GC Ex. 4.0

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

Commonwealth Edison Company	)	
	)	
Petition for approval of delivery services tariffs	)	
and tariff revisions and residential delivery services	)	**No. 01-0423**
implementation plan and for approval	)	
of certain other amendments and additions	)	
to its rates, terms and conditions	)	

REBUTTAL TESTIMONY

SUBMITTED BY

EDWARD C. BODMER

ON BEHALF OF

PEOPLE OF THE STATE OF ILLINOIS
CITY OF CHICAGO
COOK COUNTY STATE'S ATTORNEY'S OFFICE
CITIZENS UTILITY BOARD

OCTOBER 16, 2001

REBUTTAL TESTIMONY OF EDWARD C. BODMER

I.
INTRODUCTION

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

A. My name is Edward Bodmer. I am testifying on behalf of the City of Chicago, the People of the State of Illinois, the Cook County State's Attorney's Office, and the Citizens Utility Board.

Q. Have you submitted direct testimony in this proceeding?

A. Yes, I submitted direct testimony as GC Exhibit 1.0, which included my qualifications.

Q. What is the purpose of your rebuttal testimony?

A. I respond to various pieces of testimony submitted by Edison that dispute findings discussed in my direct testimony related either to cost of service issues or to my recommendation that the Commission initiate an investigation of Edison's distribution capital expenditures. My testimony responds specifically to the testimony presented by Edison witnesses Ms. Arlene Juracek, Mr. Jerome Hill, Mr. Michael Born, Mr. David DeCampli, Dr. James Williams, Mr. Alan Heintz, and the panel testimony of Mr. Lawrence Alongi and Ms. Sharon Kelly.

17 II.
18 **REVIEW OF DIRECT TESTIMONY AND EDISON RESPONSES**

19 **Q. Please review your direct testimony with respect to your recommendation that the**
20 **Commission perform an audit before allowing Edison's large proposed rate base**
21 **increases related to distribution capital expenditures.**

22 A. In my direct testimony, I explained that because of a combination of factors -- including
23 temporarily frozen bundled rates, the way in which the CTC works, and the nature of rate
24 base additions -- the impacts of the Commission's decisions on rate base additions are far
25 more significant than they may initially appear, and that the rate base increases are more
26 important to customers than increases in operating and maintenance expenses. Further, I
27 suggested that distribution- related additions Edison proposes to include in rate base should
28 not be approved until the Commission has completed a full investigation of its capital
29 expenditures to identify and to exclude any amounts attributable to imprudent neglect of
30 Edison's distribution infrastructure. Finally, I concluded that during the pendency of the
31 audit, it would be unnecessary for Edison to increase its rate base further by recording
32 carrying charges on plant balances under investigation, in part because, after adjusting for
33 merger accounting and amortization, Edison is already earning a return on equity above 20%.

34 **Q. Please review the recommendations in your direct testimony respecting Edison's cost-**
35 **of-service and rate design proposals.**
36 A. I concluded that Edison's marginal cost of service study is so flawed, when measured against
37 any reasonable application of economic principles, that it does not provide better efficiency
38 fbenefits than does an embedded cost study. However, I also concluded that Edison's
39 embedded study must be revised in the manner I prescribed to allocate costs more equitably
40 among customer classes. The more significant of the embedded cost study revisions I
41 recommended included: (1) allocation of certain distribution costs using a coincident peak
42 allocator rather than a non-coincident peak allocator; and (2) allocation of billing costs,
43 customer installation costs, and metering costs on a basis that reflects Edison's actual
44 business activity.

45 **Q. In general, how did Edison respond to your recommendations?**
46 A. As in any contested case, Edison understandably challenges the testimony of parties who are
47 critical of its positions. However, in two situations, Edison has taken particularly defensive
48 positions that corporate policies developed in its bureaucracy must be accepted without
49 scrutiny of the fundamental basis of those policies. The two instances to which I refer relate
50 to costs of remedying distribution neglect and to its marginal cost study.

51 The first issue concerns Edison's position that even if earlier management actions were
52 imprudent, and even though extraordinary expenditures have been made by the Company to
53 remedy the resulting reliability problems, its distribution capital investment is no higher than

54 it would have been had the Company been prudent all along. While that is theoretically
55 possible, though unlikely, objective evidence to support that claim has not been presented.
56 More important, according to Edison's rebuttal testimony, the Commission (and all parties)
57 should accept the opinions of Edison's witnesses that no costs attributable to past
58 imprudence are included in its request. Yet, at the same time the Company maintains that
59 it has performed no analyses to identify the incremental amounts (if any) that Edison paid to
60 study problems, purchase equipment, configure systems, and install facilities as it undertook
61 significant remedial expenditures and corrective action on an expedited basis.

62

63 The second issue is Edison's position that its marginal cost study is beyond question because,
64 in the past, the Commission has not delved into every detail of the study in its orders. The
65 Company would have the Commission ignore completely the evidence in this record that the
66 study is built upon questionable survey data, incorrect theoretical premises, and incorrect
67 assumptions. That would not be proper. Edison's reverence for past Commission decisions
68 also ignores (and is entirely inconsistent with) Edison's disregard of the Commission's recent
69 decision rejecting a marginal cost basis for delivery service rates. Such inconsistencies in
70 costing practices lend additional credence to Staff witness Lazare's conclusion that Edison's
71 marginal cost studies should not be selected over a more objective, verifiable embedded cost
72 study.

73 **Q. Could Edison have reasonably taken alternative positions on these issues?**

74 A. Yes. With respect to the analysis of distribution costs, Edison could have cooperated in the

75 parties' attempts to ascertain whether any of its distribution expenditures, based on a review
76 of objective evidence, are attributable to, *e.g.*, a need to correct the effects of past imprudent
77 actions or to remedy such problems on an expedited basis. Evidence that answers this
78 question is simply not present in this proceeding.

79 With respect to the marginal cost study, Edison could work with parties to develop
80 innovative and appropriate pricing models for distribution infrastructure investments. An
81 appropriate pricing policy for investment in infrastructure would, for example, recognize that
82 artificially low prices for installations of new facilities -- whether for new customers or for
83 existing customers -- provide incorrect signals to consumers with regard to use of the utility's
84 underutilized infrastructure investment.

85 **Q. How have you arranged your rebuttal testimony?**

86 A. I begin by discussing Edison's response to my recommendation that an audit of capital
87 expenditures be performed. Next, I comment on Edison's defense of its marginal cost study.
88 Third, I discuss Edison's responses to changes that I proposed in its embedded cost study.
89 I have not included any extended discussion of Edison's tariff provision on retail delivery
90 services customers' responsibility for FERC transmission charges, since the Company does
91 not rebut the fundamental point that these are interstate transmission charges that should be
92 collected under the OATT, not by using Edison's Illinois DST tariffs.

93 **III.**

EDISON'S REBUTTAL TESTIMONY CONFIRMS THE NEED FOR FURTHER INVESTIGATION

Q. Please summarize Edison's rebuttal testimony with respect to your recommendation to investigate the magnitude of its capital expenditures related to its recovery program.

A. Edison has responded to the recommendation for an investigation into the amounts of distribution capital expenditures with a series of novel or unsupported arguments:

(1) That past imprudence is not relevant in assessing rate base additions and that the intevenors simply are using the investigation as a means to penalize the Company by delaying the new tariffs.

(2) That the distribution expenditures Edison made are no higher than they would have been without any past imprudent actions by the utility.

(3) That Edison has provided sufficient data to allow parties and the Commission to assess whether the proposed level of expenditures includes improper "catch up" expenditures.

(4) That Edison's distribution plant is used and useful even though obsolete plant remains in rate base.

Q. Before addressing the specific arguments Edison makes, can you comment generally on the reasonableness of Edison's position?

A. Edison asks the Commission to accept, on the basis of the subjective conclusions of its employee-witnesses, the utility's claim that despite acknowledged distribution system problems requiring massive corrective expenditures, none of the resulting expenditures were

115 higher because of past neglect, expedited construction, or repair of neglected system
116 components. Edison does not provide data or analyses that (a) identify what recovery
117 program costs are included in (or excluded from) its revenue requirement, or (b) demonstrate
118 what distribution costs would have been without past system neglect or the more recent need
119 to expedite repairs, make-up work, and installations. Edison merely presents witnesses who
120 make qualitative statements about management practices at the Company or present
121 subjective conclusions about the propriety of the amounts included. Quantitative bases for
122 their opinions are not presented.

