by the Federal Energy Regulatory Commission ("FERC"). Likewise, when I refer to "revenue requirement" in my testimony, I mean the distribution revenue requirement, unless I clearly say otherwise.

³ Mr. McMahan's direct testimony (ComEd Ex. 5.0) discusses ComEd's largest new investments in rate base, including those identified on Schedule F-4, attached to his testimony as ComEd Ex. 5.1.

60 provision of utility service. I address A&G and distribution O&M expenses incurred for
61 services acquired directly from third-party vendors including Exelon Business Services
62 Company (“EBSC”). Other witnesses will address costs for other types of EBSC services
63 and functions, as well as the value of the EBSC relationship. I establish that the
64 operating expenses included in ComEd’s revenue requirement are costs of providing
65 electric utility service to ComEd’s retail customers in Illinois, are prudently incurred
66 costs, and are reasonable. I also discuss ComEd’s proposed incremental storm repair
67 expense rider.

68 In Section V, I address Production Assets and Expenses. ComEd has no
69 production assets. ComEd does not include any of its costs to purchase electricity or for
70 related capacity or transmission services in its delivery expenses or capitalized in its rate
71 base. These costs are recovered through separate charges applicable to those customers
72 who purchase supply from ComEd.

73 **B. Background and Qualifications**

74 Q. Mr. Williams, what are your current duties and responsibilities with ComEd?

75 A. As Senior Vice President of Operations for ComEd, I have senior executive responsibility
76 for the overall function and strategic direction of ComEd’s delivery system, including
77 distribution system operations, facility construction and maintenance, work management,
78 planning, overseeing storm recovery, and assuring the reliability of service to our
79 customers.

80 Q. What was your earlier professional experience?

81 A. Prior to assuming my current position, I served from 2002 to 2006 as a Vice President of
82 Entergy Nuclear South, with executive responsibility at various times for plant
83 management, technical services, information services, materials, purchasing, training, and
84 safety and reliability. From 1999 through 2002, I served as a General Manager for
85 utilities in the PPL and Progress Energy family of companies with responsibility for plant
86 management, quality control, and safety. From 1984 through 1999 I was employed by
87 PECO Energy Company in a variety of positions with increasing responsibility in
88 operations and corporate planning and analysis.

89 Q. What is your educational background?

90 A. I received a Bachelor of Science degree in electrical engineering from Widener
91 University in 1984, and a Masters of Business Administration from St. Joseph's
92 University in 1994. My resume is attached as ComEd Exhibit 4.1.

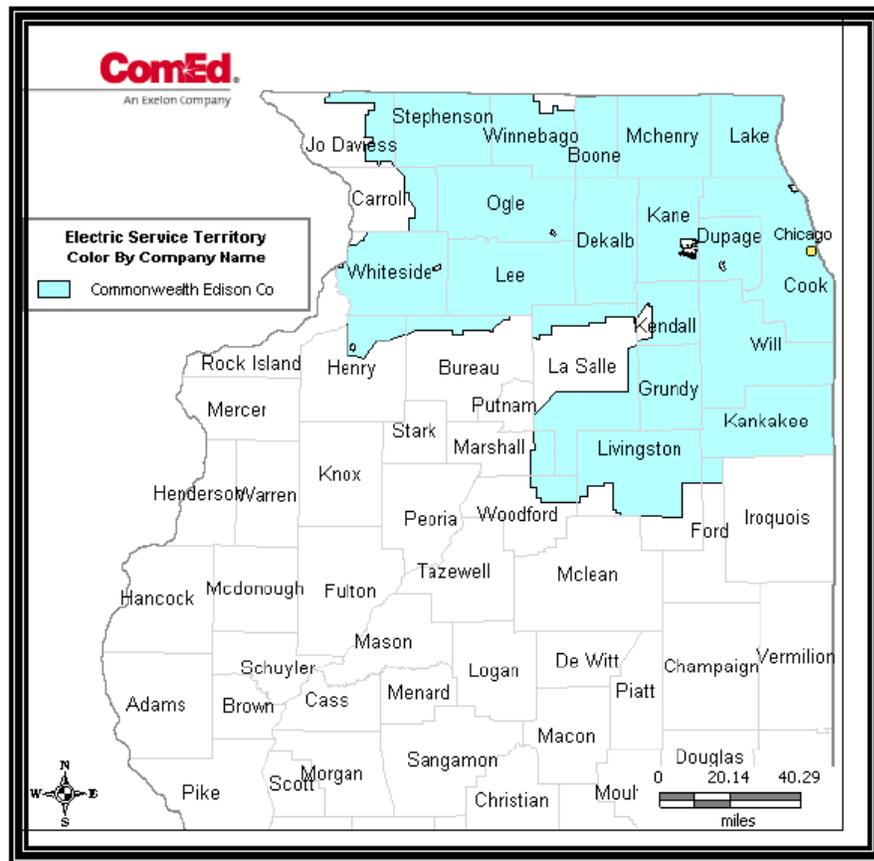
93 **II. Overview of ComEd's Delivery System, Services, and Goals**

94 **A. ComEd's Delivery System and Services**

95 Q. You testified that since the end of the test year in ComEd's last rate case, ComEd has or
96 will invested \$1,698.7 million in its distribution system and that the operating expenses
97 of that system have risen by \$199 million. Can you describe in more detail ComEd's
98 distribution business?

99 A. Yes. ComEd is in the energy delivery business, which includes the distribution and
100 transmission of electricity in northern Illinois, and the provision of customer services to
101 our retail customers. Our distribution function provides delivery of electricity from
102 generators and the federally regulated transmission system directly to retail customers.
103 We provide that service regardless of who supplies the customer's power and energy.

104 In order to appreciate the magnitude of our operations, it is helpful to focus on the
105 size of our service territory and scope and diversity of our customer base. ComEd serves
106 11,411 square miles of territory – an area roughly the size of the states of Massachusetts,
107 Delaware, and Rhode Island combined. The map below shows ComEd’s retail service
108 territory in light blue. About 8 million people live in this territory. As of September
109 2007, ComEd serves approximately 3.4 million residential customers (typically, a
110 household is one customer), and 3.8 million customers in all.



111
112 ComEd’s territory is varied. It includes both rural areas, with a relatively low
113 load and population density, and densely populated urban areas with high concentrations
114 of load. It includes a large number of suburbs, including many that are transitioning
115 rapidly, with resulting changes in load and distribution needs. ComEd’s territory also

116 includes the entire City of Chicago, which alone covers about 225 square miles and has a
117 population of about 3 million.

118 Q. Can you explain in more detail specifically what the energy delivery business involves
119 and how it compares to the distribution function?

120 A. Yes. The energy delivery business is sometimes referred to as a “wires” business. That
121 is because the delivery of electricity requires the use of two categories of wires – those
122 that are part of the transmission system and those that comprise the distribution system.
123 In general, the *transmission* system refers to the network of high capacity lines, bulk
124 power substations, and other related facilities that carry electricity from generation
125 sources throughout the region to the areas where load is located. The costs of this system
126 and the tariffs governing its use are regulated by the Federal Energy Regulatory
127 Commission (“FERC”). The *distribution* system is the network of lines, substations, and
128 other facilities that brings electricity to homes and businesses and transforms it to
129 voltages and quantities suitable for use by individual customers. Generally, the costs of
130 the distribution service and the terms and conditions under which it is provided are
131 regulated by this Commission. The test used to separate transmission and distribution
132 facilities and functions has been established by FERC and is commonly referred to as the
133 “Seven-Factor Test.” This process of “functionalization” is discussed in more detail in
134 the direct testimony of Mr. Michael McMahan (ComEd Ex. 5.0).

135 Delivery services also include other miscellaneous services including
136 transmission ancillary services, and the provision of customer services required for retail
137 customers’ utility service, most notably standard metering and billing services. Although
138 accountants track assets and expenses related to these customer functions differently, they

139 are, from the perspective of the retail customer, part of the retail delivery services that
140 ComEd provides. Retail customer services, such as billing and call center services, in
141 particular, are part of distribution service we provide our customers. Ms. Sally Clair will
142 discuss these customer services in more detail in her testimony. (ComEd Ex. 6.0).

143 Q. Please describe how ComEd provides delivery services to its retail customers.

144 A. ComEd provides distribution and related customer services by operating and maintaining
145 an efficient and reliable distribution system. The system must be capable of meeting our
146 customers' demands for electricity whether they buy their electricity through ComEd or
147 from another supplier. Our customer service operation must be sufficient to support our
148 customers' retail service needs. ComEd's investments in assets to provide those services
149 are included in ComEd's rate base. The costs of those investments, as well as the
150 expenses ComEd incurs during the test year in providing these services, are recovered
151 through ComEd's Illinois rates.

152 ComEd provides transmission services through PJM Interconnection, LLC
153 ("PJM"), which operates all of the transmission facilities owned by ComEd as well as
154 those of other utilities in PJM. In general, ComEd acquires from PJM or PJM-
155 administered markets, directly or through contracts with suppliers, the transmission and
156 ancillary services its customers need. The cost of these services is determined by PJM
157 transmission tariffs and agreements. Only the costs that ComEd incurs in acquiring

158 transmission and related services for retail customers are included in their Illinois retail
159 rates.⁴ It is simply another of ComEd's costs of providing retail service.

160 Q. Can you give some examples of the resources ComEd deploys to provide delivery
161 services to all of these customers in such a large and diverse service territory?

162 A. Yes. Our system is very complex and I could describe many details that illustrate the
163 tremendous scope of our business. However, a few facts provide a good picture of the
164 significance of our operations. For example, ComEd:

- 165 • Employs over 5,000 workers;
- 166 • Operates and maintains 43,900 circuit-miles of overhead conductors and 46,300
167 miles of underground cable;
- 168 • Operates and maintains 265 terminals, each performing a separate electrical
169 function, at 217 major substations supplied by high voltage lines;
- 170 • Operates and maintains 777 terminals, each performing a separate electrical
171 function, at 513 local substations powered by lower voltage lines;
- 172 • Uses 587,000 distribution class transformers outside of these substations to
173 provide electricity at the voltages customers need;
- 174 • Uses 1,364,000 distribution poles;
- 175 • Fields, under normal circumstances, approximately 1,000 field service crews; and
- 176 • In addition to its normal field crews, keeps more than 1,500 trained personnel
177 available almost immediately to address emergencies.

⁴ Although ComEd also owns transmission assets, those assets are operated by PJM and used to allow PJM, not ComEd, to provide transmission service. The costs ComEd incurs as a result of owning those assets are, in turn paid by PJM in accordance with tariffs approved by FERC. Those costs are not included in the revenue requirement.

178 Q. Does ComEd also purchase and resell electricity for customers?

179 A. Yes. ComEd's obligations as an energy delivery business also include the purchase and
180 resale of electricity, largely through a procurement process formulated and regulated by the
181 State. ComEd neither owns nor operates any generating facilities or, for that matter, any
182 other assets used in the production of electricity. Thus, in order to supply electricity to its
183 customers, ComEd must acquire energy and capacity on the wholesale market, either from
184 suppliers or directly from PJM-administered markets. ComEd buys and resells energy on a
185 pass-through basis only and makes no profit from it. While ComEd's costs of purchasing
186 electricity are large, those costs are not part of ComEd's delivery costs. Likewise, the
187 revenues from selling electricity are not an available source of funds to support our delivery
188 business. For that reason, my testimony is primarily about the energy delivery business
189 and the investments and operating costs necessary to conduct that business.

190 **B. ComEd's Distribution Spending**

191 Q. Mr. Williams, in addition to the size and scope of ComEd's delivery business, are there
192 specific factors that have caused ComEd's spending for delivery services to increase from
193 2004 to 2006?

194 A. Yes. I will summarize some of the key factors in this section of my testimony. Because I
195 have senior executive responsibility for overall operational spending, I have a broad
196 perspective on this issue. I understand what it costs to meet the needs of ComEd's
197 customers. I am familiar with the developments that have required increased investments
198 in our system and I have close, first hand experience with our operating expenses and the
199 reasons that they have increased.

200 Q. Before you describe the factors that have caused expenditures to rise, could you provide a
201 high-level overview of ComEd's spending on its distribution operation – both O&M and
202 capital expenditures – during calendar year 2006?

203 A. Yes. The total costs of our distribution business are reflected in ComEd's Illinois-
204 jurisdictional (distribution and customer) revenue requirement of \$2,048.8 million, which
205 is addressed in detail in the direct testimony on Mses. Houtsma and Frank (ComEd Ex.
206 7.0).⁵ In addition, to operate its distribution function, ComEd incurred additional costs
207 for such activities as investing in distribution-related General Plant and Intangible Plant,
208 paying necessary A&G costs, and meeting our tax obligations. Although the costs of
209 these activities are accounted for separately, they are properly recovered through
210 ComEd's distribution rates.

211 Q. Can you summarize why the cost to ComEd of providing distribution service grew from
212 2004 to 2006?

213 A. On a very broad level, there are three key reasons:

- 214
- 215 • Our customers' needs have grown and we are doing more in response. We are called
216 on to provide greater delivery capacity, especially in rapidly developing areas.
 - 217 • We continue to invest heavily in infrastructure improvement and in new
218 technologies and services. These investments benefit our customers, but they do
cost money.

