

ILLINOIS COMMERCE COMMISSION

ICC DOCKET NO. 07-0585 (CONS.)

REBUTTAL TESTIMONY

OF

DR. MARY BATCHER

Submitted On Behalf

Of

**CENTRAL ILLINOIS LIGHT COMPANY d/b/a AmerenCILCO,
CENTRAL ILLINOIS PUBLIC SERVICE COMPANY d/b/a AmerenCIPS, and
ILLINOIS POWER COMPANY d/b/a AmerenIP
(The Ameren Illinois Utilities)**

April 14, 2008

TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
A. Witness Identification	1
B. Purpose and Scope	2
C. Identification of Exhibits	3
II. SAMPLE DESIGN AND ESTIMATION	3
III. REVIEW OF INVOICES	11
IV. DOCUMENTATION	14
V. CONCLUSION.....	16

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I. INTRODUCTION

A. Witness Identification

Q. Please state your name and business address.

A. My name is Mary Batcher. I am an executive director at Ernst & Young LLP.
My business address is 1101 New York Ave., NW, Washington DC 20005.

Q. What is your job title, duties and responsibilities?

A. I am the Tax National Director for Statistics and Sampling. I am primarily responsible for the technical merits of all sampling used for tax purposes throughout the firm. My duties are to supervise the statistical work of a group of approximately 20 professionals, primarily statisticians and economists. That entails planning the quantitative approach to be taken to the problem, assigning staff, technical oversight, and coordination with clients. Much of our sampling

23 work is done to support taxpayer claims for tax credits or deductions. For the tax
24 sampling, I also serve as a technical resource to explain the sampling
25 methodology to IRS Exam and Appeals teams. We also do sampling for
26 healthcare clients in provider self-disclosures to the Health and Human Services
27 Office of the Inspector General. I serve as a technical resource to address any
28 questions they may have about the sample. I also work with our auditors, as
29 needed, to design and implement efficient samples. In this proceeding, I am
30 presenting testimony on behalf of Central Illinois Light Company d/b/a
31 AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS,
32 Illinois Power Company d/b/a AmerenIP (the “Ameren Illinois Utilities”).

33 **Q. Please describe your education and professional qualifications.**

34 **A.** A statement of my qualifications is attached as an appendix to this testimony.

35 **B. Purpose and Scope**

36 **Q. What is the purpose of your rebuttal testimony in this proceeding?**

37 **A.** The purpose of my testimony is to respond to and discuss proposals submitted in
38 the direct testimony of Mary H. Everson for the Staff of the Illinois Commerce
39 Commission (“Staff”), regarding her sampling methodology of the Ameren
40 Illinois Utilities’ invoices for plant additions. Ameren Illinois Utilities’ witnesses
41 Ronald Stafford and John Taylor are also submitting related rebuttal testimony.

42 **Q. Please summarize the conclusions of your rebuttal testimony.**

43 A. As detailed below, I conclude that the sample designed and reviewed by Staff is
44 flawed beyond repair and cannot be relied upon. Specifically, the testimony of
45 Ms. Everson is generally deficient for the following reasons:

- 46 • There is no evidence in Ms. Everson's direct testimony or work papers
47 that the careful planning needed to produce a good representative sample
48 occurred.
- 49 • The sample results were applied to parts of the population that were not
50 sampled.
- 51 • The review of sampled invoices did not follow commonly accepted
52 practice.
- 53 • The documentation of procedures and results is incomplete or nonexistent
54 making it impossible to review or challenge her findings without resorting
55 to assumptions about what she did.

56 **C. Identification of Exhibits**

57 **Q. Will you be sponsoring any exhibits with your rebuttal testimony?**

58 A. Yes, I am attaching and sponsoring the following exhibits:

- 59 • Ameren Exhibit 40.1 – IRS Field Directive on Taxpayer Use of
60 Estimates from Probability Samples
- 61 • Ameren Exhibit 40.2– Excerpt from IRS Cost Segregation Audit
62 Technique Guidelines.
- 63 • Ameren Exhibit 40.3 – Health and Human Services, Office of the
64 Inspector General Provider Self Disclosure
- 65 • Ameren Exhibit 40.4 – Statement on Auditing Standards SAS No.
66 39 – Audit Sampling (AU 350 As Amended)

67 **II. SAMPLE DESIGN AND ESTIMATION**

68 **Q. Why is it important that a sample be representative?**

69 A. The review of the capital projects and their supporting invoices selected in the
70 sample substitutes for a review of the invoices for all projects in the population.