123 In other words, we are to accept a rather extreme position (that the millions of dollars spent
124 on distribution upgrades would have been the same had the past acknowledged problems not
125 occurred) without any objective analysis. Edison's position comes very close to arguing that
126 allowed test year costs of service cannot be affected by prior management actions, even if
127 they were imprudent. My position does not presume that Edison's expenditures to repair the
128 system have been inappropriate or that the facilities installed were not needed. My position
129 is simply that:

130 (1) the evidence in this case does not demonstrate that Edison's proposed
131 revenue requirement, in fact, reflects only reasonable and prudent
132 expenditures -- or even, as Edison phrases the test, no costs higher than they
133 would have been absent Edison's acknowledged distribution maintenance and
134 investment errors or other imprudent actions;
135 (2) the evidence in this case does not demonstrate that the proposed revenue

136 requirement excludes amounts attributable to documented, imprudent
137 investment actions that resulted in reliability problems which required
138 significant expenditures to correct, and
139 (3) approval of the requested additions to rate base cannot be justified without
140 a far more thorough analysis.

141 *1. Relevance of Past Utility Performance*

142 **Q. Explain why you interpret Edison's position to be that possible connections**
143 **between past imprudence and the proposed distribution capital additions or the level**
144 **of distribution expense need not be investigated.**

145 A. The following sample of statements by various Edison rebuttal witnesses indicates
146 to me that -- in Edison's view -- (a) the causes of the reliability problems that prompted its
147 recovery program (and the related costs) are entirely irrelevant, and (b) the existence of
148 procedures makes any review of actual costs unnecessary. That is not my understanding of
149 pertinent ratemaking principles and past Commission practice. The statements I refer to
150 include the following:

151 While the construction schedule was certainly aggressive, my own analysis
152 showed that there was no major project performed that a prudent utility
153 company would not have undertaken. **Any past alleged failure or**
154 **inattentiveness to the distribution system is really irrelevant to the status**
155 **of these projects as an appropriate component of Distribution Plant.**
156 They were all needed and no 'premium' that I can determine was paid to
157 construct those projects as an appropriate component of Distribution Plant.
158 ComEd Exhibit 26.0, line 166 (DeCampli) (emphasis added).

159 The distribution capital investments required to achieve those reliability

> improvements are properly included in rate base. ComEd Exhibit 19.0, line 44 (Helwig).

> ComEd has in place excellent procedures governing whether, when and how to make capital expenditures. It has developed good procedures for expense and cost control. It is audited annually by its outside accountants. It is required to file a FERC Form 1. ComEd Exhibit 26.0, line 321 (DeCampli).

Q. Does Edison deny that problems in its distribution infrastructure attributable to the utility's past management or operation of the system have given rise to the need for its large capital expenditures?

A. No. As other witnesses have recounted, Edison's own investigation of its distribution system's reliability problems identified the need for massive expenditures to correct the problems found and to prevent additional reliability failures. A more muted acknowledgment from the leader of Edison's investigation is included in the following testimony:

> ComEd had serious problems with its distribution system in 1999… these problems were in part caused by the condition of aspects of ComEd's distribution system. ComEd Exhibit 19.0, line 71. (Helwig).

Note, however, that in its rebuttal testimony Edison was careful to assert only prudence in its current response, not in past actions that contributed to the need for the response. That is, Edison asserts because its costs incurred to remedy the reliability failures were prudent, there is no need to look into what caused that need for corrective action and expenditures. However, Edison's position evades the real point. The question for the Commission is not whether fixing an obvious problem is prudent. It is whether any of the costs of fixing the problem should be disallowed because those costs were caused by prior imprudent actions.

184 For example, costs may be higher because of the need to remedy the resulting (and
185 continuing) reliability failures and risks on an expedited basis.

186 **Q. Do you agree with Edison's suggestion that you are trying to penalize the Company?**

187 A. No, notwithstanding Edison's accusation that the recommended audit is merely a thinly
188 veiled attempt to penalize the Company. ComEd Exhibit 20.0, line 66 (Juracek). Edison
189 suggests further that:

> 190 [T]here is no reason for such an audit, and the GCI proposal is a transparent
> 191 effort essentially to get something for nothing, i.e., to allow delivery services
> 192 customers to continue to have the benefit of ComEd's distribution capital
> 193 investments from 1998 to date while avoiding paying their fair share – or any
> 194 share – of those costs. ComEd Exhibit 24.0, line 516 (Voltz).

195 When there is documented evidence, prepared by the utility itself, that possibly imprudent
196 actions of the utility have caused expenditures that may be included in a proposed
197 revenue requirement, the impetus for a through investigation is not to penalize the utility
198 for its actions, but to meet the Commission's regulatory obligations.

199 **Q. In your view, how should the prudence of Edison's past management decisions be**
200 **considered in determining appropriate additions to rate base?**

201 A. Ms. Juracek suggests that looking at the prudence of Edison's past actions inappropriately
202 penalizes the Company. ComEd Ex. 20.0, line 66. That logic, however, would preclude <u>any</u>
203 regulatory consideration of managerial or operational prudence and the resulting costs. Any
204 time a utility rate base is adjusted and the prudence of cost-causing management decisions
205 is reviewed, the actions in question are by definition past decisions. Further, it is generally

206 assumed, whether a nuclear plant, natural gas pipeline or a distribution substation is being
207 evaluated, that if there was a past problem, management has repaired the problem.

208 The fact that a distribution problem was identified and repaired does not mean that the
209 prudence of past management actions that may have required the remedial expenditures are
210 beyond question. In other words, even if actions made by current management to fix
211 problems are exemplary, a rate base adjustment may still be appropriate where the proposed
212 rate base or expense level is more than it would have been if past management actions had
213 been prudent. My recommendation for an audit is not meant to punish Edison – the audit
214 may demonstrate that no adjustment is appropriate. Instead, the audit will provide the
215 evidence necessary for a reasoned Commission determination, based on objective evidence,
216 of the proper magnitude of additions to rate base and allowed expenses. At this point there
217 is simply no objective basis on which to make a determination of what costs (if any) should
218 be disallowed as imprudent or unreasonable, especially in light of the critical findings of
219 Edison's own investigation report.

220 *2.* *Objective Evidence of Recovery Program Cost Prudence and Reasonableness*

221 **Q. How has Edison attempted to show that its expenditures in connection with fixing its**
222 **distribution were no higher than they would have been irrespective of past**
223 **imprudence?**

224 A. Edison addresses this issue only through the opinions of its witnesses. The utility asserts,
225 without any supporting objective quantitative analysis, that it has not incurred higher costs

226 than it would have incurred had expenditures been made when needed to avoid the reliability
227 problems and at a measured pace all along. The following selection of statements from
228 Edison's rebuttal testimony illustrates its reliance on unsupported opinion:

> 229 ComEd's distribution capital investments, and its distribution capital project
> 230 contract management practices, in this period have been prudent and <u>do not</u>
> 231 <u>include any increment of costs due to any past imprudence</u> by ComEd.
> 232 ComEd Exhibit 24.0, line 521 (Voltz, emphasis added).

> 233 The distribution capital component of the proposed rate base in ComEd's
> 234 proposed revenue requirement simply does not contain any incremental costs
> 235 that would not have been incurred but for any past imprudence on the part of
> 236 ComEd. ComEd Exhibit 24.0, line 38 (Voltz).

> 237 Furthermore, none of those intervenor witnesses has shown that ComEd paid
> 238 more than it should have for any particular distribution capital project
> 239 performed in this period. ComEd Exhibit 24.0, line 36 (Hill).

240 As the last statement shows, Edison also maintains that it is the responsibility of other parties
241 to prove that the expenditures have been excessive. In fact, Ms. Juracek suggests that
242 without the kind of proof that only an audit could provide, an audit is not justified. ComEd
243 Ex. 20.0, line 899.