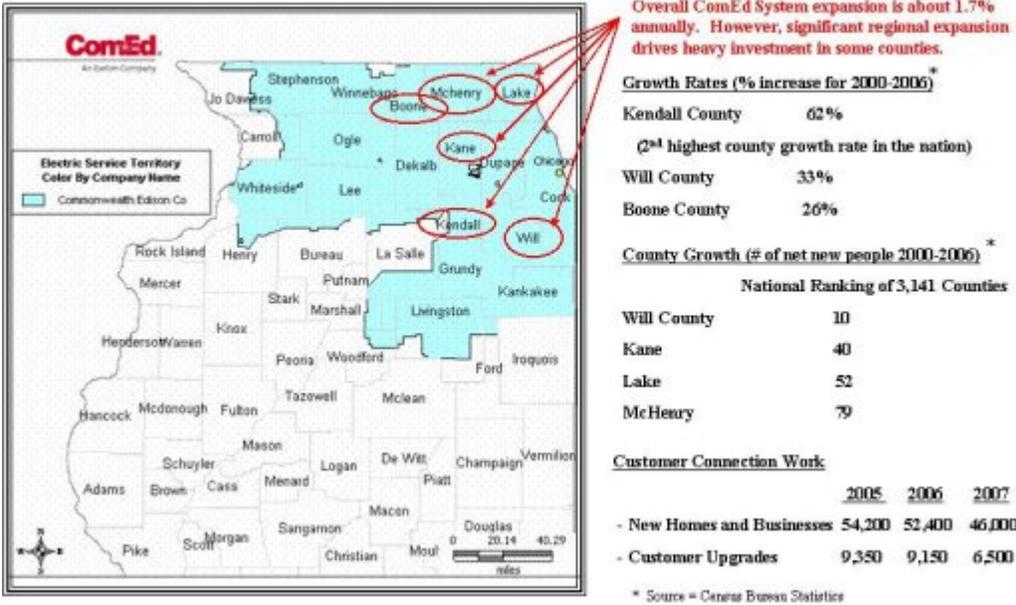
⁵ In the remainder of my testimony, when I refer to the distribution revenue requirement, I mean the revenue requirement of our retail distribution business which includes both distribution and customer functions.

219 • The prices ComEd must pay for key goods and services has increased. The costs
220 of electric distribution are rising, nation-wide, faster than inflation. And, the cost
221 of certain key assets – such as transformers, wire, and cable – have experienced
222 cost increases worldwide that far outstrip inflation.

223 Q. Are there specific changes in ComEd’s operations, activities, and costs that have
224 contributed to the increase in expenditures that you wish to highlight?

225 A. Yes. There are five key changes in our operations that increased our costs:

226 **1. Expansion of the Distribution System**, especially in rapidly growing areas.
227 System expansion is driven by an overall **increase** in the number of ComEd
228 customers and in their total load. But, in large part, it is also driven by a
229 geographic shift in the location of ComEd’s customers and their load and changes
230 in the concentration of that load. When much of our system was designed,
231 ComEd was a utility with only two main load centers – Chicago and Rockford.
232 Except for a handful of very large individual customers, load density away from
233 those areas was low. But, regional land use, housing patterns, electric use
234 intensity, and industrial concentration have all changed. ComEd’s overall
235 customer electricity demand has been growing at approximately 1.7% annually.
236 However, in some areas of our service territory, demand is growing at 15% or
237 more annually. The counties of Lake, McHenry, Kane, Will, Kendall, and Boone
238 are among the most rapidly growing in the nation. All six are in the top 100 in
239 growth of the more than 3,000 counties nationwide. This growth is depicted
240 graphically in the diagram below.



241

242 As a result of this growth and the move of load to the collar and far collar

243 counties, ComEd has had to install and expand additional distribution facilities,

244 transform the nature of distribution networks from rural to higher density, and

245 expand its service functions in these areas. For example, of the major capital

246 investment projects included on ComEd’s Schedule F-4, discussed in detail in the

247 testimony of Mr. McMahan (ComEd Ex. 5.0), the new Transmission Distribution

248 Centers (“TDC”, a type of major substation) in Minooka and Lake Bluff are

249 examples of investments driven by the spread of higher-density load to previously

250 rural areas.

251 **2. Major Increases in the Cost of Key Items, Including Transformers.** ComEd –

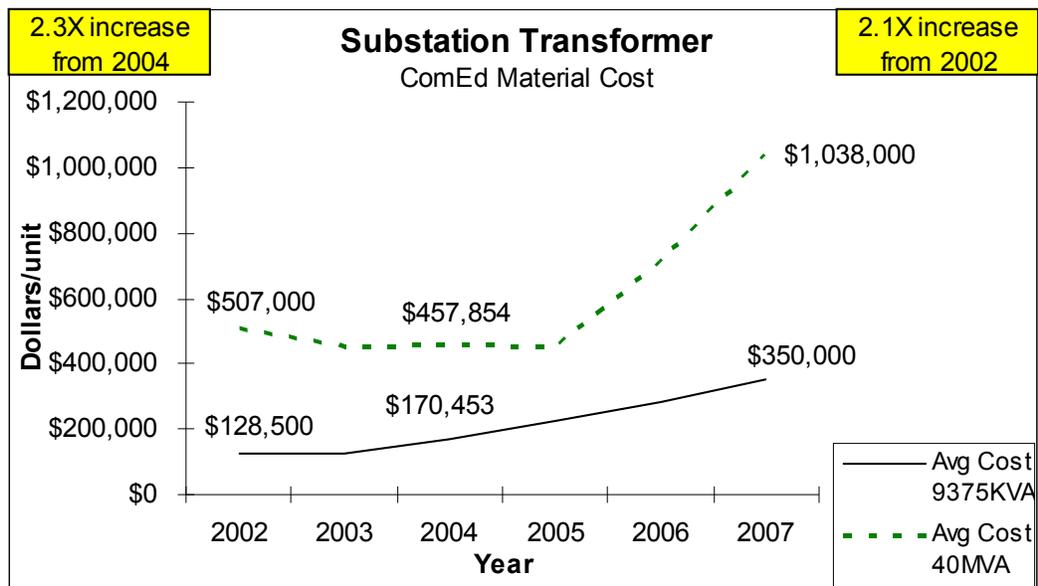
252 and other similar utilities around the nation – have experienced cost increases that

253 far outpace inflation and are driven by multiple factors outside of ComEd’s

254 control. Those factors include raw material (e.g., copper) costs; electric

255 equipment as a result of growing global demand (especially from China, India,

256 and other areas of Asia), and weather, especially the impacts of Hurricane Katrina
 257 and the Florida hurricanes. One example of the effect of the increased cost of raw
 258 materials and equipment is the cost of substation transformers, which has more
 259 than doubled just since 2004, as depicted in the chart below. These rapid price
 260 increases extend beyond transformers. The cost of underground cable, overhead
 261 wire, and poles has increased by between 40% and 60% over the same period.



262

263 **3. Investment in New Distribution Technologies and Systems.** Our deployment of
 264 new technologies and systems includes both our “hard” distribution operations
 265 investments and initiatives in other areas.

266 For example, ComEd continues its commitment to distribution system
 267 automation, which can increase reliability and reduce restoration time. In 2006,
 268 ComEd completed installation of Supervisory Control And Data Acquisition
 269 (“SCADA”) remote monitoring and control capability at all of our substations.
 270 SCADA is a highly integrated system of remote field devices that permits central

271 dispatchers to remotely monitor the system, record its status and condition, and
272 operate certain devices on the system. It allows ComEd to more quickly
273 determine where and when problems on the distribution system occur, and to
274 either remotely reconfigure the system to restore service or to dispatch the
275 appropriate response teams. It can also allow ComEd to de-energize a portion of
276 the system remotely for public safety. ComEd is one of the few utilities in the
277 country that has all of its substations remotely monitored and controlled.

278 SCADA is far from the end of the distribution automation process now
279 available with modern technology. ComEd has also embarked on a multi-year
280 program to install distribution automation on its systems. Distribution automation
281 is accomplished by adding “smart” switches and related equipment that can detect
282 an outage, automatically isolate a fault and reconfigure the system, all without
283 human intervention. For example, if a car hits a pole at one end of a circuit, 1,000
284 customers can be interrupted. The distribution automation equipment can detect
285 where the problem is, isolate it and quickly restore service to a portion of the
286 customers out of service. This reduces the number of customers impacted by an
287 outage, cuts outage durations, and allows restoration crews to more quickly find
288 the trouble location. Due to the sheer size of ComEd’s system, automation will be
289 a major undertaking that will take years to complete. To date, ComEd has
290 installed over 800 automated switches on its 34 kV facilities and over 300 such
291 switches on its 12 kV facilities.

292 **4. Implementation of New Support Technologies and Systems.** ComEd has
293 modernized its operations support computer systems. We completed the

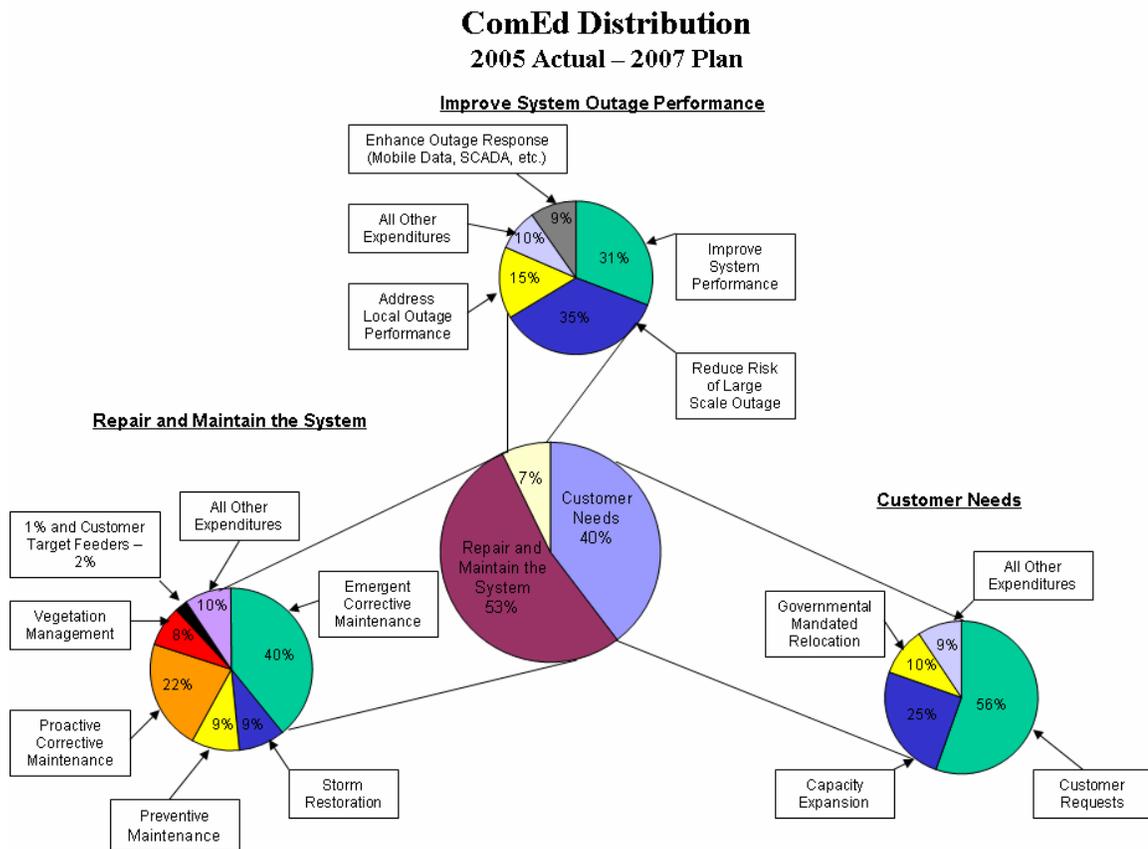
294 installation of a new dispatch system that enables better monitoring and
295 performance assessment of the distribution system. Customer outage calls
296 automatically update the dispatcher system display. ComEd is also investing in a
297 “mobile dispatch” system to allow distribution system operators to dispatch crews
298 using an electronic notification system. This system will not only support the
299 most timely scheduling and dispatching of field personnel, it will also allow
300 customer outage information to be immediately available to our crews in the field.
301 Over time, this system will pay dividends by increasing the ability of crews to
302 respond to emergencies and other developing needs and will contribute further to
303 enhancing system restoration. ComEd’s plan is to have mobile data available for
304 all crews by the end of 2009.

305 **5. Inflation.** Like all other businesses, ComEd is subject to inflation. Costs have
306 risen between the 2004 test year used in ComEd’s 2005 Rate Case and the 2006
307 test year on which its proposed tariffs are based. For example, the Electric
308 Producer Distribution segment of the Producer Price Index, a broad measure of
309 industry unit costs, increased about 12½% from the beginning of 2005 through the
310 end of 2006, and it continues to rise. The need for revenues to reflect up to date
311 costs is critical in the face of such rapid increases. Even if there were no other
312 change in our costs, the inflation-driven increase in our costs would be significant.

313 Q. Do the activities on which ComEd spends money to provide distribution services fall into
314 categories that can help the Commission understand the costs you have described?

315 A. Yes. ComEd distribution activities (including both O&M and capital) fall into three
316 broad categories – meeting direct customer needs, repairing and maintaining the system,

317 and improving system performance for the future. The types of work involved and their
 318 relative magnitude over the illustrative period from 2005 through the end of 2007 are
 319 depicted in the chart below. Of course, not every expense or investment can be
 320 individually categorized this way, but thinking of ComEd's total expenses and investment
 321 in terms of these three categories can help the Commission better understand our
 322 activities.