71 Thus, to the extent the sample differs from the entire population of capital projects
72 on important characteristics, the sample is biased and any extrapolation based on
73 the results of the sample review will be erroneous.

74 **Q. How does one ensure that a sample is representative?**

75 **A.** The best way to ensure that a sample is representative is through random selection
76 of the sample using random numbers for selection of projects into the sample.
77 This removes all subjectivity from the selection process and makes the sample
78 probabilistic or statistical. An added advantage of a statistical sample is that the
79 precision of the estimates from the sample can be quantified by using the margin-
80 of-error familiar from election polling. The margin-of-error is the well known
81 plus or minus that is added to the estimate of the percent favoring a candidate or
82 policy.

83 **Q. If random selection is not used, can a sample be representative of the**
84 **population?**

85 **A.** Yes, but it is much more difficult and even the best practices do not guarantee the
86 sample will be representative. When random selection is not used, the sample is a
87 judgment sample. Judgment samples have a well-established role in auditing and
88 can be made representative through careful planning by someone who is very
89 familiar with the population. However, even with familiarity about the
90 population, the auditor typically makes very limited use of judgment samples, to
91 test, for example, different components of a system. When estimation or testing

92 of financial amounts is needed, the auditor is more likely to rely on a randomly
93 selected statistical sample.

94 **Q. How does one typically plan an audit sample?**

95 **A.** The first steps are to learn about the population to be sampled, the type of
96 estimates to be made from the sample, and the precision needed. When important
97 consequences will result from the sample estimates, good practice would dictate a
98 statistical sample with high levels of precision. The choice to use a statistical or
99 judgment sample should be made as part of the planning process and based on the
100 importance of the sample and familiarity with systems and controls that are in
101 place. Whether a statistical or judgment sample is used, the auditor approaches
102 the testing of account balances with the recognition that some inconsistency in the
103 sample details is to be expected, even though the account balances are
104 fundamentally correct because of factors such as minor clerical errors, discounts,
105 irretrievable documentation, etc. Thus, a materiality threshold is established as
106 part of the sample planning process in recognition of these minor inconsistencies.
107 For example, a materiality threshold of 1% might be established for invoices that
108 cannot be located on current systems. But, if testing is of older systems that are
109 no longer used or invoices have been archived, the threshold might be increased
110 to something larger, like 5%, which, in the auditor's judgment, makes allowance
111 for the retrieval difficulties which do not, in and of themselves, indicate a problem
112 with the invoice. Other planning steps include consideration of the sample
113 selection methodology, establishment of criteria for the review of selected
114 invoices, determination of the format for documenting the individual decisions

115 made for the selected invoices and the specific failure reason applied to each
116 failed invoice, and the estimation, reporting, and documentation to be kept.

117 **Q. In your review of Ms Everson's direct testimony and work papers, were you**
118 **able to determine the planning steps taken to ensure the sample estimate was**
119 **not biased?**

120 **A.** No, I saw nothing in Ms Everson's testimony or work papers that indicated
121 planning steps had occurred. Ms Everson appears to have used a zero tolerance
122 approach even though she was dealing with mergers and retired systems for
123 storing the imaged invoices. A zero tolerance approach is one in which no
124 tolerance is allowed even for very small insignificant differences or in recognition
125 that in the normal course of business a small number of invoices are very difficult
126 or impossible to retrieve. In other words, no tolerance is built into the review to
127 prevent minor inconsistencies from being treated the same as large errors. No
128 rationale is given for her restriction of the sample to projects larger than \$500,000
129 or for applying the results of Staff's sample to the remainder of the population
130 that had no chance of inclusion in the sample.

131 **Q. Are there any regulatory agencies that rely upon statistical estimation?**

132 **A.** Yes, for example, the Internal Revenue Service (IRS) and the Office of Inspector
133 General (OIG) from the department of Health and Human Services rely upon
134 extrapolations from samples conducted by either their own audit teams or the
135 companies they audit.

136 **Q. Do they have published guidelines or regulations about acceptable sample**
137 **methodology?**

138 **A.** The OIG has published guidelines, for example the provider self-disclosure
139 guidelines (Ameren Exhibit 40.3). The IRS has several field directives, revenue
140 procedures and audit technique guidelines. I have attached as Ameren Exhibits
141 40.1 and 40.2 their Field Directive on Taxpayer Use of Estimates from Probability
142 Samples and an excerpt from their Cost Segregation Audit Techniques Guide.