244 **Q. Does Edison's explanation of its policies respecting overtime, use of contractors,**
245 **incentive payments, and supply costs provide objective proof that its costs were not**
246 **higher because of the need to remedy problems attributed to past system neglect or the**
247 **hurried nature of expenditures to prevent additional reliability failures?**

248 A. No. Edison justifies its costs with a number of statements about its procedures and
249 witnesses' opinions that the procedures worked, but there is no objective data or analysis that
250 demonstrates how much Edison's expenditures would have been if the past problems with

251 Edison's distribution system had not occurred. It is still not clear what amount of the
252 recovery program costs are actually included in its proposal. The general, non-quantitative
253 opinions of Edison witnesses offered in place of quantitative data and evidence include the
254 following:

> 255 No significant incremental costs were incurred by ComEd for expedited
> 256 transportation…Further, it is incorrect to assume that under normal
> 257 conditions distribution equipment is never shipped on an expedited basis.
> 258 ComEd Exhibit 24.0, line 179 (Voltz).
>
> 259 The use of contract incentives, including time related incentives, is entirely
> 260 appropriate and prudent. ComEd Exhibit 25.0, line 57 (Williams).
>
> 261 …people from outside of the region are brought in as there may not be
> 262 enough skilled people within the region to be able to complete the project in
> 263 the desired time frame. ComEd Exhibit 25.0, line 170 (Williams).
>
> 264 Overtime costs would not have been less if work had been done prior to
> 265 1999. Because employees were already working overtime in the years
> 266 previous to 1999, they would have incurred additional overtime costs anyway
> 267 if more work had been assigned to them. ComEd Exhibit 24.0, line 50
> 268 (Voltz).

269 In all of these statements we are asked to accept on faith, despite Edison's obvious economic
270 incentive to avoid disallowances and without any objective quantitative analysis, that Edison
271 has not spent more than it would have absent any utility actions of questionable prudence.
272 Edison's attempts to justify costs that it does not quantify as part of its request strengthens
273 the case for further investigation. In fact, its testimony appears to support the very inquiries
274 the testimony is meant to dispel.

275 **Q. Summarize your position with respect to the appropriate manner in which the**

276 **expenditures should be considered?**

277 A. The evaluation should include: (1) assessment of the prudence of the management decisions
278 that led to the costs; and, (2) comparison of the costs resulting from those decisions
279 compared to hypothetical costs that would have occurred had the Company instead made
280 prudent decisions over a number of years. In performing this evaluation, a number of
281 different projects must be evaluated, detailed invoices must be reviewed, and engineering
282 expertise must be used. As I explain below, information to make these determinations is not
283 present in this proceeding.

284 *3.* *Sufficiency of Quantitative Evidence and Data Request Responses*

285 **Q. Do you agree with Edison that it has provided all information necessary to assess its**
286 **distribution capital expenditures in light of possible prior imprudence actions?**

287 A. No. Edison suggests that any analysis of the level of expenditures could have been
288 performed in this case and that an audit is unnecessary. Ms. Juracek even suggests that the
289 "public process and scrutiny" that accompanied its reliability failure and recovery program
290 is an adequate substitute and that "an audit would serve no useful purpose." ComEd Exhibit
291 20.0, line 866. I disagree. The record does not demonstrate that the concern of governmental
292 bodies about reliable electric service led to a quantitative review of the expenditures
293 proposed as costs in this proceeding. In any case, that process was not "public," and I
294 understand that some of the information about the recovery program is still considered
295 confidential.

296 **Q. Has Edison supplied sufficient data to allow parties to identify and analyze incremental**
297 **expenditures associated with the recovery program?**
298 A. No. Edison argues in testimony that "Staff or intervenors should have the obligation to show
299 in this case that Edison incurred any incremental distribution capital costs due to past
300 imprudence." ComEd Exhibit 24.0, line 527. That process seems to reverse the traditional
301 obligation of the utility to justify its proposal. But, in any case, the Company -- which has
302 exclusive possession of the relevant information -- has not provided data in its testimony,
303 exhibits or workpapers that are sufficient to allow any party to identify or to analyze its
304 incremental distribution costs.

305 **Q. Has Edison provided the quantitative data you describe in its discovery responses, so**
306 **that other parties could perform the analysis you say the utility has not presented?**
307 A. No, it has not. In fact, the certainty expressed by Edison's witnesses contrasts sharply with
308 the lack of information Edison says is available to test their conclusions. Some examples of
309 this lack of information include:
310 - In a data request 3.209, the City asked Edison to provide invoices for
311 out-of-town labor. Edison did not provide a quantitative response because
312 "there is no definition of out of town" and "no indication as to whether
313 ComEd labor, third party labor or some other determination of labor is to be
314 used."
315 - In data request 3.213, the City asked Edison to provide contract labor that
316 was capitalized to plant. Edison declined to provide a quantitative response,

317 stating: "ComEd does not account for contractor expenditures in the manner
318 requested."

319 - In data request 3.326, the City asked for the amounts of capital expenditures
320 due to (a) contract labor; (b) Edison labor; (c) overtime; and (d) supplier
321 costs. Edison responded, in part: "ComEd does not account for contract
322 labor as requested and the term supplier costs is undefined."

323 - Finally, in its responses to several requests to admit from the City, Edison
324 admits that some portion of its recovery program costs is included in its
325 revenue requirement. At the same time, Edison denies (a) that it has
326 quantified the costs of the recovery program included in the revenue
327 requirement, (b) that it has quantified the costs of its recovery program
328 excluded from the revenue requirement, (c) that it has documents quantifying
329 the costs of the recovery program included in or excluded from its revenue
330 requirement, and (d) that its witnesses relied on documents quantifying the
331 costs of the recovery program included in or excluded from its revenue
332 requirement. ComEd Responses to COC Requests to Admit 1.16, 1.17, 1.18,
333 1.19, 1.20, and 1.21 (attached as Ex. 4.1).

334 Edison has denied parties (and the Commission) any quantification of that portion of its
335 revenue requirement request that could be challenged as a result of management or
336 operational imprudence. As a result, however, Edison also has failed to produce any
337 objective evidence that could meet its burden of proving that its proposed costs are a proper
338 basis for setting rates.

339 **Q.** Summarize your position with respect to the available data in this case to evaluate the
340 appropriate rate base amount.

341 A. No party other than Edison currently has sufficient information to conduct the necessary
342 analyses. And no one (including the Commission itself) can make a reasoned
343 recommendation (supported by evidence) to accept or to disallow a specific amount of the
344 expenditures stemming from Edison's reliability failures and recovery program. In
345 particular, one cannot conclude on the basis of Edison's direct or rebuttal testimony that the
346 amount Edison seeks to add to rate base actually represents reasonable costs that are not
347 attributable to imprudent management decisions. Because the mere lack of information
348 cannot overcome the evidence of imprudent management decisions contained in Edison's
349 own investigation reports, further scrutiny is justified.

350 *4.* *Shareholder Burden for Recovery and Audit Costs*

351 **Q. Edison suggests that its shareholders are bearing the costs of correcting its reliability**
352 **problems. Do you agree with this assertion?**

353 A. No. Edison contends:

354 Because of the rate freeze, customers who remain on bundled service will not
355 begin to pay their share of any additional costs for reliability expenditures
356 before January 1, 2005. In addition, regardless of Commission action in this
357 case, shareholders will continue to bear all of the incremental expenses
358 incurred . . . . ComEd Exhibit 19.0, line 85 (Helwig).

359 While it is true that Edison's financial performance would have been better absent the need to make
360 massive capital expenditures and to incur operating and maintenance expenses to fix the
361 problems with its system, that does not mean that its shareholders were getting less than they

362 should have. Edison's assertion must be examined in the context of its achieved financial
363 performance.

364 As long as the utility is earning its authorized rate of return, then its shareholders are being fully
365 compensated, even if there were extraordinary remedial expenditures. If Edison achieved
366 its authorized return, then charges to ratepayers covered all the allowed costs. In that
367 context, Edison's complaint is essentially that its remedial expenditures denied shareholders
368 an opportunity to earn more than the authorized level of profit. Excluding accounting
369 adjustments for merger accounting and for rapid amortization, Edison's return on equity was
370 above 20%. It is true that the return would have been even higher had the expenditures not
371 been made, but assertions that shareholders have suffered unduly are far from correct.