323

324 Q. Can you provide addition detail concerning these three basic functions?

325 A. Yes. They break down as follows:

- 326 • **Meeting Direct Customer Needs** includes work dedicated to expanding and
 327 modifying the system as required to meet customers' needs, responding to (and,

328 where appropriate, anticipating and planning for) load growth, and performing
329 required relocation work. This function consumes approximately 40% of
330 ComEd's overall distribution spend, or on average approximately \$1,340 million
331 over the period described.⁶ The purpose of this work is to make sure that
332 customers can continue to use the system as it exists, and the need to undertake
333 this work is almost exclusively dictated by the decisions of others.

334 • **Repairing and Maintaining the System** includes replacement of failed or failing
335 equipment, proactive and preventive maintenance, vegetation management, and
336 service restoration after storms. These types of work consume approximately
337 53% of ComEd's distribution spending, or approximately \$1,790 million over the
338 same period. The purpose of this work is to maintain system performance at the
339 *status quo* level.

340 • **Improving System Performance** includes implementation of new technologies,
341 new and updated control and communications equipment and systems, and
342 adoption of new designs, standards, and work management protocols that can
343 further improve system performance. Some of these efforts directly affect
344 commonly reported outage "statistics," such as SAIFI (System Average
345 Interruption Frequency Index) and CAIDI (Customer Average Interruption
346 Duration Index). But, at least as important to overall reliability are improvements
347 to the system's ability to withstand extraordinary events. Although these

⁶ The total revenue requirement cannot readily be broken down into separate dollar values for each of these functions. For example, it is not meaningful to try to quantitatively separate the effect of the growing customer needs that led to the construction of a new substation from the increasing unit prices that drove up its cost. Both factors contribute jointly.

348 improvements make the system more reliable, they will not in most cases reduce
349 SAIFI or CAIDI (because in most baseline years the contingencies they address
350 did not occur). For example, all the investment to make service to the central
351 business district more redundant in the event of a major substation failure will
352 only affect SAIFI or CAIDI in the rare event that there is such a failure. Similarly,
353 security and fire protection measures will only appear to affect reliability
354 “statistics” if, after a major fire or attempted attack on the system, the actual
355 performance of the system is compared to what its performance would have been
356 absent the improvement.

357 The remaining 7% of the funds spent on distribution activities, or about
358 \$239 million over this period, are available to be devoted to all these efforts to
359 improve system performance. Moreover, ComEd’s ability to spend on these
360 activities is affected by unanticipated needs in the first two categories of work that
361 emerge during the year. Because performing work in those categories is essential
362 if customers are to be served at all, when funds available to ComEd do not cover
363 its budget, investments to improve future performance cannot be made.

364 Q. Does ComEd also incur costs to implement and operate energy efficiency and demand
365 response programs?

366 A. Yes. ComEd has been a leader in establishing effective utility demand response
367 programs. ComEd was one of the very first utilities to offer voluntary load reduction
368 programs based on the actual marginal cost of energy. While these programs may reduce
369 the consumption of electricity, they involve costs to administer which are typically borne
370 by the delivery company, in whole or substantial part.

371 Q. What are the principal retail demand response programs offered by ComEd?

372 A. In 2006, ComEd had a variety of load response programs in place to help manage
373 demand, especially during the peak summer season. They included programs targeting
374 both residential and non-residential customers. ComEd's load response portfolio
375 provides customers with financial rewards that vary by program and by the customers'
376 unique characteristics and abilities to reduce their energy usage. For example, on the
377 commercial side, ComEd currently operates one of the largest demand management
378 programs in the country with over 1,000 MW of load response potential. Internet
379 accessibility to energy data is available to C&I customers for a fee. For our residential
380 customers, the Residential Real Time Pricing Program is the first actively marketed
381 residential hourly price based service that provides interval data recording meters and
382 electricity market prices to residential customers within the ComEd electric service
383 territory. Also, some 56,000 customers currently participate in the "Nature First"
384 residential air conditioning cycling program alone. Collectively, ComEd's demand
385 response programs provide a potential of 1,295 megawatts (MW) of demand response.
386 This is equivalent to the demand of more than 150,000 households, and accounts for
387 more than five percent of ComEd's peak load.

388 Q. Are these demand response programs part of ComEd's delivery services offering?

389 A. Yes. A ComEd customer's opportunity to participate in these programs is independent of
390 whether ComEd or a competitive Retail Electric Supplier supplies the customer's energy.
391 The customer need only be served by ComEd's delivery system. Beside the kilowatt
392 hours (kWhs) saved by reducing energy usage, customers in the commercial and
393 industrial programs (CLR7 & VLR7) receive payments that are a complete pass-through

394 of the market value of their demand reduction. This means that participants reap the
395 entire benefit of their participation, as ComEd does not retain any of the money paid
396 through the programs.

397 Q. What are ComEd's main energy efficiency programs?

398 A. First, ComEd invests in numerous examples of customer education and awareness
399 programs to promote the use of energy efficiency options. This includes many tools
400 offered to customers via the Web such as "Ask the Energy Doctor," tools for do-it-
401 yourself Home Energy Audits, and opportunities for customers to purchase discounted
402 energy-saving products. ComEd also regularly participates in various community events
403 to share energy efficiency tips with customers. ComEd also sponsors and invests in
404 programs such as the distribution of compact fluorescent lights ("CFLs"), which are
405 designed to increase the penetration of proven, cost-effective energy efficiency
406 technologies. ComEd is also committed to promoting real-time pricing that reflects the
407 true costs of energy and delivery. We expect to have more than 8,000 customers enrolled
408 in this program by the end of 2007. In addition to serving a demand-response function,
409 our real time pricing programs provide the correct incentives to further encourage
410 customers to use energy efficiently.

411 Q. Are these energy efficiency programs also part of ComEd's delivery services offering?

412 A. Yes. They are offered without regard to the choice of supplier and their purpose is to
413 reduce the use of electricity on the system regardless of its source.

414 C. **Rates Must Reflect ComEd's Increased Costs**

415 Q. You have described the reasons for ComEd's increased expenditures. Can you also
416 provide an operational perspective on why it is important for the Commission to approve
417 new rates in this proceeding?

418 A. Yes. Quite simply, ComEd seeks very badly needed cost recovery. As explained in the
419 direct testimonies of Mr. Mitchell (ComEd Ex. 1.0), Mses. Houtsma and Frank (ComEd
420 Ex. 7.0), and Mr. McDonald (ComEd Ex. 9.0), the increased revenues will allow us to
421 continue to meet our retail customers' needs, to repair and maintain the existing
422 distribution system, and to enhance and protect that system with new and innovative
423 technologies.

424 Q. Based on your extensive experience with ComEd's distribution system, what will
425 approval of new rates providing adequate funding mean for ComEd's customers over the
426 next few years?

427 A. It will mean a great deal. With rates that provide adequate funding, customers can expect
428 to continue to receive safe and reliable service and to see continued and expanded efforts
429 in the areas that I have discussed. They can expect to see increased use of distribution
430 automation which minimizes outages. They can expect to see increased use of highly
431 innovative designs and processes such as the award-winning "DC-in-a-Box" design
432 pioneered by ComEd, which I will discuss in more detail later. Customers can expect to
433 see a continued commitment to proactive, preventive maintenance activities, such as
434 increasingly aggressive cable replacement programs in residential areas and mainline
435 feeders to try to address in advance what is becoming one of the leading causes of
436 customer interruptions for electric utilities, including ComEd. ComEd is also

437 investigating the use of loop recloser schemes and investing in aerial spacer cable to
438 enhance reliability in areas where tree contact has been a recurring problem.

439 Based on a pilot program completed in 2006 that had its roots in the international
440 utility community, ComEd is implementing a Material Condition Improvement Plan
441 (MCIP), which will enable ComEd to better target system improvements and to explain
442 the current and future condition of its distribution system given differing investment
443 assumptions. MCIP's objectives are to better identify near-term reliability improvement
444 opportunities, ensure that near-term actions and initiatives support long-term material
445 condition improvement, and to mitigate and manage increases in long-term asset
446 replacement costs.

447 Finally, customers can expect to see increased use of technologies and systems
448 that allow for more effective demand management both by utilities and customers. Some
449 examples of what we expect to accomplish include:

- 450 • ComEd is planning to install over 10,000 direct load control switches on
451 residential central air conditioners as part of its "Nature First" demand
452 management program by the third quarter of 2008.
- 453 • ComEd is now testing the use of Internet accessible programmable thermostats
454 for residential customers. These thermostats can cycle customers' air
455 conditioners when activated by a paging signal controlled by ComEd.
- 456 • We are also working with a third party program administrator to implement the
457 "Load Guard" automated price response service, an optional "set and forget"
458 residential price responsive service for Residential Real Time Pricing participants
459 who are enrolled in the Nature First Program.

460 **D. System Modernization Projects**

461 Q. What is ComEd's System Modernization Projects ("SMP") proposal?

462 A. ComEd proposes a system modernization adjustment rider that would allow it to recover
463 the incremental costs of Commission-approved System Modernization Projects – costs
464 that are not included in ComEd's base rates proposed in this proceeding – pending their
465 inclusion in base rates in a subsequent rate case. These are real costs of investments that
466 can benefit customers, renew ComEd's distribution infrastructure, or advance the
467 technological condition of the system, but are costs that would otherwise go unrecovered
468 between rate cases. The SMP proposal would allow ComEd's budgeted capital
469 investment for these projects to be singled out, reviewed, and approved by the
470 Commission. The SMP rider, *i.e.*, the tariff embodying this process, would be approved
471 in this general rate proceeding. The appropriately calculated costs of the approved SMP
472 projects would be recoverable through the SMP rider until such time as the remaining
473 costs of these projects, calculated to reflect the costs already recovered through the rider,
474 can be included in ComEd's proposed base rates in a subsequent general rate proceeding.

475 The draft SMP rider is attached to Mr. Alongi's and Ms. Jones' direct testimony
476 (ComEd Ex. 12.0) and Mr. Crumrine's direct testimony (ComEd Ex. 11.0) discusses the
477 specifics of the rider and its function. The proposed recovery through the revenue
478 requirement provided for in the rider is discussed in the Direct Panel Testimony of
479 Mses. Houtsma and Frank. Finally, Ms. Clair (ComEd Ex. 6.0) and I will discuss further
480 the operational rationale for the SMP proposal.

481 Q. What types of projects does ComEd currently anticipate to propose for SMP rider
482 treatment?

483 A. ComEd currently anticipates that it is likely to propose SMP rider treatment for the
484 projects including: advanced metering infrastructure (“AMI”) implementation (discussed
485 in Ms. Clair’s Direct Testimony, ComEd Ex. 6.0), automatic reclosers, advanced cable
486 spacers, underground cable replacement, a new communications system (the “900 MHz
487 system”), and various mobile dispatch systems.

488 Q. Please describe the automatic recloser project and the investments it would require?

489 A. The automatic recloser project would implement systems that make it possible,
490 automatically and without the need for manual intervention or switching, to isolate a fault
491 by reconfiguring distribution system elements. Automatic reclosers and switches can
492 reconfigure circuits into smaller “sections”, which would reduce the number of customers
493 affected by a single outage. The automatic reclosers are essentially self-contained
494 devices with the necessary “intelligence” to sense certain kinds of faults in a line,
495 interrupt the line, and re-energize the line by reclosing automatically if the fault clears.
496 Implementation of the program would target circuits with high impact on the SAIFI. To
497 install the switches and reclosers and the systems that work with them will require
498 millions of dollars of new capital investment. The exact amount will, of course, depend
499 upon the speed and scope of the installation.

500 Q. Please describe the aerial spacer cable project and the investments it would require?

501 A. The aerial spacer cable project involves installation of advanced messenger-supported
502 covered conductors, called Hendrix spacer cables. An aerial spacer cable consists of a
503 “messenger” cable supporting covered conductors in a closely spaced triangular
504 configuration. It is designed to be installed in narrow rights-of-way or areas that are

505 heavily wooded, have high tree canopies or trimming limitations and restrictions, and
506 have recurring outages caused by tree contact. The spacer cable provides increased
507 resistance to outages caused by wildlife and tree contact, especially when installed in
508 areas with a history of such outages. The spacer cable can tolerate momentary tree
509 contact and the covered conductors deter faults, so that fewer outages occur. The
510 messenger is also able to deflect branches from the covered conductors and can act as a
511 shield wire for lightning protection. A spacer cable installation below a standard utility
512 installation is illustrated in the picture below.



513

514 ComEd hopes to invest about \$4 million on the installation of aerial spacer
515 cable, depending on the need, in selected areas to limit outages caused by tree contact.

516 Q. Please describe the 900 MHz communication system project and the investments it would
517 require?

518 A. The 900 MHz communication system is a more advanced radio-based communication
519 system that provides a migration path away from radio equipment that is no longer
520 supported by vendors and where there are inadequate spare parts. This system uses new
521 technology that is maintainable, more powerful, and operates at higher speed, allowing
522 for greater data flow. The system is also more secure, and is an open platform for future
523 intelligent grid applications. Implementing this technology would require replacement of
524 much of ComEd's radio telecommunications equipment.

525 Q. Please describe the underground cable replacement project and the investments it would
526 require?

527 A. ComEd is evaluating the use of dielectric injection treatment of Underground Residential
528 Distribution (URD) cables to improve our underground cable performance. Cable
529 failures are one of the leading causes of customer interruptions for all electric utilities.
530 During the 1960s, solid dielectric cable was used to address the dramatic expansion of
531 electrical service to residential areas because of its strength, ease of installation, and
532 lower cost. However, these cables have some design and manufacturing deficiencies that
533 contribute to premature failures, such as insulation degradation due to moisture,
534 manufacturing imperfections and neutral corrosion. ComEd has established a multi-year
535 URD cable replacement program which targets segments of concentric cable, rated 15 kV
536 and below, that have experienced multiple faults. As for the cables that are not scheduled
537 for replacement, ComEd is evaluating the use of dielectric injection treatment. The
538 injection treatment improves cable reliability as the fluid diffuses into the insulation,
539 absorbing moisture and filling micro-voids to slow "water treeing degradation," which
540 are small tree-shaped voids caused by defects in the cable insulation.