143 **Q. Do any of these regulatory agencies allow judgment samples?**

144 **A.** Yes but reluctantly and under very limited circumstances.

145 **Q. Why is that?**

146 **A.** Unlike statistically based random samples, accuracy of judgmentally selected
147 samples cannot be assessed in a scientific or objective manner. Instead, the
148 accuracy assessment must rely on the judgment of the sampler. Even with the
149 best of intentions, it is difficult to select a representative sample using human
150 judgment. This may lead to extremely biased and inaccurate extrapolations. This
151 is enough of a concern that the IRS cautions in the IRS Audit Technique
152 Guidelines for Cost Segregation studies, “Judgmental sampling is highly
153 subjective and thus may be of limited value.”

154 **Q. With these kinds of drawbacks, under what circumstances are judgment**
155 **samples appropriately used?**

156 **A.** Judgment samples are appropriate when the representativeness of the sample and
157 the accuracy of extrapolations can be reasonably assessed and assured. The

158 ability to make a judgment sample representative of the population is completely
159 dependent on the auditor's familiarity with: the population, the systems that
160 generate the population, and the controls in place to ensure the accuracy of the
161 population data. When an auditor is very knowledgeable about a population and
162 its generating systems and controls, he or she can often carefully select a small
163 sample using judgmental methods to make a reasonably accurate determination
164 about a population characteristic. For example, IRS cost segregation audit
165 technique guidelines permit judgment samples when selecting from a listing of
166 extremely similar items.

167 **Q. Are there any requirements for judgment based samples?**

168 **A.** Yes, SAS No. 39 (AU 350.03) provides guidance equally applicable to statistical
169 or judgment based samples. In general the guidance says the planning phase
170 should consider the relation of the sample to the audit objective, evaluation of the
171 audit results should include an assessment of the accuracy, and the selection
172 should be representative of the population.

173 **Q. Do either the IRS or OIG allow samples from one population to be applied**
174 **to another?**

175 **A.** No, under usual circumstances, neither the IRS nor the OIG will allow results of a
176 sample selected from one population to be applied to a different set of records that
177 had no chance for selection in the original sample.

178 **Q. Why is that?**

179 A. This is a fundamental statistical principle. The sampled population should
180 coincide with the population of interest (the target population). Statistically,
181 conclusions drawn from a sample *only* apply to the sampled population.

182 Q. **Were you able to determine whether Staff's sample was representative of the**
183 **population of expenditures for plant additions?**

184 A. Based on my review of her testimony and work papers, I was able to determine
185 that Staff's sample was not representative of the population of expenditures for
186 plant additions. Ms. Everson restricted her sample to the 64 largest projects,
187 \$500,000 and up, and selected 35 of those using an unspecified selection method.
188 She then reviewed all of the invoices for those selected projects, making complete
189 disallowances of those she found fault with. She then calculated the percentage
190 based of her adjusted cost for the sampled projects to the Ameren Illinois Utility's
191 listed cost for each utility and applied that to the entire plant addition expenditures
192 for each to determine her adjusted amount. Her adjusted amount is a biased
193 estimate based on a sample that is not representative of the population.

194 The sample is not representative for two reasons. The first reason is that it is
195 restricted to only the project costs; blanket costs were not sampled but make up a
196 substantial portion of the expenditures. Based on my understanding, the controls
197 and internal review procedures for the project and blanket expenditures were
198 different. Application of the same rate to the blanket costs requires an assumption
199 that the alleged errors would exist at the same rate in both groups, even though
200 they are different types of work, have different billing patterns, and have different
201 controls. It is not reasonable to apply the results of a sample of project costs to

202 the blanket costs. The second reason the sample is not representative, even of just
203 the project expenditures, is that she sampled from only the largest projects.
204 Again, there is no reason to assume that the alleged errors would follow similar
205 patterns in the smaller projects as she identified in the larger projects. For
206 example, the utility receives a discount for prompt payment, accounting for some
207 of the discrepancies Ms. Everson found and for which she disallowed the entire
208 invoice amount. It is conceivable that the Ameren Illinois Utility might make
209 more of an effort to promptly pay the large invoices to realize the more substantial
210 discount than they would for smaller invoices. If so and if the largest invoices are
211 concentrated among the largest projects, then the incidence of that alleged error
212 would be much greater in the large projects than the smaller projects. Yet she
213 applied the large project adjustment to the unsampled smaller projects.