372 **Q. Would an audit unduly penalize shareholders because of the delay in increasing rate**
373 **base for delivery charge customers?**

374 A. No. In my direct testimony I explained that Edison's cash flow is affected on an incremental
375 basis by rate changes in this case only when customers do not become delivery services
376 customers because they cannot achieve mitigation savings. I also pointed out that this
377 situation (where customers do not become delivery service customers) will most likely occur
378 when increases in delivery charges cause the CTC to decline from a positive number to zero.
379 Edison now states that because of expected declines in the market price few customers will
380 experience zero CTC's:

381 Forward energy prices have fallen and are projected to remain far lower than

382 the current Period A MVI values applicable to ComEd's customers. Fewer
383 customers will have zero CTCs, even more customers will have increases in
384 delivery services charges offset by decreases in CTCs (most see the offset even
385 now), and even more customers will enjoy greater mitigation factor savings.
386 (ComEd Exhibit 20.0, line 414.)

387 If customers experience the same amount of mitigation savings before and after rate changes
388 in this case because the CTC does not decline to zero, Edison's cash flow does not suffer if
389 rate base increases are delayed while an audit takes place. Of course, when rate changes are
390 ultimately applied to all customers after January 1, 2005, if an audit suggests that rate base
391 should be lower, then shareholders might experience a lower return. If an audit confirms
392 Edison's position that past imprudence did not affect the ultimate level of capital
393 expenditures, and if most customers experience a positive CTC whether or not rate base is
394 increased, Edison shareholders will not be significantly affected.

395 *5.* *Obsolete Plant in Rate Base*

396 **Q. In your direct testimony, what point did you make regarding equipment that has been**
397 **replaced remaining in rate base?**

398 A. I noted that if deficient spending on maintenance causes plant to be retired earlier than
399 expected, the plant that is no longer useful remains in rate base. This plant is not used and
400 useful, and an audit would reveal whether it is appropriate to leave such plant in Edison's
401 rate base.

402 **Q. Does Edison acknowledge that plant balances associated with plant that is no longer**
403 **used is still in rate base?**

404 A. Yes. Edison witness Jerome Hill suggests that instead of adjusting rate base, the depreciation
405 expense charged to customers in the future should be increased. He testifies:

> 406 …the retired plant is assumed to be fully depreciated. This practice reflects
> 407 that plant in service is depreciated at class group annual depreciation rates
> 408 based on the average expected service life for the particular class of plant.
> 409 This practice also reflects that age of the plant retired may be higher or lower
> 410 than the class group. Changes in average expected service lives for class
> 411 groups are recognized in studies prepared periodically to determine average
> 412 class depreciation rates. (ComEd Exhibit 23.0, line 70.)

413 Mr. Hill's statement implies that if distribution plant has been replaced as part of the
414 recovery program, and if that plant was not fully depreciated, the obsolete plant as well as
415 the new plant is in rate base. I understand that this occurs because of the mechanics of group
416 depreciation. However, the question that must be resolved is whether, given the significant
417 amount of plant that has been replaced in a short period of time, ratepayers should pay for
418 the plant through higher depreciation rates in the future, or whether Edison should write off
419 the undepreciated plant that is no longer used.

420 IV.
421 EDISON'S REBUTTAL CONFIRMS THAT THE MARGINAL COST STUDY
422 IS AN INAPPROPRIATE BASIS FOR DISTRIBUTION TARIFFS

423 **Q. Please summarize your understanding of Edison's rebuttal testimony respecting its**
424 **marginal cost of service study.**

425 A. In the panel rebuttal testimony of Mr. Alongi and Ms. Kelly, Edison repeats arguments it has
426 made in the past in support of its marginal cost study. As I explain below in more detail,
427 these arguments are less persuasive than ever, especially given the manner in which Edison

428 purports to use marginal costs to establish credits for metering and billing. Edison
429 vigorously contests developing delivery services prices without including the marginal meter
430 costs incurred only when it must install new facilities. But, at the same time, Edison argues
431 that meter investment costs should not be considered in developing credits for customers
432 using a competing service. Both of these Edison "marginal cost" positions cannot be right.

433 Edison's distinctive definitions of marginal meter costs (and its similarly distinctive
434 definitions of marginal billing costs) illustrate the problem with Edison's marginal cost study
435 that Mr. Peter Lazare identified. Edison inconsistently defines "marginal costs" to suit its
436 desires. Another reason Edison's arguments are less persuasive than ever is the Company's
437 resistance to changing its methodology to conform to the economic theory it says it is
438 applying. One example is Edison's position on carrying charge factors that double count
439 inflation. Edison's continued defense of this relatively minor element of its marginal cost
440 study seems to validate another suggestion in Mr. Lazare's testimony. Efforts to improve
441 Edison's study, no matter how well-founded, seem certain to be opposed by the utility.

442 **Q. Before discussing details of Edison's arguments in defense of its study, can you identify**
443 **some of the characteristics that a more reasonable marginal cost study would contain?**
444 A. Yes. A few years ago, when the City addressed marginal cost of service issues in an earlier
445 Edison rate case, I reviewed the marginal cost study presented by Pacific Gas and Electric
446 Company ("PG&E") to its regulators. The PG&E study exhibited many differences from the

447 Edison marginal cost study. Among other differences, it did not attribute the carrying cost
448 of a new meter and service drop to customer premises with facilities already in place. It also
449 computed distribution costs on a region-by-region basis, recognizing that the characteristics
450 of a system-wide class may not match the regional factors that actually drive distribution
451 investment. Overall, the PG&E approach is a more reasonable one, and it is dramatically
452 different from the Edison marginal cost study presented in this case.

453 In Docket No. 99-0117, I pointed out that Edison was capable of conducting a more
454 reasonable marginal cost study, when it chose to do so. The Company's method of
455 computing costs to support its Rider 19 rates for service in areas with under-utilized
456 distribution facilities did recognize regional differences in capacity and expected load. Such
457 a region-by-region calculation of distribution capacity costs, combined with marginal cost
458 definitions of metering and billing that are consistent with economic principles, would
459 provide the basis of a reasonable study. That study would be a dramatic improvement over
460 the marginal cost study presented in this case by the Company.

461 *1.* *Meters and Service Drops*

462 **Q. How does Edison respond to your criticism that the study's attribution of costs of a new**
463 **meter to facilities that are already in place is not consistent with economic theory?**

464 A. Edison attempts to justify attributing certain costs of a new meter to every customer
465 premises' facilities by insisting that a meter's spinning causes a marginal cost that should be
466 counted -- even if no dollars are actually expended to purchase or to install a new meter:

467 These meters do not just exist, as Mr. Bodmer claims. They are performing
468 a vital economic activity each and every day of the year. Their dials busily
469 spin or their electronic components diligently record every kilowatt of power
470 demanded and every kilowatt-hour of energy consumed by customers. They
471 perform an economic activity that is vital to, not just customers and ComEd,
472 but to any Retail Electric Supplier that may want to provide supply services
473 in ComEd's service territory. It is fallacious to claim that the meters merely
474 exist. (ComEd Exhibit 32.0, line 88.)

475 **Q. Do you agree that the spinning of a meter causes marginal costs?**

476 A. No. Proclaiming that societal marginal resources are expended because a meter is spinning
477 is simply nonsense. Marginal costs are defined by the occurrence of economic events and
478 an incremental expenditure of dollars -- not by spinning meters that do not cause Edison to
479 make any expenditures. The fact that Edison resorts to this type of argument -- that a
480 spinning meter causes marginal new meter costs -- indicates the lack of justification in
481 principled economics. More important, such positions, and Edison's consistent refusal to
482 reconsider them, have harmful effects on customers' rates. At least when it comes to
483 Edison's marginal cost of service study, I have come to Mr. Lazare's conclusion that
484 marginal costs are subjective.

485 **Q. Can you describe how the cost of new meter installations should be treated in a**
486 **appropriate marginal cost study?**

487 A. Once a meter is in place for given location, it is a sunk cost. After Edison installs a new
488 meter and/or a new service for a house, the marginal cost of the installation becomes a sunk
489 cost. No further marginal meter costs for that location will be incurred unless and until a
490 new meter is installed. To use Edison's example, the meter could spin indefinitely, but

491 spinning alone causes no additional marginal meter costs.