541 Q. Please describe the mobile dispatch project and the investments it would require?

542 A. As I testified earlier, mobile dispatch technology enhances ComEd's ability to rapidly
543 schedule and dispatch field personnel and immediately make accessible to those
544 personnel customer outage information. To implement the mobile dispatch system,
545 ComEd will need to continue to integrate computer software and install "ruggedized"
546 laptops within ComEd field vehicles, and then implement on that distributed platform
547 software that coordinates the communication and dispatch function and allows real-time
548 access to data on a distributed basis. The mobile dispatch solution will use the latest
549 wireless communications and mobile workforce management software to more efficiently
550 dispatch crews and link field forces, field equipment, and computer applications. Current
551 processes for dispatching crews and managing field operations are largely manual and
552 rely on voice communications.

553 Q. Are these the only projects that ComEd may propose as SMP projects?

554 A. No, but including the AMI project discussed in Ms. Clair's testimony, they are projects
555 that ComEd is currently actively considering for this purpose. They are also good
556 illustrations of the kind of projects that are likely to be proposed.

557 Q. Are any of the costs that could be included in the SMP rider included in ComEd's
558 proposed base rates in this general rate proceeding?

559 A. No, the SMP rider and SMP proposal in general applies to investments made no earlier
560 than the fourth quarter of 2008. Such investments are not part of the rate base proposed
561 in this proceeding.

562 Q. Does ComEd's existing capital budget process already provide for funding and
563 implementing of all identified capital projects that could advance the technological
564 condition of ComEd's distribution system?

565 A. No. ComEd, like any business, has priorities and capital spending constraints. In
566 deciding where to invest its capital, ComEd must consider the nature and urgency of the
567 need for a project, the potential benefits and costs, and any relevant operation
568 considerations (*e.g.*, limited availability of materials). That is why ComEd has an annual
569 capital budgeting process, which I discuss in more detail later in my testimony.

570 As capital investment needs change under actual operating conditions, ComEd
571 must reprioritize its spending both in light of its service obligations and the overall
572 availability of capital to fund investments. As I discussed earlier, it is useful to think of
573 ComEd's capital spending as falling in three categories: (1) improving the distribution
574 system; (2) repairing and maintaining the system; and (3) meeting specific customer
575 needs. ComEd's spending in the second and third categories is generally essential to
576 provide safe, adequate, and reliable service currently or in the relatively near term, while
577 projects that fall in the first category generally are aimed at improving future service to
578 customers. For that reason, ComEd's spending on system improvements in any given
579 year must give way to ensuring current system performance and providing current service
580 to customers.

581 ComEd recognizes, however, that future system improvements are important to
582 our customers and the Commission. For that reason, ComEd is offering the SMP
583 proposal to the Commission and other stakeholders as a balanced method to provide for
584 appropriate cost recovery of the applicable system improvement projects and thus to help

585 prevent capital spending on such improvements from being displaced by the cash needs
586 of other, higher priority capital projects that are not anticipated during the capital
587 budgeting process.

588 Q. Would capital projects that were not afforded SMP rider treatment be removed from
589 ComEd's capital budget?

590 A. No, not necessarily. Those projects that are necessary to undertake for system
591 improvement would be treated as they are now under ComEd's annual capital budgeting
592 process. To the extent that ComEd has sufficient funds in any year, absent recovery
593 through the SMP rider, to undertake those projects in a prudent manner, ComEd would
594 continue to invest in these projects and ask for appropriate rate base treatment in its next
595 general rate proceeding.

596 **III. Rate Base**

597 **A. Description of Assets in Rate Base**

598 Q. Mr. Williams, at the beginning of your testimony, you stated that ComEd has made or
599 will make \$1,698.7 million of new investments that have not yet been included in its rate
600 base. Can you explain why these investments were made and how customers benefit
601 from them?

602 A. Yes. I will address those questions in this section of my testimony. This is another area
603 in which I have senior executive responsibility. I am responsible for all of ComEd's
604 distribution and related assets. Further, I have reviewed the testimony and attachments of
605 other ComEd witnesses in this proceeding regarding rate base assets.

606 Q. Before discussing the increase in ComEd's investments, can you describe, in total,
607 ComEd's proposed rate base?

608 A. Yes. ComEd's total proposed rate base is \$7,071.2 million, which includes the following
609 categories of assets: 1) Distribution Plant in Service, 2) General Plant, 3) Intangible Plant,
610 4) Accumulated Reserve for Depreciation and Amortization, as well as various other
611 specific additions and subtractions. ComEd's rate base includes all of its Distribution
612 Plant and that portion of ComEd's total General Plant and Intangible Plant that is used to
613 meet ComEd's obligation to offer and provide distribution services to Illinois retail
614 customers.

615 Mr. McMahan's direct testimony (ComEd Ex. 5.0) provides additional detail
616 concerning certain major Plant assets included in the rate base. Ms. Clair's direct
617 testimony (ComEd Ex. 6.0) provides additional detail concerning customer operations
618 related assets in rate base. Mses. Houtsma and Frank, in their panel direct testimony
619 (ComEd Ex. 7.0), quantify the plant components included in rate base and provide
620 additional detail concerning General Plant and Intangible Plant assets, including those for
621 administrative and corporate purposes as opposed to operational purposes.

622 Q. Can you briefly describe the types of assets typically included in each of the three
623 categories you have described?

624 A. The precise definitions of these Accounts are matters of accounting, but from an
625 operational perspective, I can. In general, Distribution Plant in Service includes
626 equipment and facilities that deliver electricity, such as transformers, lines, and
627 switchgear. General Plant includes facilities, equipment, and other assets that support the
628 delivery of electricity, such as office equipment, communications equipment, trucks and

629 other vehicles, and tools. Intangible Plant is similar to General Plant, except that the
630 assets included are not tangible like a tool or truck, but are intangible property such as a
631 computer program or a patent or license. ComEd's proposed rate base is also adjusted in
632 certain other respects; I discuss the *pro forma* adjustment for investments made after
633 December 31, 2006 below and other witnesses discuss the balance of the adjustments.

634 Q. Are any types of assets specifically excluded from the rate base?

635 A. Yes. First, ComEd has a number of assets that are functionalized as Transmission. The
636 engineering rules under which assets are functionalized are discussed in further detail in
637 the direct testimony of Mr. Michael McMahan (ComEd Ex. 5.0). ComEd has excluded
638 from the proposed rate base all of those assets that have been functionalized as
639 Transmission. ComEd's rate base also includes no Production assets because ComEd has
640 no such assets.

641 Q. To what extent has the Commission already considered ComEd's investment in plant
642 used to support distribution service?

643 A. Much of ComEd's plant investment was put into service prior to the adjusted 2004 test
644 year used in ComEd's last rate case (Docket No. 05-0597). Indeed, in many cases, our
645 plant was put into service years ago and has been included in rate base throughout several
646 rate cases. For example, in each of ComEd's most recent (Docket Nos. 05-0597 and
647 94-0065) and delivery services (Docket Nos. 01-0423 and 99-0117) rate cases, ComEd's
648 plant was evaluated to determine the appropriate addition to rate base. As a result of the
649 Final Orders in those cases, no plant asset was written off because of imprudence,

650 excessive cost, or for any other reason. To the extent not retired, those assets remain in
651 rate base at their original cost, as approved by the Commission in those proceedings.

652 In addition, several types of assets are subject to advance review by the
653 Commission prior to their being constructed. For example, prior to construction of new
654 transmission lines operating at 138 kV and above, many of which are functionalized as
655 distribution, and certain other major distribution facilities, the Commission reviews the
656 project in advance and approves it by issuing a Certificate of Public Convenience and
657 Necessity (“CPCN”). The process of obtaining those CPCNs requires ComEd to
658 demonstrate to the Commission that the facilities are necessary to provide adequate and
659 reliable service and are the most cost-effective means of meeting those service needs.

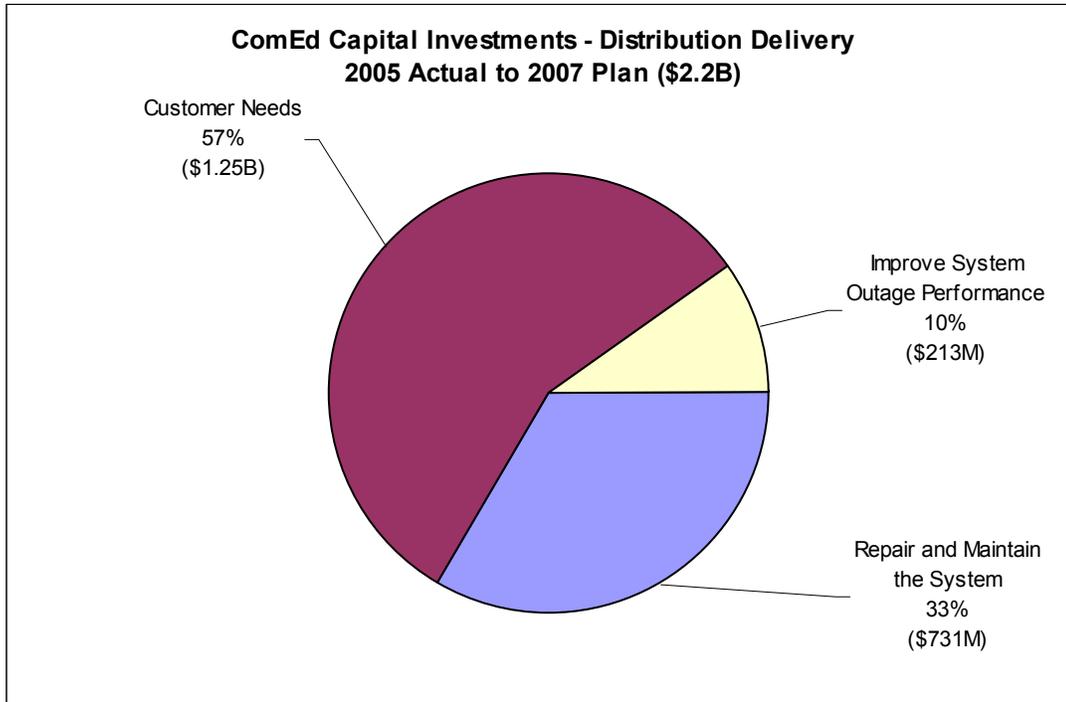
660 **B. Changes In Plant Since 2005**

661 Q. Turning now to the increase in ComEd’s investments since the 2005 Rate Case, can you
662 describe in more detail the reasons for that increase?

663 A. Yes. ComEd’s gross plant included in rate base has grown \$1,698.7 million over that
664 approved by the Order on Rehearing in the 2005 Rate Case. Net of accumulated
665 depreciation, ComEd’s plant in rate base has grown by \$1,695.2 million to \$8,621.7
666 million.

667 I can also describe the increases in investments by looking at total investment in
668 2005 through the projected end of 2007, by basic purpose. The activities accounting for
669 the largest share of the investment in plant assets from 2005 through 2007 are depicted on
670 the chart below, which breaks down the plant investments by basic purpose. As this chart
671 shows, these investments primarily focused on meeting customer needs and repairing and

672 replacing equipment.⁷ Please note that these percentages differ from those I discuss in
673 Section II.B, which include expenses. These figures include only capital investments.



674
675 Of the about \$2.2 billion in investment that will have occurred from the beginning
676 of 2005 through the end of 2007, approximately 57% was required to meet directly
677 customer needs. By directly meeting customer needs, I mean investing to upgrade the
678 system to increase capacity to serve load when and where it develops. Much of this
679 investment is needed to serve the new load expansion in the collar county areas discussed
680 earlier in my testimony. For example, there are several recent large capacity projects and
681 system expansions related to regional growth:

- 682 • Construction of the new \$13.6 million Minooka TDC to serve increasing load in
683 the rapidly growing Channahon/Minooka region south of Chicago. This is one of

⁷ This chart depicts capital investments in these years (*i.e.*, not from the 2004 test year to the 2006 test year). This chart also depicts gross investment unadjusted for, among other things, depreciation.

684 the major projects discussed in further detail in Mr. McMahan's direct testimony
685 (ComEd Ex. 5.0).

686 • Construction of the new \$9.6 million Lake Bluff TDC to meet growing demands
687 in the far northern suburbs of Chicago. This project is also discussed in further
688 detail in Mr. McMahan's direct testimony (ComEd Ex. 5.0).

689 • Construction of the new \$5.4 million Round Lake Beach TDC to meet growing
690 demands in far north central Lake County.

691 • Construction of the new \$9.9 million Plano TDC (which entered service in 2007)
692 in order to serve residential growth in Kane and Kendall Counties.

693 Plant additions have also been required where public improvement or construction
694 projects have required ComEd to replace, modify, or relocate facilities.