214 **Q. Is Ms Everson's sample at least representative of the sampled population.**
215 **That is, is it representative of projects greater than or equal to \$500,000,**
216 **excluding blanket expenditures?**

217 **A.** It is possible that it is representative but I cannot tell from her testimony or work
218 papers. She does not describe her selection method other than to note it is a
219 judgment sample. If she randomly selected projects from that subpopulation, it
220 would be representative of the \$500,000 and up project population, excluding
221 blanket expenditures. If she judgmentally selected projects, it would be more
222 difficult to ascertain but, since she selected over half of them, it may be
223 representative of the \$500,000 and up projects as long as her selections were
224 made in an objective fashion to mirror the \$500,000 and up projects. But again, I

225 have not seen anything from the Staff that convinces me the selection was
226 objective.

227 **III. REVIEW OF INVOICES**

228 **Q. In your experience working with accountants to review a sample for**
229 **regulators, what is the general approach to conducting the review?**

230 **A.** In my experience, part of the sample planning includes the specification of review
231 criteria and decision rules prior to sample selection. These rules would include
232 any tolerances allowed for minor deviations and the treatment of missing items.
233 Once the criteria and rules are established, often according to specifications by the
234 regulator or in negotiation between the regulator and the company, the sampled
235 items, in this case the invoices associated with the sampled projects, are
236 individually compared to the established criteria. The results of the review and
237 the rationale for each decision are recorded invoice by invoice.

238 **Q. Did Ms Everson follow these common practices in her review of invoices?**

239 **A.** Ms Everson specified seven reasons for denying the entire invoice amount. It is
240 not clear whether these categories were planned in advance or rejected invoices
241 were so classified after the review since Ms Everson did not provide a sampling
242 plan. In any case, Ms Everson's review did not follow common practice as I have
243 observed it in literally hundreds of regulator samples. I observed the following
244 specific deviations from common practice in Ms Everson's review.

245 ▪ Duplicate invoices – to the extent that true duplicate invoices exist,
246 they should be removed. However, it is not easy to identify duplicate
247 invoices. It is not uncommon to find two or more adjustments to the
248 same invoice which together total the invoice amount and remove it

- 249 perhaps because some of the detail was incorrect. A corrected invoice
250 may then appear to be a duplicate because it has the same invoice
251 number and amount. Failure to recognize that the original invoice was
252 negated will result in the incorrect identification of a duplicate.
253 Because Ms Everson failed to document her procedures for identifying
254 duplicate invoices, I cannot determine whether she conducted adequate
255 searches to find the less obvious offset.
- 256 ■ Billings to the wrong company – Typically billings to the wrong
257 company are handled through an internal journal entry type of
258 adjustment and would not be considered an error. Ms Everson failed
259 to provide a justification for treating an otherwise legitimate invoice as
260 an error, nor did she describe her efforts to understand the
261 circumstances that would lead to the wrong company being invoiced
262 and the Ameren Illinois Utilities’ treatment of billings to the wrong
263 company.
- 264 ■ Missing invoices – As noted in my description of sample planning, it
265 is common for a certain small percentage of invoices to either have not
266 been imaged or to not be retrievable, particularly from retired systems.
267 Different regulators have different methods to treat these missing
268 invoices. Because the tax laws requires documentation for any
269 deduction except for de minimis amounts, in practice the IRS
270 generally denies any expense for which no documentation can be
271 found, even though they recognize that such documentation may be in
272 systems where it is difficult to retrieve information. However, even
273 the IRS will accept other evidence to substantiate the expense and will
274 also make allowances for extraordinary circumstances like a fire or
275 water damage, for example. The HHS OIG recognizes the occasional
276 problems in retrieving invoices and payment records and allows or
277 sometimes requires substitution for missing items in the sample.
278 Alternatively, if the missing items are not extensive, they are simply
279 ignored in the calculation of the sample review results. Ms Everson
280 has not provided a rationale for her denial of the missing invoice
281 amounts nor has she described her procedures to learn about the
282 systems and why some invoices might be difficult or impossible to
283 retrieve.
- 284 ■ Invoice amount different from the invoice listing – Commonly there is
285 some tolerance for small differences. But in every other regulatory
286 review I have seen, the entire amount would not be denied because of
287 a difference between the company’s recorded payment and an invoice
288 amount. The denial would only be of the difference. It is my
289 understanding that discounts for prompt payment were given. That
290 would explain and justify some if not all of the differences and would

291 have been easily ascertainable by simply learning more about the
292 business.