492 From a marginal cost perspective, Edison is wrong to assume that mere re-use of in-place
493 customer premises facilities -- which are represented by sunk costs (not marginal costs) --
494 causes the utility to incur the costs of buying and installing a new meter. On the other hand,
495 marginal customer costs do arise when the Company installs new meters and services. The
496 only potential marginal costs associated with existing meters are eventual replacement costs.
497 An appropriate treatment of those costs that I suggested in an earlier case would be to use an
498 "insurance" allowance for the replacement of meters and services. While I did not propose
499 this approach in my direct testimony because my comments are focused on the problems with
500 Edison's cost study, I continue to believe this would be the appropriate method for measuring
501 the marginal cost of meters.

502 *2.* *Inconsistencies In Edison's Use of Marginal Cost Concepts*

503 **Q. Before addressing details of Edison's rebuttal testimony on the measurement of**
504 **marginal metering costs used in determining billing credits, could you quantify the**
505 **difference between the marginal metering costs Edison calculated for purposes of**
506 **billing credits and those calculated for use as metering costs in the marginal cost study?**
507 A. For single family customers, the marginal cost of meters for purposes of billing credits is
508 $1.80 per customer per year. Conversely, the marginal cost study assumes a measured
509 metering cost for the same customer class of $13.00 per customer per year. The marginal
510 cost study (used for customer charges) assumes metering costs that are 622% above the

511 marginal metering costs used for billing credits (customer bill reductions).

512 **Q. Why is the marginal metering cost calculated for purposes of metering credits so**
513 **different from the metering costs in the marginal cost study?**

514 A. The marginal costs defined for purposes of billing credits do not include carrying charges on
515 the cost of a new meter or the total actual cost Edison expends in operating and maintaining
516 meters. In developing the marginal cost study, Edison uses accounting costs for meter
517 reading, meter repair, and other meter related costs, including administrative costs. Edison
518 adds the carrying cost of new meters to these operating and maintenance costs in the
519 marginal cost study. For purposes of establishing billing credits associated with meter
520 services, Edison calculates marginal cost by including only costs that are supposedly "on the
521 margin" when an existing meter is no longer supplied by Edison. That is, in Edison' credits
522 calculation sunk costs are ignored; in Edison' charges calculation, they are not.

523 In summary, in the cases of costs that support customer charges Edison assumes that it incurs
524 the costs of a new meter for every customer premises it serves. But, for customer credits,
525 Edison does not assume that the same costs are avoided when a customer premises is served
526 by a competing metering firm.

527 **Q. What is the quantitative difference between Edison's calculation of marginal billing**
528 **costs for purposes of determining single bill option credits and the marginal billing**
529 **costs used in Edison's marginal cost study?**

530 A. For single family customers, the marginal cost of billing for purposes of the single bill option
531 is $0.41 per customer per year. The marginal cost study assumes a billing cost for the same
532 class of $12.06 per customer per year.

533 **Q. Is Edison's approach to pricing of metering credits consistent with your arguments**
534 **respecting the marginal cost of new meters?**
535 A. Yes. When measuring marginal costs for purposes of billing credits, Edison does not include
536 carrying charges on the cost of a new meter and it does not include the fully loaded operation
537 and maintenance costs. Excluding these costs from the marginal cost of meters is very
538 similar to the position that I have taken in prior cases and it is consistent with the method
539 used in the PG&E study that I referenced above. Similar principles apply to costs of new
540 services and billing costs.

541 **Q. Does Edison try to distinguish its different methods for computing the marginal costs**
542 **associated with metering and billing credits versus the metering and billing costs in the**
543 **marginal cost study?**
544 A. Yes, Edison's employee-witnesses attempt to make that distinction. In the panel rebuttal
545 testimony of Alongi and Kelly, Edison emphasizes the notion that its marginal cost study
546 measures long-run marginal costs. However, Edison witness Makholm characterized the
547 costs of metering Edison used in establishing metering credits as marginal costs. Mr. Alongi
548 and Ms. Kelly -- who have attempted to define marginal costs more broadly for purposes of
549 setting customer rates -- refer to the same cost items as "net avoided costs" and use this

550 narrower definition for utility credits.

551 **Q. Is there a difference between short-run avoided costs and marginal costs that justifies**
552 **Edison's position?**

553 A. No. Attempting to distinguish between short-run marginal costs and long-run marginal costs
554 makes marginal costs useless as a guide to pricing. In a competitive market, which prices
555 based on the marginal cost study are supposed to emulate, we do not ask whether prices are
556 long-run or short-run prices. As I explain below, economic activity (by customers and by
557 Edison) occurs in the short-run and not in some hypothetical long-run that never actually
558 exists. This might not conform to positions developed in Edison's bureaucracy over the
559 years, but it is the way markets work.

560 **Q. Is the distinction between long-run and short-run marginal cost justified in theory?**

561 A. No. The theory is discussed by Nobel Laureate William Vickery:

562 In an ideal world, all prices would be set at short-run marginal social cost so
563 that purchasers would have proper indications to make efficient choices
564 among the various alternatives. If this condition is not met, it would
565 theoretically be possible to improve the lot of everyone by increasing the
566 consumption of goods having prices in excess of short-run marginal cost and
567 reducing the consumption of goods for which the reverse is true…Short-run
568 marginal cost of electric power at a given instant and location has two main
569 components: the cost to the utility on the one hand, and the cost in terms of
570 impaired quality of service to other customers on the other…The cost of
571 providing added power to one customer when capacity is being fully utilized
572 is the depriving of another customer of power…" Vickery, William, *Efficient*
573 *Pricing of Electric Power Service*, Resources and Energy, Volume 14, April
574 1992, North Holland, Page 158.

575 In the past, Edison has hired noted economists such as William Baumol to defend the general
576 principles behind marginal costs. Significantly, those witnesses have traditionally not been
577 asked to evaluate or to defend Edison's application of the economic principles they support --
578 its marginal cost of service study. When it comes to applying the theory in practice,
579 Edison's study fails.

580 ***3. <u>Distinctions Between New Facility Installations and In-Place Facilities</u>***

581 **Q. Does Edison assert that customers who cause it actually to buy and to install new**
582 **facilities should not be distinguished from existing customers in a marginal cost study?**

583 A. Yes, although in doing so Edison confuses (a) recognition of the distinctive costs of newly
584 constructed facilities and the lower costs of re-using in-place facilities (the far more common
585 occurrence on Edison's system) with (b) a "straw man" notion to distinguish old and new
586 customers. Edison states:

587 > Mr. Bodmer's theory also is vague and impractical. He fails to explain when
588 > and how distinctions would be drawn between what would constitute a "new"
589 > customer versus what would constitute an "existing" customer, for example,
590 > when or to what extent a customer that moved within the service territory
591 > would be treated the same as a customer moving into the service territory.
592 > (ComEd Exhibit 32.0, line 145.)

593 In fact, the different treatment of these distinctive costs, which is required by relevant
594 economic principles, would apply whether the customer that causes Edison to incur the costs
595 of newly installed facilities is an "old customer" or a "new customer" -- however Edison
596 defines those terms. It is the presence or absence of cost-causing new construction, not the
597 identity or status of the customer, that requires recognition.

598

599 **Q. Is there ambiguity in differentiating between incremental construction and extant**
600 **facilities in a marginal cost study?**

601 A. No. Only in cases where customers cause Edison to construct new facilities are "additional
602 units of consumption," consisting of new meters and service drops, "produced" by Edison.
603 Attributing those new construction meter and service drop costs to customers who re-use
604 existing facilities is an embedded cost concept -- an allocation of accounting costs rather than
605 association of marginal costs with the cost-causing economic activity. The distinction
606 between future costs and sunk costs is a basic and fundamental tenet of marginal cost theory.
607 What happened last year in terms of installing meters and services is irrelevant from a
608 marginal cost standpoint.

609 *4.* *Real Versus Nominal Carrying Charges Applied to Replacement Cost*

610 **Q. How does Edison respond to your point that real rather than nominal carrying charges**
611 **should be used in the marginal cost study?**

612 A. Edison merely submits an analysis it used in an earlier case where carrying charges (cost of
613 capital) were applied to a single investment. The analysis, actually an algebraic
614 demonstration, supposedly "proves" its argument. Edison then states: "This is another
615 instance where Mr. Bodmer's point was made by him, and refuted, in that Docket." (ComEd
616 Exhibit 32.0, line 68.)