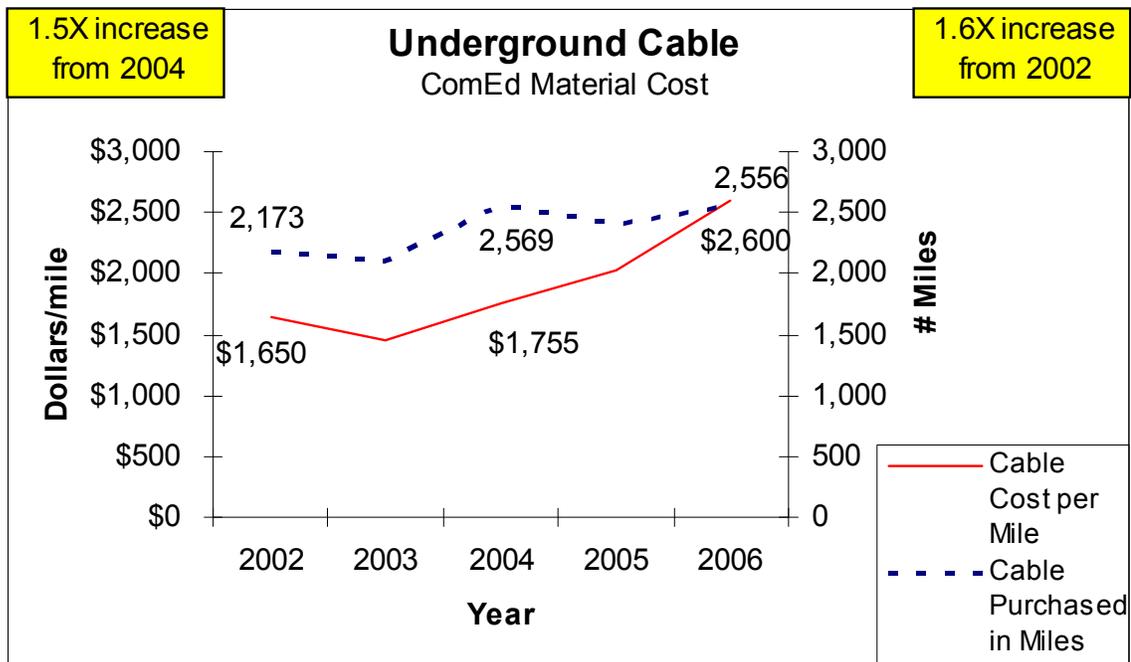
695 As shown by the diagram above, 33% of the capital investments in this period are
696 attributable to heightened preventive maintenance inspections and corrective maintenance
697 prioritization. ComEd also has added General Plant and Intangible Plant assets required
698 to support its delivery and retail customer service functions.

699 In 2006, ComEd pushed to put more emphasis on system improvement,
700 particularly risk reduction programs. These include enhanced substation maintenance
701 programs, security projects, and fire protection improvements. We are also continuing to
702 take action to improve overall reliability. And, as I said, we completed installation of
703 SCADA, continued work on sectionalizing lines, and embarked on initial work for
704 distribution system automation. The capital costs associated with SCADA were
705 approximately \$16.4 million in 2005 and 2006. Examples of other types of investment

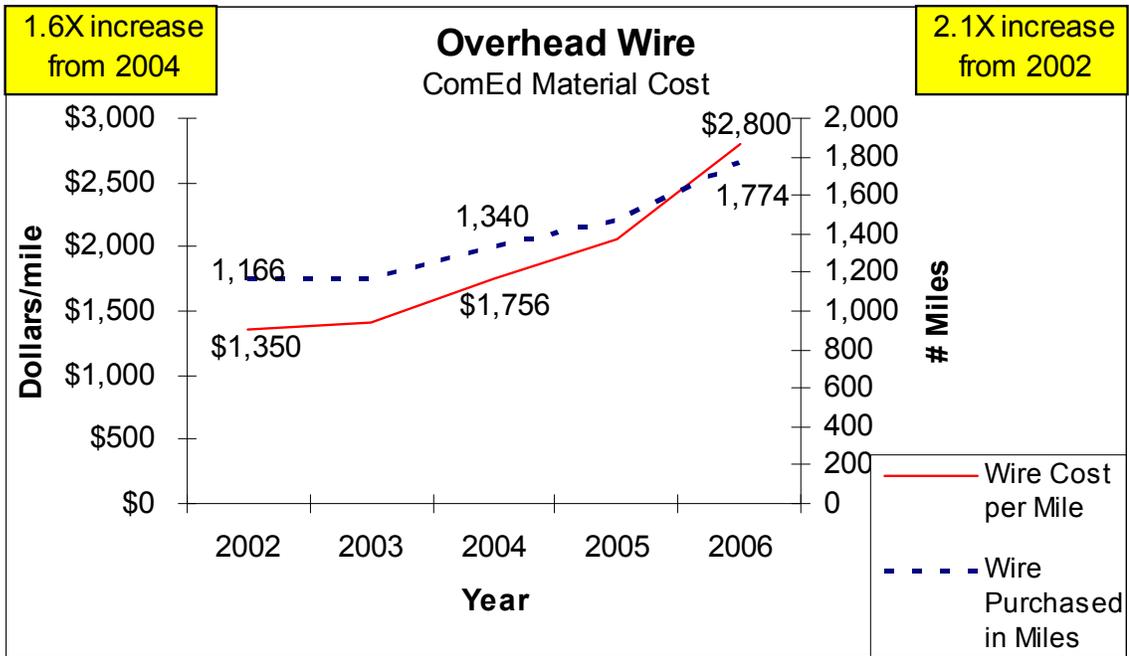
706 include fire protection at substations, including wrapping cable, installing penetration
 707 seals, improved fire detection devices, moving battery cables, and installing fire
 708 suppression equipment (\$10.8 million), substation security (\$10.2 million), and system
 709 automation (\$1.5 million).

710 Q. How have the increased distribution costs that you mentioned earlier affected rate base?

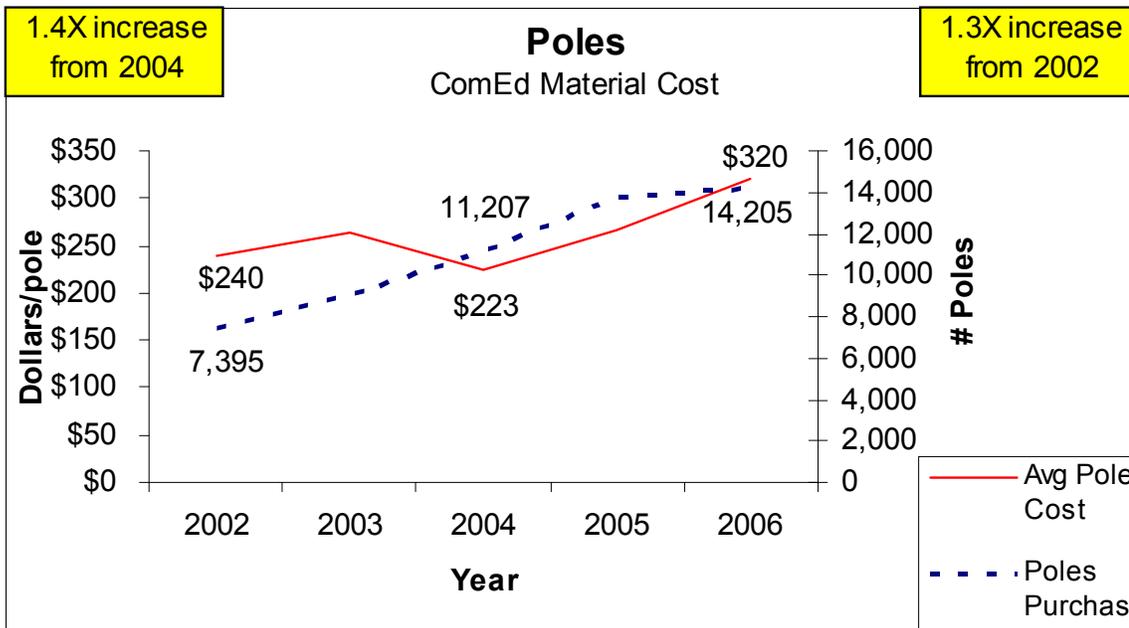
711 A. As I highlighted earlier, ComEd has experienced greatly increased costs for important
 712 components of its distribution system. Although the most striking example of this is in
 713 the costs of substation transformers that I discussed earlier, the increases are not limited
 714 to transformers. Similar increases have occurred for other high-demand components,
 715 including underground cable, overhead wire, and poles. The increase in the costs of these
 716 components, together with data relating to their use, is presented in the charts below.



717



718



719

C. Pro Forma Adjustments to Plant Balances For Assets Added Prior To The Final Order

720
721

722 Q. You referred to “pro forma adjustments” in the summary at the beginning of your
 723 testimony. What do you mean by this term?

724 A. In the context of ComEd's rate base, I use the term "*pro forma* adjustment" broadly to
725 refer to an adjustment to the historical test year rate base balance for additional
726 investments that meet two tests. First, the investment must be one that we have made
727 since the end of the test year, or that we know with reasonable certainty we will shortly
728 make, so that it will be reflected in rate base before the date on which the Commission
729 enters its Order in this proceeding. Second, the amount of the additional investment must
730 be determinable. Mses. Houtsma and Frank also discuss these and other types of *pro*
731 *forma* adjustments in their panel direct testimony (ComEd Ex. 7.0).

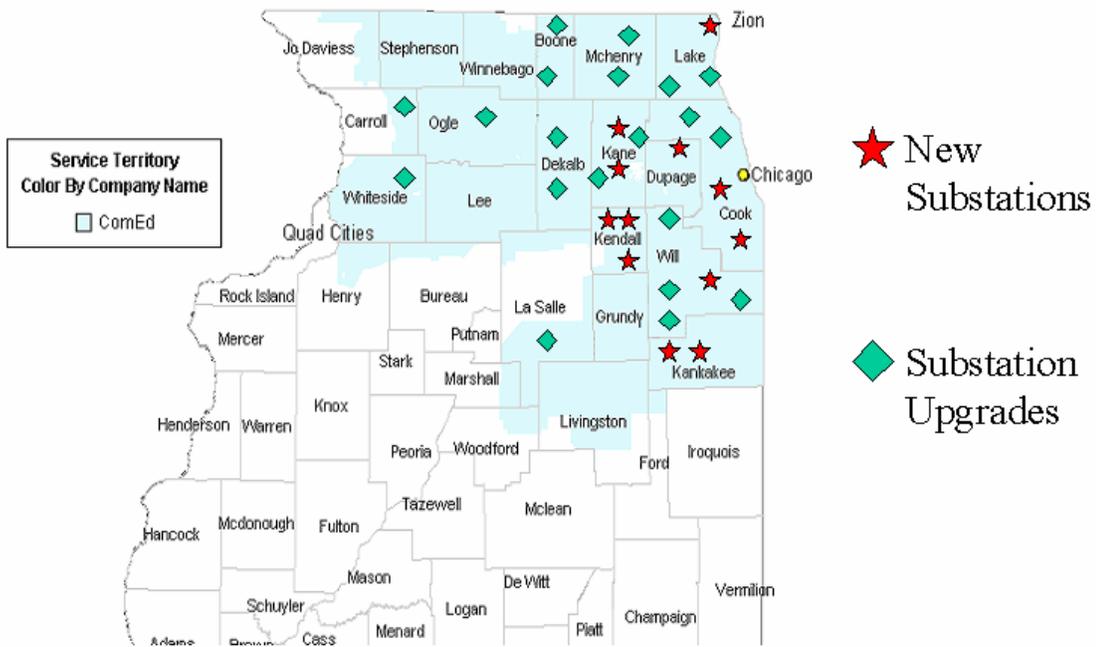
732 Q. Is ComEd proposing any *pro forma* adjustment to its rate base that reflects plant additions
733 beyond the end of calendar year 2006?

734 A. Yes. ComEd is proposing an adjustment in the aggregate amount of \$1,073.6 million
735 including investments in Distribution, General Plant, and Intangible Plant additions that
736 ComEd either (a) has made since the end of the test year (2006) and are already in
737 service, or (b) reasonably expects to make and place in service by the end of the third
738 quarter of 2008. ComEd is requesting inclusion in rate base of all costs in connection
739 with such assets, including any trailing costs (*e.g.*, costs of clean-up). This adjustment is
740 net of retirements that reflect assets that are no longer in use serving retail customers as
741 of the end of the *pro forma* period. These plant additions are described in Schedule B-1
742 and WPB-2.1a and WPB-2.1b attached to the panel direct testimony of Mses. Houtsma
743 and Frank in ComEd Exhibits 7.1 and 7.2.

744 Q. What are the types of plant investments included in ComEd's proposed *pro forma*
745 adjustment?

746 A. The proposed *pro forma* adjustment reflects investments in a variety of areas, such as
747 new commercial and residential business (e.g., underground service), corrective
748 maintenance (e.g., pole and cable replacement), system performance (e.g., improvements
749 to circuits with the highest outage statistics), and other specific projects to expand system
750 capacity (e.g., installation of certain transformers, buses, and feeders). For example, we
751 need to complete substation expansions in 2007 to continue to serve many of the same
752 growing areas that I discussed earlier in my testimony as the chart below shows.

753 **Substation Additions and Capacity Upgrades for 2007**



754
755 Q. What can the Commission conclude about the costs of the investments included in this
756 *pro forma* adjustment?

757 A. With respect to each of the assets that are already in service, the cost at which ComEd
758 acquired and installed the asset was reasonable and prudent. These projects were subject
759 to the same planning, cost, and management controls as were other recent projects
760 included in ComEd's rate base. They, like projects placed into service before January 1,

761 2007, are being used by ComEd to serve our customers. With respect to each of the
762 projects that will be placed into service by September 30, 2008, the Commission can have
763 a similar assurance. Those projects, too, are subject to ComEd planning, cost, and
764 management controls and the *pro forma* cost at which they are proposed to be added to
765 rate base reflects a prudent process of acquiring and installing the assets at a reasonable
766 cost.