617 **Q. Did Edison successfully refute your arguments in a prior case?**

618 A. Not at all.

619 **Q. What were the reasons that you contended that Edison should use a real carrying**
620 **charge in its study?**

621 A. In my testimony in Docket No. 99-0117, I pointed out (a) that other states use real (not
622 nominal) carrying charges in marginal cost studies, consistent with economic theory, and (b)
623 that the use of the real cost of capital when applied to costs that already account for inflation
624 is well established in academic literature. I also demonstrated how Edison's contrary method
625 double counts inflation. I tested Edison's method by evaluating the targeted return on equity
626 in the carrying charge factor as compared to the actual return on equity that results if
627 expected inflation is the same as actual inflation. My analysis demonstrated that if Edison's
628 carrying charge is used (with consistent interest rates) and <u>no future inflation</u> is assumed, the
629 target return on equity is achieved. However, if the actual inflation rate is the same as the
630 expected inflation rate, then the earned return significantly over-shoots the target. Edison's
631 use of replacement costs in its marginal cost of service study replicates the latter situation.

632 Edison's presentation of an irrelevant document from its obsolete Least Cost Plan does not
633 refute any of these points. The "proof" only confirms the notion that when there is no
634 inflation in the base of an investment, use of a nominal carrying charge does not produce a
635 biased result. Since Edison's study uses replacement costs as the base investment (costs that
636 incorporate actual inflation), the point Edison proves is inapplicable to its study.

637 **Q. Is your criticism still valid with respect to the Edison study in this case?**

638 A. Yes.

639 **Q. Is your criticism the result of a pro-residential agenda?**

640 A. No. In fact, application of a lower "real" carrying charge favors customer groups whose
641 costs are concentrated more in expense items than in capital costs. Use of real versus nominal
642 carrying charges is a somewhat arcane issue that I would not expect the Commission to
643 spend a lot of time considering when it issues an order in this case. The employment of a
644 nominal carrying charge factor is a fairly obvious mistake in Edison's cost study and I simply
645 pointed it out. The issue is not very important from a customer impact perspective.

646 The issue is much more important in demonstrating Edison's entrenched attitude about its
647 marginal cost study. Edison's reluctance to consider this issue in a reasoned manner is
648 another illustration of Mr. Lazare's conclusion that reforming and validating Edison's
649 marginal cost study may be a futile effort.

650 *5.* *Replacement Costs Versus Marginal Costs*

651 **Q. Does Edison dispute your characterization of its study as a replacement cost study**
652 **rather than a marginal cost study?**

653 A. Yes. Edison said it was "particularly trouble[d]" by my description. Mr. Alongi and Ms.
654 Kelly testify:

655 Mr. Bodmer's use of the term "replacement costs" in describing the costs

656 used in the marginal cost of delivery services study appears to be intended to mean
657 that the costs are set at the current prices of existing facilities …. The use of that
658 term and that assertion show that Mr. Bodmer has a fundamental lack of
659 understanding with respect to the marginal cost of delivery services study. The
660 marginal cost of delivery services study does not develop costs for ComEd facilities
661 that actually exist in the field. (ComEd Exhibit 32, line 28).

662 **Q. Do you understand that Edison uses hypothetical representative customer data rather**
663 **than actual customer data in what you have termed their "replacement" cost study?**

664 A. Yes, I do. I understand that costs for representative customers are grossed up by actual loads
665 and the actual number of customers. Representative customers are defined using the
666 characteristics of actual customers (e.g., the regression of TDC costs, and density based on
667 maps of the Edison system).

668 The important point here is that despite the marginal cost label, Edison's study does not
669 measure how future incremental expenditures vary with incremental consumption. It does
670 not measure true marginal costs. This is the reason I term Edison's study a replacement cost
671 study rather than a marginal cost study.

672 **Q. Has Edison properly recognized marginal distribution costs, as opposed to replacement**
673 **costs, in other studies, demonstrating that your label is accurate?**

674 A. Yes, it has. A comparison of the cost method that Edison used to develop its industrial
675 development rates with the study in this case illustrates why I term the study Edison presents
676 here a "replacement" cost study. The method the Company used in support of the industrial
677 development rate conforms to a marginal cost study. In Docket 99-0117, I made this point:

678 ComEd has used different and more appropriate methods of analysis for its
679 economic development rates and its contract service rates. The analysis
680 ComEd developed to support its Rider 19 -- industrial development -- applied
681 more correctly the relevant principles of marginal cost for its distribution in
682 terms of investment costs on a regional basis. That analysis was consistent
683 with the manner in which ComEd actually incurs costs as it adds load to its
684 distribution system, it recognized the planning and cost causation
685 characteristics of the distribution (i.e., regional coincident loads), and it
686 applied marginal cost theory appropriately. ComEd's Rider 19 analysis
687 recognized the local/regional nature of distribution systems -- that they can
688 vary across relatively small geographic areas, that planning and construction
689 of distribution facilities is locally focused, non system-wide, and that in some
690 situations the costs of an incremental unit of consumption could actually be
691 zero. Rider 19 differentiated ComEd's rates on an area-by-area basis as a
692 function of regional load growth and substation capacity.

693 Edison again has resisted fixing an easily recognized and corrected aspect of its study. In
694 this instance, it is a correction the Company has made in other contexts, adding weight to
695 allegations that the study is subjective.

696 *6.* *Marginal Cost and Density*

697 **Q. What point did you make in your direct testimony regarding population density and**
698 **residential costs?**

699 A. I noted that Edison's density analysis is not derived from actual facilities and that the results
700 in terms of residential customers do not seem reasonable. The overwhelming majority of
701 residential customers (both single family homes and apartments) are served by overhead
702 wires, but Edison's study classifies 29.23% of the multifamily non-space heat class as high
703 density, a classification that is defined as using significant amounts of underground wires
704 encased in expensive conduit. By comparison, only 1.05% of multifamily non space heat

customers are included in the light density category.

Q. How did Edison respond to your testimony?

A. Edison suggested that I am mistaken because the cost of serving rural areas in the Edison study is greater than the cost of serving heavy density areas. Mr. Alongi and Ms. Kelly testified:

> ComEd's method of measuring distribution cost by density is appropriate and produces logical results. This point is well-illustrated using Mr. Bodmer's own example. As clearly shown on page 14 of ComEd Exhibit 13.1, the costs for the type of equipment Mr. Bodmer is describing (conductors) are in fact higher for customers in sparsely populated areas when compared to the costs for customers in densely populated areas. (ComEd Exhibit 32.0, line 233.)

Edison's comparison of costs for lengthy rural circuits against the costs of more closely spaced urban circuits proves nothing about the reasonableness of the costs assigned to multi-family customers. Excluding costs for such rural areas, where there are few apartments, we can make more reasonable comparisons. Still, the costs for the medium light density classification are $475/kW -- 52% below the heavy density cost, and the costs for the medium heavy classification are $743/kW -- 26% below the heavy density cost of $1004/kW. These numbers demonstrate that in Edison's study higher density areas are -- counter-intuitively -- more costly than lower density areas.

V.
EDISON'S REBUTTAL TESTIMONY DOES NOT REFUTE THE NEED FOR MAJOR CHANGES IN ITS EMBEDDED COST STUDY

727 **Q. Please summarize Edison's rebuttal testimony with respect to your suggested revisions**
728 **to its embedded cost of service study.**
729 A. Edison responds to my critiques of its embedded cost study with rebuttal testimony presented
730 by Mr. Alan Heintz and Mr. Michael Born. The majority of Edison's response deals with
731 my suggestion that a four coincident peak method rather than a single non-coincident peak
732 method should be used in allocating distribution capacity costs. Edison does accept some
733 revisions to its embedded cost study, including a partial correction of its peak allocation
734 method. But, even after the revision, distribution capacity costs are allocated in a manner
735 different from the Company's marginal cost study. Edison also does not accept any changes
736 in the allocation of billing, metering and customer installation costs on the basis of account
737 details.

738 **Q. Based upon your review of Edison's rebuttal testimony, what are the most significant**
739 **differences between your position and the Company's position?**
740 A. The major differences relate to allocation of costs of distribution substations and distribution
741 lines, as well as the classification of billing, customer installation, and metering costs.
742 Edison continues to allocate distribution substations and primary distribution lines differently
743 in its embedded cost study than it does in its marginal cost study. The Company criticizes
744 my testimony because I examined the cost details of its non-distribution accounts to assure
745 that the cost allocations are consistent with cost causation. I continue to recommend
746 revisions that make cost allocations more consistent with cost causation. Edison's arguments
747 in opposition are not persuasive and should be rejected.

748 *3.* *Edison's Revisions to its Embedded Cost Study*

749 **Q. How has Edison revised its embedded cost study in rebuttal testimony?**

750 A. In rebuttal testimony, Edison changes the allocation of high voltage substations and high
751 voltage power lines that were formerly classified as transmission facilities. The revision is
752 summarized in the testimony of Mr. Alan Heintz:

> 753 Some distribution facilities such as high voltage substations and some high
> 754 voltage distribution lines do peak at the same time as the system. Given this
> 755 fact and the fact that a significant portion of the facilities included in the sub-
> 756 functions "High Voltage Distribution Substations" ("HVDS") and "High
> 757 Voltage Distribution Lines" ("HVDL") of the ECOSS consist of plant
> 758 refunctionalized from transmission to distribution, it is not unreasonable to
> 759 allocate these two sub-functions (and only these two sub-functions) on the
> 760 basis of class coincident peak. (ComEd Exhibit 33.0, line 99.)

761 **Q. Is the revised embedded study an improvement over the original embedded cost study?**

762 A. Yes. For the reasons explained in my direct testimony, the revision substituting a coincident
763 peak allocation method for a single, system-wide, class non-coincident peak method is a
764 good step. And, we can agree that it is a better approach than the original proposal, although
765 all class peak methods retain some imperfections. I commend Edison for taking corrective
766 action to address some of the identified deficiencies in its embedded cost study. (As I
767 pointed out above, such flexibility contrasts with Edison's resistance to changes that remedy
768 defects in its marginal cost methodology.)

769 **Q. Is the revised allocation of equipment that was formerly transmission consistent with**
770 **previous positions advocated by Mr. Heintz?**

771 A. Not at all. Mr. Heintz has previously taken the position that transmission equipment should
772 be allocated on the basis of 12 coincident peaks or 4 coincident peaks. (Such an approach
773 would allocate less of the revenue requirement to residential customers and more to business
774 customers.) In previous testimony submitted to FERC respecting transmission voltage
775 facilities (provided in response to a data request), Mr. Heintz does not even mention the
776 possibility of allocating transmission equipment using either a single coincident peak or any
777 non-coincident peak method. There he deemed multiple coincident peaks the proper
778 allocation basis.

779 **Q. Do the revisions Edison made in its embedded cost study mean that Edison's study is**
780 **now consistent with your recommendation with respect to distribution capacity costs?**
781 A. No. I recommended use of a four coincident peak method, and I recommended that the
782 coincident rather than non-coincident peak method be applied to accounts containing
783 distribution lines and distribution substations as well as to the high voltage facilities
784 discussed above. I did not disagree with the non-coincident allocation factor applied to local
785 transformers. The table below demonstrates that this remaining disagreement on the
786 allocation of capacity costs for ***distribution lines*** and ***distribution substations*** is significant.
787 From a dollar standpoint, these two accounts represent more than 66% of total distribution
788 capacity costs.

789 TABLE A -- COST ALLOCATION METHODS

790

COST CATEGORY	ORIGINAL ALLOCATION	REVISED ALLOCATION	RECOMMENDED ALLOCATION	"MCOSS" ALLOCATION	EMBEDDED COST	PERCENTAGE OF DISTRIBUTION CAPITAL COST
215-High Voltage ESS	NCP - 69kV and above	NCP - 69kV and above	NCP - 69kV and above	N/A	16,265,809	1.2%

791
792
793

216-High Voltage Distr. Substations	NCP - Less than 138kV	1-CP - 69kV and above	4-CP - 69kV and above	1-CP	303,434,923	22.3%
217-High Voltage Distribution Lines	NCP - All	1-CP – All	4-CP - All	1-CP	42,747,501	3.1%
218-Distribution Substations	NCP - Less than 69kV	***NCP – Less than 69kV***	***4-CP - Less than 69kV***	1-CP	128,258,591	9.4%
219-Distribution Lines	NCP - Less than 69kV	***NCP – Less than 69kV***	***4-CP - Less than 69kV***	1-CP/NCP	781,471,292	57.5%
220-Line Transformers	NCP - Line Transformers	NCP – Line Transformers	NCP - Line Transformers	NCP	87,991,847	6.5%
Total					1,360,169,963	100%

** Bold, italic items are remaining areas of disagreement

Q. After the revisions to Edison's embedded cost study, are the embedded study allocations consistent with those in the marginal cost study?

A. Absolutely not. Edison's marginal cost study allocates all substation costs on the basis of coincident peak, rather than non-coincident peak, and it allocates the cost of 34 kV lines, the primary main and the primary tap on the basis of coincident peak. This is completely different from the method used in either Edison's original or its revised embedded cost study. There, even after the revision, the majority of distribution equipment is allocated on the basis of a single, system-wide non-coincident peak. When Edison's witnesses Heintz and Born criticize the use of coincident peak methods in allocating distribution lines and substations, they are also criticizing the Company's own marginal cost study method, which Edison has maintained is the correct way to attribute costs for almost two decades.

4. *<u>Coincident Peak Versus Non-Coincident Peak</u>*

Q. What is Mr. Heintz's main criticism of the use of a coincident peak methodology to

823 **allocate distribution lines and distribution substations?**

824 A. Mr. Heintz merely points to statements by other regulatory authorities. But, Mr. Heintz may
825 have made more of the quotations he relies on than is actually there. For example, the FERC
826 statement he characterizes as a FERC allocation method "preference" is just an observation
827 that "distribution facilities are . . . planned and built to meet local loads." (ComEd Ex. 33.0,
828 line 65) As to truly local facilities such as line transformers, I agree with allocation on the
829 basis of non-coincident peak, but most of the costs Mr. Heintz's allocation encompasses are
830 not of that nature. In Edison's marginal cost study, the ratio of the primary main and tap to
831 the total of the primary main, primary tap and secondary lines is more than 90%. The
832 primary lines allocated on a non-coincident peak basis in the embedded cost study represent
833 facilities that serve loads over broad areas and from customers in a variety of classes, rather
834 than strictly local facilities that serve loads from a single customer class as Mr. Born
835 suggests. Similarly, Mr. Heintz's quotation from a NARUC manual merely reports survey
836 results. Mr. Heintz does not address my criticism substantively.

837 The precedent in Illinois with respect to attribution of the vast majority of distribution lines
838 and all distribution substations has been use of coincident peak in Edison's marginal cost
839 study. Therefore, I emphasize that when Mr. Heintz and Mr. Born advocate use of non-
840 coincident peak for allocation of distribution substations and primary distribution lines, they
841 are also departing from the historic attribution of those facilities in Edison's marginal cost
842 study.

843 **Q. How does Mr. Heintz explain the inconsistent methods in his embedded cost study and**
844 **the Company's marginal cost study for allocating distribution lines and distribution**
845 **substations?**
846 A. He does not deal with the issue substantively, but pleads lack of data. He argues that
847 "[u]nlike ComEd's MCOSS, distribution facilities below 69,000 Volts are not
848 distinguishable by voltage (primary and secondary) in the ECOSS, because ComEd does not
849 have the cost and load data necessary to make the distinction." (ComEd Ex. 33.0, line 117)
850 In Edison's marginal cost study, the Company attributes $550/kW of cost to substations and
851 primary facilities while only about $55/kW of cost is attributed to secondary wires (using the
852 representative customer kW). If Mr. Heintz did not have sufficient data, he could have
853 looked to the marginal cost study for guidance. If he had looked at the marginal cost study,
854 he would have recognized that the allocator for distribution lines should be based on the
855 characteristics of the predominant primary facilities in the account (a CP allocator), rather
856 than on the characteristics of local secondary facilities.