767 Q. Are the plant additions identified in WPB-2.1a and WPB-2.1b reasonably expected to be
768 in service, and used and useful, by September 30, 2008?

769 A. Yes. The plant additions identified in WPB-2.1a and WPB-2.1b reflect assets that
770 already are in service, or that are reasonably expected to be in service by that date. The
771 projects not yet in service were subject to and passed ComEd's own operational and
772 financial review process. The current status of the projects and their required completion
773 dates both support this conclusion.

774 Q. Mr. Williams, given the foregoing, is it necessary to include adjustments to any other
775 accounts in order to properly reflect the proposed *pro forma* adjustments, other than those
776 that follow mathematically from the change in Distribution Plant?

777 A. No. The *pro forma* rate base adjustment is matched by appropriate adjustments in
778 depreciation and retirements, as discussed in more detail by Mses. Houtsma and Frank in
779 their panel direct testimony (ComEd Ex. 7.0). Moreover, as I said earlier, the proposed
780 adjustments are conservative and will understate the actual additions to rate base; further
781 reductions would be inappropriate.

782 **D. ComEd's Rate Base Assets Are Used and Useful**

783 Q. Mr. Williams, have you reached a conclusion as to whether the assets included in
784 ComEd's proposed rate base are – or, with respect to assets that will be placed in service
785 prior to September 30, 2008, will be – used and useful?

786 A. Yes, I have. The assets currently in service that are included in ComEd's proposed rate
787 base are currently used by ComEd in the provision of electric services to its customers.
788 The assets included by reason of the *pro forma* adjustment are reasonably expected to be
789 used by ComEd in the provision of electric services to its customers by September 30,
790 2008, as described above. They are – or in the case of the assets subject to the *pro forma*
791 adjustment will be – used by ComEd in providing service to our customers and, from an
792 operational perspective, are appropriate assets to accomplish that task.

793 ComEd has detailed capacity planning processes to evaluate whether its
794 distribution infrastructure can sustain the load it serves, or whether it needs to be
795 augmented or redesigned. Load forecasts are prepared annually using the most recent
796 peak loads adjusted for design weather conditions plus both known planned load
797 additions and a factor for unknown but expected load additions based on trended
798 historical load growth. If forecast loads exceed equipment limits, the first option is to
799 transfer or cascade load to elements that have adequate capacity. When that isn't
800 possible, facilities are installed to handle the forecasted loads. The use of the most recent
801 weather adjusted peak loads incorporates the effect of recent customer load additions and
802 capacity reinforcements completed since the previous annual peak. As part of the annual
803 load forecast process, the previous forecast is compared to the most recent weather
804 adjusted peak load. The forecast variance is used to adjust trended load growth and to

805 identify and adjust the forecast to reflect potential changes in system configuration during
806 the peak. Mr. McMahan (ComEd Ex. 5.0) discusses in greater detail the processes
807 ComEd uses to determine whether major capital investments are necessary.

808 Q. Mr. Williams, have you reached a conclusion as to whether the assets added to ComEd's
809 proposed rate base since the cutoff for inclusion in the rate base in the 2005 Rate Case
810 were acquired and placed into service at a reasonable and prudent cost?

811 A. Yes, I have. The assets added to ComEd's proposed rate base since the rate base
812 approved by the Commission in the 2005 Rate Case were acquired by ComEd and placed
813 into service prudently and at reasonable cost. Investments made by ComEd have been
814 subject to rigorous operational and financial review, are designed and implemented in
815 accordance with good utility practice, and are constructed when needed. I conclude that,
816 in investing during this period, ComEd acted reasonably given the information available
817 to ComEd management and used standards, procedures, and controls that were
818 appropriate and reasonable. The costs of the investments we have made also are within
819 the reasonable range.

820 Q. On what do you base your opinions?

821 A. I base my opinion on my personal knowledge of the condition, management, and
822 operation of the distribution system, as well as operating and management data and
823 reports provided to me in the course of performing my executive functions. I have also
824 relied on reports and data provided to me in connection with the development of my
825 testimony that are of a type that I would rely on in performing my duties as a senior
826 operational executive. I have also reviewed and relied on certain direct testimony of

827 other ComEd witnesses including Mr. McMahan (ComEd Ex. 5.0) and Mses. Houtsma
828 and Frank (ComEd Ex. 7.0). In addition, ComEd's major investments and blanket
829 investment projects undertaken since the last rate case have been reviewed by
830 independent engineering consultants with experience in system design and operation,
831 electric utility decision-making, and project execution at utilities across the country. I
832 have reviewed their reports and analyses. I also base my opinion on my knowledge of
833 the rigorous review, challenge, and approval processes that major capital investments and
834 blanket projects must go through prior to approval. The next four sections of my
835 testimony (Sections II.E, II.F, II.G, and II.H) address details concerning categories of
836 assets in ComEd's rate base.

837 **E. Distribution Plant**

838 **1. Distribution Plant Overview**

839 Q. What kinds of assets are included in ComEd's Distribution Plant?

840 A. As I briefly mentioned earlier, the assets that make up Distribution Plant are used to
841 move electric power and energy to customer locations from the transmission facilities to
842 which they connect. Many diverse elements make up ComEd's Distribution Plant,
843 including distribution substation equipment, overhead and underground conductors,
844 poles, manholes, land, distribution transformers, services, and lights. As Mr. McMahan
845 explains, the assets reflected in our requested rate base are properly functionalized as
846 distribution in accordance with the FERC "seven-factor" test.

847 Q. Is ComEd's Distribution Plant, specifically the assets recorded in Accounts 360-373,
848 used and useful in the provision of electric services to ComEd's retail customers?

849 A. Yes. ComEd's Distribution Plant is being used to provide electric utility service to our
850 retail customers, and is used and useful in satisfying ComEd's obligation to offer and
851 provide such service. The Distribution Plant that is the subject of ComEd's *pro forma*
852 adjustment for post-2006 plant additions is either currently being used to provide that
853 service or will be so used before the final Order is issued in this proceeding. Additional
854 detail regarding specific large capital investments is provided in the direct testimony of
855 Mr. McMahan (ComEd Ex. 5.0). All of that plant is necessary to provide adequate,
856 efficient, and reliable service to customers.

857 Q. Does ComEd propose that all Distribution Plant reflected in its accounts be included in
858 ComEd's rate base?

859 A. No. A small portion of these assets is being used to provide wholesale service regulated
860 by FERC. The revenue requirement reflects a revenue credit for revenues from resale
861 municipalities. See ComEd Ex. 7.1, Schedule C-1

862 **2. Distribution Plant Additions Since 2005**

863 Q. Can you provide descriptive examples of the additions made to Distribution Plant since
864 the end of 2004?

865 A. Yes, for example, ComEd has added the following new assets since 2004:

- 866 • 6 new substations in 2005 and 2006; an additional 12 new substations will be
867 added in 2007;
- 868 • 82 new substation transformers in 2005 and 2006; an additional 20 will be added
869 in 2007;
- 870 • 27,912 wholly-owned new wood poles purchased in 2005-2006;

- 871 • approximately 3,246 miles of overhead conductors;
- 872 • approximately 4,967 miles of underground cables; and
- 873 • 32,577 primary distribution transformers.⁸

874 Q. Are these additions to Distribution Plant prudent and reasonable in cost?

875 A. Yes. The additions to Distribution Plant since the 2005 Rate Case rate base was
876 established were prudently acquired at a reasonable cost for ComEd to meet its obligation
877 to offer and provide electric utility services to its customers. Additional detail regarding
878 certain especially large investments is provided in the direct testimony of Mr. McMahan
879 (ComEd Ex. 5.0).

880 Q. What have been the principal reasons behind ComEd's recent plant additions?

881 A. Overall, the installation of new distribution facilities is generally determined by the need
882 to add capacity or the need to maintain or improve the reliability of ComEd's distribution
883 system. The specific reasons that ComEd has made additional investments in its
884 distribution system include:

- 885 • **Provide Additional Capacity.** The need for additional facilities to relieve
886 equipment that is or will become overloaded or that is not the optimum means of
887 serving the load. This may include the need to upgrade low capacity or low
888 voltage systems and replace them with higher capacity or higher voltage systems,
889 based on load and load density levels. An example would be our new Lake Bluff
890 substation, which is discussed in more detail in the testimony of Mr. McMahan

891 (ComEd Ex. 5.0). The Lake Bluff TDC has allowed us to increase capacity to
892 serve increasing load, while maintaining and improving service reliability.

893 • **Serve New Customers.** The need for additional facilities to provide new service
894 or expanded service to existing customers.

895 • **Meet Governmental Requirements.** The need to install, remove, or rearrange
896 facilities in order to accommodate public improvement projects or other
897 governmental, environmental, and regulatory requirements.

898 • **Maintain Reliability.** The need for additional facilities to establish or maintain
899 acceptable service reliability. This includes the need to upgrade, repair, or replace
900 obsolete or unreliable facilities. It also includes the need to replace equipment
901 that has deteriorated, or has a declining performance trend, to a point that it no
902 longer reliably performs the function it was designed for, or results in
903 maintenance costs that are trending toward unacceptable levels.

904 • **Promote Fire Protection, Safety, and Security.** ComEd has implemented a
905 variety of programs to decrease the risk of fire and improve our ability to detect,
906 respond to, and withstand fires, particularly at our substation facilities. For
907 example, we now use state of the art addressable fire alarm control panels that
908 provide far superior functionality and allow responding emergency personnel to
909 quickly identify the individual devices that are in alarm. ComEd has also begun
910 installing linear heat detection into cable spaces, tunnels, and other harsh

⁸ These illustrative plant additions fairly depict the types and magnitudes of additions made since the last case. While some were included in the 2005 *pro forma* addition to rate base, a similar *pro forma* adjustment will increase the year end 2006 balances in this filing.

911 environments. This type of detection provides superior coverage over traditional
912 spot detectors and is not as susceptible to false alarms due to, *e.g.*, high humidity.
913 Fire protection alone accounts for more than \$10.8 million in incremental capital
914 additions in 2006. The chart below summarizes the significant programs, current
915 as of September 21, 2007, on which ComEd worked during the 2006 test year:



916
917 ComEd has also improved substation security but, for obvious reasons, it
918 would be imprudent of me to discuss the operational details of that effort.
919 However, the work involved installing increased security systems to protect
920 substations from a number of threats, ranging from low-level vandalism to
921 terrorist activity, and to ensure that no substation poses a danger to people or
922 animals. Those efforts have accounted for an additional \$10.2 million in capital
923 additions in 2006 alone, all of which is for facilities that are currently in
924 operation.

- 925 • **Implement Innovative Technologies.** ComEd is committed to implementing
926 new distribution technologies where they can provide cost-effective benefits to
927 our customers or make the operation of our system more efficient and reliable.

928 Q. Can you provide examples of new technologies that ComEd is investing in to support its
929 distribution system?

930 A. Yes. One example of an innovative technological development is the “DC-in-a-Box.”
931 (“DC” refers to Distribution Center, a medium-sized distribution system substation). The
932 DC-in-a-Box combines a 10 MVA pad-mounted transformer (power for about 2,000
933 homes) with high-power circuit breaker technology, resulting in a compact electrical
934 substation without many of the typical siting, operating, and maintenance issues of a
935 traditional DC substation. The new design has a number of advantages. It is small,
936 completely self-contained and electrically isolated, minimizing land use and the need for
937 barbed wire fences such as those surrounding the other facilities shown behind the DC-
938 in-a-Box in the picture below. It also generally costs less to put into service and can be
939 designed and installed more rapidly.

940

DC-in-a-Box



941

942 A second example is the use of transformer monitoring and intelligent transformer
943 cooling control. We are using integrated monitoring of transformer temperature, ambient
944 temperature, and transformer loading while performing a continuous dynamic cooling
945 and loading calculation. This enables us to better assure that operating conditions meet
946 transformer design limits and to anticipate high temperature conditions before they
947 happen. It results in extended transformer life and the ability to load the transformer to
948 its full dynamic limits.

949 ComEd is also investing in technologies that will improve its overhead and
950 underground distribution performance. For instance, ComEd has initiated targeted
951 installations of the aerial spacer cable that I discussed earlier in the connection with
952 ComEd's proposed SMP proposal. Other advanced technology programs I discuss
953 elsewhere in my testimony include:

- 954 • Use of innovative techniques to improve URD cable performance and reliability.
- 955 • Installation of distribution automation on lower voltage feeders.
- 956 • Additional mobile dispatch technologies.

957 Q. How does ComEd make the determination when such investments are required?

958 A. ComEd's overall objective is to build a safe and secure delivery system that is capable of
959 efficiently meeting its customers' demand for electric service during both normal and
960 peak conditions with an acceptable level of reliability. The determination of when
961 additional investment is required is typically based on the operational capabilities and
962 limitations of the system, the cost of the investment, and, where applicable, the benefits
963 of the new investment over the systems or facilities being replaced.

964 All of the determinations about whether and what new distribution facilities are
965 needed are made in accordance with written planning criteria, which ComEd has shared
966 with Staff, by trained and qualified engineers, managers, and staff at ComEd, and, if
967 required, by consulting experts. ComEd uses the written planning criteria to help
968 determine where and when to undertake distribution projects by identifying the need for
969 Plant additions and assessing the need to replace or upgrade equipment that is already in
970 service. These plans include forecasting the load, voltage, and other important operating
971 characteristics of distribution facilities, as well as assessing the appropriate means of
972 operating and expanding the system. To these ends, ComEd planners consider past load
973 growth rates, new development plans, planned customer expansion, and weather
974 adjustments. They also analyze the system under normal operating conditions, projected
975 peak conditions, and a variety of planning contingencies to predict possible overload
976 situations that could lead to equipment failures and potential power outages.