857 **Q. Does Mr. Heintz address your criticism that a non-coincident peak allocator loses its**
858 **advantage as an allocator of local facilities when the peak is for a system-wide class?**
859 A. Mr. Heintz states: "ComEd's lower voltage distribution facilities are planned for non-
860 coincident demand conditions." (ComEd Exhibit 33.0, line 99.) If Mr. Heintz means that
861 local distribution facilities like line transformers are planned based on non-coincident loads
862 for the region in question, I agree with him, and my recommendations reflect that fact. If Mr.
863 Heintz is suggesting that distribution substations in Joliet and 34 kV lines on the North Side

864 of Chicago are built only as a function of the system-wide class non-coincident peak,
865 including residential usage in Northbrook, we continue to disagree. Edison's allocation
866 approach in its embedded cost study for distribution lines and distribution substations is
867 flawed because a system-wide class non-coincident peak does not reflect the utility's local
868 and regional distribution planning. Mr. Heintz's class non-coincident peak method is merely
869 a cost study construct, not a reflection of actual planning and actual cost causation. Edison's
870 marginal cost study recognizes that system wide non-coincident peak loads are appropriate,
871 and so should the embedded cost study.

872 **Q. Review how Mr. Born supports Edison's use of a system-wide, non-coincident peak**
873 **method for allocating distribution lines.**

874 A. Mr. Born first explains that Edison plans its system on a regional basis using regional peak
875 loads that do not necessarily correspond to the system-wide load: "ComEd does plan its
876 distribution facilities on a regional basis and evaluates the non-coincident annual peak load
877 on each primary distribution circuit and substation transformer." (ComEd Exhibit 37.0, line
878 130.) Mr. Born then attempts to justify use of system-wide, non-coincident peak by asserting
879 that, within regions, customers have similar characteristics: "[C]ustomers of the same class
880 are generally located in close proximity to each other, they are generally supplied from the
881 same line transformers and primary and secondary voltage distribution lines." (ComEd
882 Exhibit 37.0, line 147).

883 I will comment substantively on Mr. Born's position. But, first I note parenthetically that

884 Mr. Born apparently has not reported his findings to Mr. Alongi and Ms. Kelly. They have
885 not revised Edison's marginal cost study to attribute the costs of primary taps and the
886 substations on the amount of non-coincident peak usage, rather than coincident peak usage.

887 **Q. Do you agree that with Mr. Born's proposition that similar customers within a region**
888 **are located together and that this justifies allocation of costs using system-wide non-**
889 **coincident peak?**

890 A. No. A primary circuit may serve the grocery store, the elementary school, a residential
891 neighborhood, and other premises in a diverse area. The substation that feeds these primary
892 lines is even less likely to serve a single delivery service class of customers, such as the 400-
893 800 kW delivery services class. Regional peak driving the construction of distribution
894 substations and primary lines is a function of all of the residential, commercial, governmental
895 and industrial use that occurs on the lines and substations. I understand from discussions
896 with Edison that this is the basis for attribution of costs in the marginal cost study using
897 coincident peak rather than non-coincident peak.

898 **Q. Please comment on Mr. Heintz's suggestion that you should demonstrate empirically**
899 **that coincident peak is the better allocator.**

900 A. In referring to my recommendation with respect to allocators for distribution capacity costs,
901 Mr. Heintz testified that: "Regardless of whether that rationale is in fact correct, Mr. Bodmer
902 offers no empirical or objective support for that contention." (ComEd Exhibit 33.0, Line
903 127.) The empirical basis for that proposition is no stronger or weaker than the basis for the

904 attribution of substation costs and primary tap costs on the basis of coincident peak in
905 Edison's marginal cost study. (I note that Mr. Heintz does not deny the validity of my
906 position; he just asks for more data.) The type of empirical analysis he demands would
907 gather a database of distribution costs across time and/or across companies and test whether
908 the costs are more highly correlated to non-coincident peak or coincident peak. Even if data
909 could be gathered, I doubt that statistically significant results could be obtained. Apparently
910 Edison reached the same conclusion, since Mr. Alongi and Ms. Kelly have not presented
911 such an empirical analysis to support their attribution of substation costs and primary tap
912 costs on the basis of coincident peak.

913 *4.* *Four Coincident Peak Versus Single Coincident Peak*

914 **Q. Since you have discussed the non-coincident ("NCP") versus the coincident peak**
915 **("CP") allocators, can you now review how Edison supports the use of a single peak**
916 **("1-CP") rather than a multiple peak ("4-CP') method for allocating distribution**
917 **facilities?**

918 A. Edison spends less of its rebuttal testimony on this 4-CP versus 1-CP issue than on the
919 coincident/non-coincident peak issue. Mr. Born spends most of his testimony attempting to
920 justify Mr. Heintz's NCP allocation of accounts that represent facilities that can serve large
921 geographic areas with diverse customer populations. In doing so, however, Mr. Born does
922 appear to provide additional support for the use of multiple peak allocators.

923 **Q. What rebuttal testimony provides support for use of a multiple peak allocation method**

924 **such as 4-CP, rather than Edison's proposed single coincident peak method?**

925 A. Mr. Born, in discussing Edison's facility sizing procedures, confirms that in planning
926 distribution facilities the utility does "take into account both the maximum load and the
927 duration of near peak load levels to determine economic equipment life."(ComEd Ex. 37.0,
928 line 106, emphasis added.) Additionally, the testimony of Mr. DeCampli notes that Edison
929 accommodates unusual load situations through the use of emergency facility ratings for
930 limited periods. Edison does not incur costs to augment facilities every time a single new
931 peak is reached, although both its single peak allocator and its rate ratchet proposal suggest
932 otherwise. The 4-CP allocation method is not a radical departure from a single peak method;
933 rather it incorporates the "near peak load levels" described by Mr. Born.

934 **Q. Taking account of Edison's rebuttal testimony, please state your position on the relative**
935 **appropriateness of single or multiple peak allocators.**

936 A. In selecting among class CP allocation methods, Edison's 1-CP method is inferior to the 4-
937 CP method I have proposed because it continues the misconception that a single peak
938 demand event for an individual customer drives new facility construction (and distribution
939 costs) for that customer. The 1-CP approach fails to recognize that the facilities serving
940 individual customers are not upgraded upon the occurrence of each new peak or a single
941 anomalous event. It is the actual or expected repetition of load demands at or near the
942 capacity of existing facilities that prompts capacity increases. Anomalous events like needle
943 peaks that are not expected to recur are handled on a broader, system basis -- for example,
944 by redistributing the load among other available feeders -- rather than through new

945 construction for each individual customer. My proposed 4-CP method recognizes this reality
946 by looking at repeated demand at higher levels as the driver of new construction rather than
947 single anomalous events. The 1-CP method is based on the false assumption that a single
948 instance of high demand will always prompt new construction (and additional costs) to serve
949 the customer.

950 *5.* *Allocation of Billing, Installation, Uncollectible and Metering Cost*

951 **Q. Mr. Heintz asserts that you did not provide the analysis of individual billing, customer**
952 **installation and metering accounts on which you based your criticisms of his study. Did**
953 **you provide your workpapers to Edison?**

954 A. Yes. I provided an account-by-account breakdown for each of my adjustments in a
955 spreadsheet provided to Edison.

956 **Q. What is Mr. Heintz's primary criticism of your approach?**

957 A. Essentially, Mr. Heintz complains that I was too careful in assuring that cost causation is
958 recognized in the embedded study's cost allocations, because he believes that the proposed
959 embedded study's allocations are good enough. Mr. Heintz testifies:

960 In general, it is almost always possible, by expending sufficient resources, to
961 study a utility's accounts in detail, to refine an embedded cost allocation
962 model. However, the very nature of an embedded cost allocation model is to
963 avoid having to analyze on a line-item by line-item basis every expense that
964 a utility incurs." (ComEd Exhibit 33.0, Line 153).

965 At the level of cost detail embodied in ComEd's ECOSS, I believe
966 that the allocations to classes appropriately reflect the concept,
967 employed by many regulatory bodies including FERC, that cost

968 allocation should reflect the predominant measure of cost-causation.
969 I recommend that the Commission reject Mr. Bodmer's
970 recommendations and continue, as it has in the past, to apportion
971 these customer-related costs to classes by allocators based on
972 numbers of customers. (ComEd Exhibit 33.0, line 163.)

973 The superior reflection of cost causation principles in the revisions that I recommend can be
974 achieved without an excessive "line-by-line" re-examination of Edison's accounts. More
975 important, the customer impacts of assuring that these costs are paid by the cost-causers are
976 significant enough to warrant an adjustment. Mr. Heintz's rather curious objection to my
977 recommended revisions in this area should be rejected.

978 **Q. Does this conclude your rebuttal testimony?**

979 A. Yes, it does.