977 Moreover, when reliability of equipment begins to deteriorate or maintenance
978 costs become too high, equipment is evaluated by a process that considers safety issues,
979 reliability, impact on customers, environmental impact, life cycle cost, spare parts
980 availability, reparability, and other relevant measures of operating performance.

981 Q. How does ComEd select the investments that should be made to meet those needs?

982 A. Following determination of need, ComEd generally reviews possible alternatives and
983 selects the one that fills its technical needs at a reasonable cost. To evaluate and select
984 from among available options, ComEd uses rigorous technical and economic analyses,
985 which are consistent with ComEd and industry standards.

986 Q. Is ComEd also developing new programs to enhance its planning efforts?

987 A. Yes. We are beginning a very exciting new initiative to help us determine how to better
988 make both near and long-term investments, and one that I briefly mentioned earlier, is the
989 implementation of our Material Condition Improvement Plan (“MCIP”) in 2007. Many
990 ComEd delivery system assets were installed post-World War II and in the 1960s and
991 1970s with a life expectancy of 40 to 50 years. In other words, a significant number of
992 ComEd’s distribution assets are now reaching the end of their design life and economic
993 useful life. MCIP will better enable ComEd to develop a short- and long-term strategy to
994 maintain reliability and reduce the probability and consequences of catastrophic events,
995 will provide us with a more effective, repeatable model to assess the current and future
996 condition of the delivery system and components, and will institute a better process to
997 understand, predict, and manage cash flow requirements.

998 By evaluating the health of the delivery system and its components through the
999 development of System and Component Health Indices (“HI”), developing a long-term
1000 investment strategy based upon that evaluation, and then applying a condition-based risk
1001 management approach to achieve targeted reliability, ComEd will have a holistic standard
1002 and repeatable approach to understand the delivery system’s material condition.
1003 Importantly, MCIP will begin by leveraging existing data to develop the first series of
1004 HIs, and in future years allow ComEd to reconcile data gaps.

1005 The first phase of MCIP will be completed in 2007, including developing the
1006 component health indices for major asset classes (Substation Transformers, Substation
1007 Breakers and Reclosers, Network Transformers and Protectors, Distribution
1008 Transformers, Switches, Overhead Distribution Lines, Overhead Transmission Lines,

1009 Underground Transmission Cables, Underground Distribution Cables, and Substation
1010 Batteries). We will then determine the relationship between the indices and failure rates,
1011 which will allow us to predict future failures and to develop a 5- to 20-year asset
1012 investment plan. Additionally, the first phase will include developing the System Health
1013 Index Plan for six systems (Substations, 34 kV Distribution, 4 kV and 12 kV
1014 Distribution, Overhead Transmission, Underground Transmission – High Pressure and
1015 Underground Transmission – Low Pressure). We will also apply a risk management
1016 framework supportive of our long-range strategy to provide direction for near-term
1017 reliability improvement plans. The second phase of MCIP is planned to be complete in
1018 2008 and will build on the accomplishments of the first phase.

1019 Q. How does ComEd ensure that its technical and economic requirements are being met?

1020 A. ComEd requires that large capital investments follow extensive approval procedures to
1021 ensure technical justification and economic optimization. These procedures, which are
1022 consistent with ComEd and industry standards, require that projects conform to good
1023 utility practice and ComEd standards developed based on best practices. While all
1024 investments are managed to keep costs down, major investments are subject to a vigorous
1025 and formal “challenge” process that ensures there has been fully informed decision-
1026 making, particularly with respect to refining scope and eliminating unnecessary costs.
1027 Capital projects generally do not proceed until all challenges have been addressed. For
1028 instance, a proposed Distribution Plant capital project typically will be subjected to one
1029 or more challenges at each of three levels – conceptual, engineering, and construction.
1030 During the challenge process, project sponsors generally have to identify the proposed
1031 project’s scope, present a business case for the project (including an analysis of

1032 alternatives considered), define lead times required, estimate costs and cash flows, and
1033 project an in-service date. Based upon the amount of investment being considered,
1034 various management approvals are also required.

1035 Q. What are those approvals?

1036 A. ComEd has capital management policy and process instructions that provide for securing
1037 of approvals, valuation, reporting, control and record keeping. In addition, ComEd has in
1038 place a control process requiring final authorization and challenge prior to project
1039 funding and ongoing monitoring of budget and performance metrics for all approved
1040 projects. The policy requires ComEd Vice President approval for certain expenditures
1041 over \$500,000, ComEd Chief Operating Officer or Chief Financial Officer approval for
1042 expenditures between \$5 million and \$15 million, ComEd Chief Executive Officer or
1043 President approval of expenditures between \$15 million and \$25 million, and ComEd
1044 Board of Directors approval of expenditures exceeding \$25 million.

1045 Q. Have the procedures for identifying investments changed since the last rate case?

1046 A. No.

1047 Q. In determining whether an investment or expenditure is needed or a business process
1048 needs to be modified, what sort of approach does ComEd take?

1049 A. ComEd uses a self-critical approach with respect to all types of capital investments, not
1050 just Distribution Plant. By that I mean that we consciously strive to identify possible
1051 weaknesses in the case for an investment. We encourage our employees to be tougher
1052 critics of our own work than might be otherwise expected as a means to ferret out and
1053 address problems promptly and appropriately. This approach helps ComEd avoid

1054 complacency and promotes continuous improvement and a work atmosphere that expects
1055 excellence. Our culture of constructive self-criticism is one way in which ComEd
1056 prudently manages its business.

1057 Q. How does ComEd proceed once it has determined that a specific investment in new or
1058 expanded distribution facilities is required and a reasonable course?

1059 A. ComEd generally employs extensive project management and administrative practices on
1060 capital projects to ensure efficient and environmentally sound implementation. Such
1061 management and practices are in accordance with ComEd and industry norms. In
1062 particular, ComEd has developed and follows specific standards and processes for
1063 managing projects, which vary depending on the size of the project and other factors.
1064 These standards and processes include the ongoing management of project scope,
1065 schedule, and budget. They include regular cost and progress reporting to senior
1066 management, contractor management, and reviews of project accomplishment
1067 milestones. In addition, senior managers are actively involved in ensuring rigorous
1068 analysis of schedule and cost, among other things. This level of senior management
1069 oversight is consistent with industry norms to ensure control of costs and efficient use of
1070 resources.

1071 Q. How is installation of new or expanded distribution facilities accomplished?

1072 A. The installation of new or expanded distribution facilities is accomplished by ComEd or
1073 contracted labor and is performed using construction methods and equipment that are
1074 standardized within ComEd and, where practical and desirable, conform to best practices
1075 throughout the industry.

1076 Q. Does ComEd have business processes in place to protect against overpayment for
1077 distribution facilities?

1078 A. Yes. Other equipment and materials used in the installation of new or expanded
1079 distribution facilities are obtained using procedures developed by the EBSC Supply
1080 Department, including competitive bidding, performance contracts, and supplier
1081 alliances. The EBSC supply chain management process employs a proven sourcing
1082 process that leverages its purchasing volume (it purchases for all Exelon Corporation
1083 affiliates, including PECO) and, where appropriate, uses competitive bidding to ensure
1084 that quality and cost efficiencies are realized. Suppliers are awarded contracts based on
1085 several factors, including cost, quality, adherence to technical specifications, and
1086 acceptable delivery schedules. In addition, process controls are in place to ensure that
1087 invoices and disbursements through accounts payable are consistent with contract
1088 pricing.

1089 Q. What other approaches does ComEd use to control the costs of work performed by
1090 contractors?

1091 A. ComEd uses a Contractor of Choice system when it is appropriate to use outside support
1092 in addition to ComEd's own labor force. A Contractor of Choice is a fully qualified
1093 contractor who has demonstrated an ability to complete projects in a safe, timely and
1094 cost-effective manner. Contractors are chosen for the program through either a
1095 competitive or an evaluative process. Contractors of Choice have a wide range of
1096 expertise, are knowledgeable about ComEd's design and construction processes, and are
1097 adapted to ComEd's safety culture. By focusing work with a selected set of experienced,
1098 safe, and cost-effective contractors, ComEd can best achieve continuous improvement in

1099 safety performance, cost effectiveness, efficiency, and reliability, and can reduce the need
1100 for redundant training. The program also adds to the flexibility, efficiency, and speed of
1101 awarding appropriate contracts.

1102 **3. Inventory**

1103 Q. Does ComEd maintain an inventory of Distribution Plant materials, including required
1104 spares?

1105 A. Yes. ComEd maintains an inventory of distribution equipment to meet its construction
1106 and equipment replacement needs, including an emergency reserve. The level of
1107 inventory included in the 2006 test year is reasonable and necessary to provide reliable
1108 and timely service to ComEd's customers, based on the following factors. Inventory
1109 levels are based on a combination of historical usage (for seasonality identification), and
1110 current demand (to determine total need). Stocking levels are then set, reviewed, and
1111 adjusted on a regular schedule. Inventories managed under this process have consistently
1112 met our operational needs without requiring us to carry excessive levels of inventory.

1113 **F. General Plant**

1114 **1. General Plant Overview**

1115 Q. What is General Plant and how are General Plant assets used in providing electric utility
1116 service to ComEd's retail customers?

1117 A. General Plant assets are used by ComEd to provide delivery services to its bundled and
1118 unbundled retail customers. There are several types of General Plant. They include
1119 office buildings and the land on which such buildings are situated, office furniture and
1120 equipment, transportation equipment, laboratory equipment, and communications

1121 systems including components of SCADA systems. In addition, General Plant includes
1122 the tools and equipment used by ComEd's employees in conducting ComEd's business.

1123 General Plant assets are used to support ComEd's distribution functions and to
1124 provide an adequate work place for its employees. The investment in ComEd's General
1125 Plant is included in the accounts specified by FERC and the Commission, which are
1126 numbered 389-399. The specific assignment of General Plant to the rate base is
1127 discussed in the panel direct testimony of Mses. Houtsma and Frank (ComEd Ex. 7.0).

1128 Q. Have you determined whether the General Plant included in rate base is used and useful,
1129 prudent, and reasonable in cost?

1130 A. Yes, I have. The General Plant investment made as of the end of the test year and
1131 included in ComEd's rate base is used and useful in meeting ComEd's obligation to offer
1132 and provide electric utility services at an acceptable level of reliability to its retail
1133 customers, is needed for that purpose, was prudently acquired, and was put in service at a
1134 reasonable cost. In the case of General Plant assets included in the *pro forma* adjustment
1135 for assets to be placed into service in the future, the assets are reasonably expected to be
1136 used and useful, are needed, will be prudently acquired and will be placed in service at a
1137 reasonable cost.

1138 **2. General Plant Additions Since 2005**

1139 Q. What is ComEd's process for determining the need for General Plant additions to support
1140 the provision of distribution services since the 2005 Rate Case?

1141 A. ComEd periodically reviews its General Plant investment requirements based on service
1142 needs, work loads, productivity and technology improvements, and best industry

1143 practices, for new or improved ways to provide reliable electric service, including prompt
1144 and informative customer service, at a reasonable cost. This evaluation looks at all types
1145 of such assets, including durable goods, real estate, and intangibles. For example, offices
1146 may be closed or consolidated, or new offices opened. Similar evaluations take place
1147 with respect to personal property. For instance, transportation equipment, including
1148 trucks and passenger vehicles, is replaced and upgraded on appropriate cycles. ComEd,
1149 for example, is now replacing appropriate vehicles with hybrid-powered models.
1150 Computer and other office furniture requirements are also reviewed by department
1151 management and replaced or added based on work load and serviceability.

1152 Q. Once ComEd has determined that a General Plant need exists, how does it proceed?

1153 A. ComEd proceeds generally in a fashion similar to its approach for Distribution Plant
1154 needs described above. For instance, possible alternatives are rigorously assessed on
1155 technical and economic grounds so that ComEd can identify a reasonable means to meet
1156 the need. In addition, the assessment is subject to diligent approval procedures, including
1157 multiple challenge stages. ComEd again employs active project management and
1158 administrative practices – including a variety of cost and budgetary controls – to ensure
1159 proper, efficient implementation.

1160 **G. Intangible Plant**

1161 **1. Intangible Plant Overview**

1162 Q. What is Intangible Plant and how are Intangible Plant assets used in providing electric
1163 utility service to ComEd's retail customers?

1164 A. Intangible Plant assets are used by ComEd to provide delivery services to its bundled and
1165 unbundled retail customers. Intangible Plant includes costs of capitalized software for
1166 computer systems that generally support or relate to multiple business functions. Indeed,
1167 in ComEd's case, virtually all of its Intangible Plant consists of major information
1168 systems used for electric system operation, restoration, work management, and retail
1169 customer service and billing. Such plant includes, for example, ComEd's retail billing
1170 systems and the assets related to its Call Center. These Intangible Plant assets are used to
1171 support ComEd's delivery service functions. The investment in ComEd's Intangible
1172 Plant is included in the accounts specified by FERC and the Commission, numbered 301-
1173 303. The specific assignment of Intangible Plant to the rate base is discussed in the panel
1174 direct testimony of Mses. Houtsma and Frank (ComEd Ex. 7.0).

1175 Q. Have you determined whether the Intangible Plant is used and useful, prudent, and
1176 reasonable?

1177 A. Yes, I have. The Intangible Plant assets included in ComEd's rate base are used and
1178 useful in meeting ComEd's obligation to offer and provide electric utility services at an
1179 acceptable level of reliability to its retail customers. Those assets were prudently
1180 acquired and placed in service at a reasonable cost.

1181 **2. Intangible Plant Additions Since 2005**

1182 Q. What has been ComEd's process for determining the need for Intangible Plant additions
1183 needed to support the provision of utility services?

1184 A. As with General Plant, ComEd periodically reviews its Intangible Plant investment
1185 requirements based on service needs, work loads, productivity and technology

1186 improvements, and industry best practices, for new or improved ways to provide reliable
1187 electric service, including prompt and informative customer service, at a reasonable cost.
1188 Since most Intangible Plant consists of information systems, this evaluation is
1189 concentrated in the Information Technology (“IT”) area. IT requirements are reviewed
1190 both by ComEd operating department management and by the IT area, and are replaced
1191 or supplemented based on required functionality, reliability, compatibility, and
1192 serviceability.

1193 Q. Once ComEd has determined that an Intangible Plant need exists, how does it proceed?

1194 A. ComEd proceeds generally in a fashion similar to its approach for Distribution and
1195 General Plant needs. Possible alternative Intangible Plant investments are rigorously
1196 assessed on technical and economic grounds so that ComEd can identify a reasonable
1197 means to meet the need. In addition, the assessment is subject to diligent approval
1198 procedures, including multiple challenge stages. ComEd again employs active project
1199 management and administrative practices – including a variety of cost and budgetary
1200 controls – to ensure proper, efficient implementation.

1201 Q. In what areas has ComEd made the greatest additions to its Intangible Plant since the
1202 2005 Rate Case?

1203 A. ComEd has placed into service two major information systems initiatives, the new
1204 PassPort system and the data management, billing, and customer data systems required
1205 for post-transition retail service. Those projects are discussed in more detail in the direct
1206 testimony of Mr. McMahan and Ms. Clair (ComEd Exs. 5.0 and 6.0).

1207 **H. Materials and Supplies**

1208 Q. Has ComEd included Materials and Supplies in rate base?

1209 A. Yes. ComEd uses various materials and supplies to support its capital projects and to
1210 replace equipment necessary for its provision of tariffed services. (Materials and
1211 Supplies include stock or inventory available for use in future distribution system
1212 construction, operations or maintenance activities). The Materials and Supplies balance
1213 included in rate base is \$37.4 million.

1214 Q. Have you determined whether the Materials and Supplies are used and useful, and the
1215 costs thereof are prudently incurred and reasonable?

1216 A. Yes, I have. The Materials and Supplies included in ComEd's rate base are used and
1217 useful in meeting ComEd's obligation to offer and provide electric services at an
1218 acceptable level of reliability to its retail customers, were prudently acquired, and were
1219 acquired at a reasonable cost. ComEd purchases materials and supplies based on a
1220 combination of historical usage (for seasonality identification) and current demand (to
1221 establish current needs). This process effectively secures materials and supplies in
1222 reasonable quantities to meet our needs. In addition, a quarterly review is used to
1223 identify and document slow moving, surplus, or obsolete items. We then determine the
1224 most appropriate method for their disposition.

1225 **IV. Operating Expenses**

1226 Q. Mr. Williams, are you familiar with ComEd's proposed operating expenses in this
1227 proceeding?

1228 A. Yes, I am. Functions under my direct management are responsible for many of the
1229 operating expenses incurred by ComEd, as well as for the evaluation of such expenses.
1230 Further, I have reviewed the testimony and attachments of other ComEd witnesses in this
1231 proceeding to familiarize myself with other expenses.

1232 Q. What are the major components of ComEd's operating expenses that you and ComEd's
1233 other operations witnesses, Mr. McMahan and Ms. Clair, will discuss?

1234 A. Major components of operating expenses include Distribution Operations and
1235 Maintenance expenses, Administrative and General expenses, Customer Service and
1236 Information expenses, and Customer Accounts expenses. ComEd's distribution and
1237 customer-related operating expenses and associated A&G expense total \$807.6 million.
1238 This includes operating expenses incurred during the test year, *pro forma* adjustments to
1239 those amounts, and the normalization of storm damage repair expenses. I discuss the first
1240 two of these components below. Ms. Sally Clair discusses Customer Service,
1241 Information, and Account expenses in her direct testimony (ComEd Ex. 6.0).

1242 Q. What are the other major components of ComEd's operating expenses?

1243 A. ComEd's operating expenses also include depreciation expense, taxes, regulatory debits,
1244 the investment tax credit deduction, and other adjustments to these expenses addressed in
1245 the panel direct testimony of Mses. Houtsma and Frank (ComEd Ex. 7.0). With these
1246 categories included, they total \$1,357.5 million.

1247 Q. Has ComEd functionalized operating expenses in a manner similar to the one used for
1248 rate base items that you previously discussed?

1249 A. Yes. As with rate base items, operating expenses have been functionalized to determine
1250 the expenses to be included as part of ComEd's operating expenses. Because this
1251 proceeding concerns only Illinois rates, ComEd has excluded from the proposed expenses
1252 those that have been functionalized as Transmission and that are included in operating
1253 expenses reviewed by FERC.

1254 Q. Mr. Williams, have you reached a conclusion as to whether the overall level of operating
1255 expenses ComEd seeks to recover are reasonable and reflect prudent distribution
1256 operating activities?

1257 A. Yes. I believe that ComEd's overall jurisdictional operating expenses, as reflected in the
1258 panel testimony of Ms. Houtsma and Frank (ComEd Ex. 7.1, Schedule C-1), were
1259 incurred in order to provide the tariffed distribution services, were prudently incurred,
1260 and are reasonable in amount.

1261 **A. Distribution Operations and Maintenance Expenses**

1262 Q. What are ComEd's Distribution O&M expenses, and how do these expenses support
1263 the provision of tariffed services?

1264 A. ComEd is seeking to recover \$309.3 million in Distribution Operations and Maintenance
1265 expenses. Distribution O&M are expenses incurred by ComEd to operate and maintain
1266 its Distribution Plant. These expenses aid in maintaining the distribution system and
1267 provide distribution service on a daily basis in a reliable and safe condition. Operations
1268 and Maintenance includes various types of expenses, such as salaries and wages expense

1269 and storm damage repair expense, and all are used to provide tariffed services or to
1270 enable ComEd to provide tariffed services.

1271 Q. Does ComEd have in place measures to control its Distribution Operations and
1272 Maintenance expenses?

1273 A. Yes. ComEd uses a variety of accepted measures to manage and control all of its
1274 Operations and Maintenance expenses. In many cases, the same activities that generate
1275 capital investment also generate Distribution Operations and Maintenance expenses, and
1276 the same rigorous controls are applicable to the work regardless of the classification of
1277 the specific cost. Where outside contractors are used, the procurement process
1278 emphasizes cost control, along with consistent quality and timely completion. In
1279 addition, optimization and efficiency programs have been put in place with the explicit
1280 aim of providing reliable service at the lowest cost. ComEd's budgeting and work
1281 management systems tie expenses to projects and activities. This permits a greater level
1282 of informed monitoring, management, and control of expenses.

1283 Q. Has ComEd proposed any *pro forma* adjustments to Operations and Maintenance
1284 expenses?

1285 A. Yes. ComEd has proposed *pro forma* adjustments to the test year salary and wages in
1286 line with projected increased salary and wage expenses. ComEd also has proposed *pro*
1287 *forma* adjustments to reflect elimination of certain employee benefit payments. Details
1288 on these adjustments are shown on ComEd Ex. 7.1, Schedule C-2, attached to the panel
1289 direct testimony of Ms. Houtsma and Frank.

1290 Q. Mr. Williams, has ComEd proposed any “normalizing” adjustments to the Operations and
1291 Maintenance expenses from the test year?

1292 A. Yes. Certain expenses incurred by ComEd vary significantly from year to year.
1293 Normalizing adjustments are made in an attempt to minimize potential negative impacts
1294 on customers due to the unpredictability of these expenses. Storm restoration costs are
1295 particularly subject to variability and unpredictability, given their relationship to extreme
1296 weather. ComEd has proposed to normalize storm restoration costs. Details on these
1297 adjustments are discussed and supported in the panel direct testimony of Mses. Houtsma
1298 and Frank (ComEd Ex. 7.0), and are shown on Schedules C-2.2 and WPC-2.2, attached
1299 thereto.

1300 Q. What do you mean when you say that storm restoration costs have been normalized?

1301 A. ComEd has proposed using the six-year average of storm restoration O&M expenses.
1302 These expenses are incurred outside of normal work operations in response to storm
1303 emergencies. ComEd’s storm restoration O&M expenses (in nominal dollars, *i.e.*, not
1304 adjusted for inflation) are expected to be \$54.8 million for 2007, and for 2006 were \$38.5
1305 million, for 2005 were \$17.9 million, for 2004 were \$18.5 million, for 2003 were \$22.1
1306 million, and for 2002 were \$7.2 million. In real dollars (corrected for the Chicago CPI),
1307 ComEd’s 2006 storm restoration O&M expenses become \$38.5 million, for 2005 were
1308 \$18.2 million, for 2004 were \$19.5 million, for 2003 were \$23.7 million, and for 2002
1309 were \$7.9 million. As a result, ComEd is proposing storm restoration O&M expenses of
1310 \$27.1 million, based on an inflation-adjusted average of our six-year experience..

1311 Q. How does the use of a six year period affect the level of this expense?

1312 A. Using a five year period beginning in 2003 would have excluded the lowest annual value,
1313 increasing the average. Conversely, using a longer period that incorporates data from
1314 2000 and 2001 would also increase the storm restoration O&M expenses included in the
1315 revenue requirement. Using data from before 2000 would not be appropriate because of
1316 the extensive changes ComEd made in its approach to storm damage repairs, made in
1317 order to “get the lights back on” more swiftly, that it began to implement in 1998 and
1318 1999.

1319 Q. You stated earlier that ComEd is proposing an incremental storm repair expense rider.
1320 What is the nature of the rider?

1321 A. The rider, called Rider SEA, uses the \$27.1 million average storm restoration O&M
1322 expenses and then issues credits or charges to customers if actual storm repair O&M
1323 expenses respectively fall below or exceed that baseline. The incremental storm repair
1324 expense rider is discussed in more detail in the Direct Testimony of Paul Crumrine
1325 (ComEd Ex. 11.0). The draft rider is attached to the direct panel testimony of Mr. Alongi
1326 and Ms. Jones (ComEd Ex. 12.0). The Direct Testimony of Ms. Houtsma and Ms. Frank
1327 (ComEd Ex. 7.0) also discusses the storm repair expense normalization for purposes of
1328 the calculation of the revenue requirement and the proposed rider.

1329 Q. Why is an incremental storm repair expense rider warranted?

1330 A. In sum, storm repair O&M expenses are material in the sense that involve very large
1331 costs. They are highly volatile from year to year. They are also unpredictable and
1332 uncontrollable.

1333 Q. Mr. Williams, have you reached a conclusion as to whether the expenses included in
1334 ComEd's Operations and Maintenance expenses are needed, reasonable, and prudently
1335 incurred?

1336 A. Yes. Based on my experience, knowledge of the activities, and the information described
1337 earlier in my testimony, I conclude that ComEd's Operations and Maintenance expenses
1338 are needed to provide the tariffed services, reasonable, and prudently incurred.

1339 **B. Administrative and General Expenses**

1340 Q. What are ComEd's Administrative and General expenses, and how are these expenses
1341 used to support the provision of tariffed services?

1342 A. ComEd seeks to recover \$341.3 million in Administrative and General expenses.
1343 Administrative and General expenses include expenses such as salaries, pensions and
1344 benefits, office supplies and services, and accounting fees, as well as costs for services
1345 that ComEd receives from EBSC and other outside service providers. These types of
1346 expenses are necessary and useful in providing tariffed service to customers.

1347 Q. Mr. Williams, have you reached a conclusion as to whether the Administrative and
1348 General expenses included in the revenue requirement are necessary in providing electric
1349 utility service, reasonable, and prudently incurred?

1350 A. Yes. The functions that Mses. Houtsma and Frank testify are reflected in ComEd's
1351 Administrative and General expenses are necessary for ComEd to provide delivery
1352 services. In addition, based on my experience, my knowledge of the types of activities
1353 included in A&G and their importance to providing distribution service, and the
1354 information described earlier in my testimony, I conclude that, from an operational

1355 perspective, ComEd's use of these A&G services is prudently managed by ComEd and
1356 that the cost of these services to ComEd is reasonable.

1357 **V. Production Assets and Expenses**

1358 Q. Does ComEd own any assets used to produce electricity or to support the production of
1359 electricity?

1360 A. No. ComEd does not own assets used in the production of electricity and no part of
1361 ComEd's rate base includes production related assets.

1362 Q. Are ComEd's costs to acquire electricity included in its distribution expenses?

1363 A. No. ComEd's costs to purchase electricity and other related services such as capacity and
1364 certain transmission and transmission ancillary services are not included in its delivery
1365 expenses or capitalized in its rate base. These costs are recovered through a separate
1366 tariff, like Rider CPP – Competitive Procurement Process, or its successor. The only
1367 other supply costs ComEd incurs are the very minor costs to administer the supply
1368 acquisition process. To the extent that they are not recovered through the supply charge
1369 itself, they are currently recovered in the Supply Administration Charge ("SAC"), which
1370 is discussed by Mr. McDonald (ComEd Ex. 9.0).

1371 Q. Does this conclude your direct testimony?

1372 A. Yes.