293 ▪ Wrong project or project not determinable from invoice – Similar to
294 the wrong company reason, when the wrong project is invoiced by a
295 vendor, it is common for companies to do internal adjustments rather
296 than require the vendor to void the invoice in their own systems and
297 reissue the invoice. There is no indication in Ms Everson’s testimony
298 or anything that I have reviewed that she attempted to learn how the
299 company handled invoices to the wrong project or asked how projects
300 were appropriately charged, under company procedures, when an
301 invoice failed to specify the project. Generally, in regulatory samples,
302 as long as the payment was eventually made for an eligible project,
303 such invoices would not lead to denials.

304 ▪ Illegible invoices – Reprinting of the illegible invoices may have
305 provided clearer copies by using a different printer, darkening or
306 lightening the print, or enlarging the print. There is no indication that
307 Ms Everson attempted to obtain clearer copies of the invoices.

308 ▪ Electronic payment without an invoice for some IP projects – Ms
309 Everson does not describe in her testimony any efforts to learn why
310 payments were made without an invoice or whether there is other
311 documentation to substantiate the payment. It is conceivable that a
312 review of the contract might have provided an explanation. In any
313 case, if these payments could not be substantiated, the extrapolation
314 for these payments should have been only to the IP projects larger than
315 \$500,000.

316 These deficiencies in her review procedures are not the most glaring errors
317 undermining Ms Everson’s conclusions. Her failure to assign a specific denial
318 reason or reasons to each invoice she denied is a critical shortcoming, greatly
319 limiting or excluding any opportunity to confirm or refute her findings.

320 **Q. What are the consequences of Staff’s failure to follow accepted review**
321 **procedures?**

322 **A.** The most egregious aspect of Staff’s review is Ms. Everson’s failure to assign
323 specific reasons to each of the denied invoices. It is perhaps understandable that
324 Ms Everson may have run out of time to go back to the company to gain an

325 understanding of the issues she found in her review but by failing to provide the
326 specific reason for each denied invoice, she has forced the company to guess at
327 the denial reason in their attempts to explain or refute her findings. The specific
328 reasons could be addressed and refuted invoice by invoice. However, her failure
329 to assign reasons to denied invoices severely hampers the Ameren Illinois
330 Utilities' ability to address her findings and, in my opinion, invalidates her results
331 if appropriate. In my experience regulators, faced with such methods in company
332 samples, would throw out the sample.

333 **IV. DOCUMENTATION**

334 **Q. What are the typical sampling and estimation documentation standards**
335 **imposed by regulators?**

336 **A.** In my experience with the IRS, the HHS OIG, and various state taxing authorities,
337 there is a clear and explicit expectation that there will be a very detailed written
338 sampling plan that describes the purpose of the sample, the sampling population
339 and how it was generated, the sample size, sample design, sample selection
340 procedures, and decision rules about the review of sampled items. The IRS also
341 requires individual tracking of the results of the review of each sampled items, the
342 estimators used and various additional specific details and such details are
343 implicit in the HHS OIG standards in their requirement that, "At its option, the
344 OIG may choose to carry out any necessary activities at any stage of the review to
345 verify that the process is undertaken correctly and to validate the review
346 findings."

347 **Q. What are the IRS standards?**

348 **A.** The IRS standards are presented as the one page Appendix to Ameren Exhibit
349 40.1. It specifies, “A written sampling plan should be prepared and formalized
350 prior to the execution of the sample.” Of particular note are the 9th bullet under
351 Sampling Plan, which requires the advance description of, “steps to be taken in
352 evaluating the sampling unit,” and the 3rd and 4th bullets under Sampling
353 Execution Documentation which require, “list of the sampling units selected and
354 the results of the evaluation of each unit” and “supporting documentation such as
355 notes, invoices, purchase orders, project descriptions, etc, which support the
356 conclusion reached about each sample item.”

357 **Q. What are the HHS OIG standards?**

358 **A.** The HHS OIG standards are presented as Ameren Exhibit 40.3. They are
359 consistent with the IRS standards.

360 **Q. How does Ms Everson’s documentation compare to the standards you have
361 cited?**

362 **A.** Ms Everson’s documentation fails in almost all aspects to conform to the sample
363 documentation standards commonly required by regulators as exemplified by the
364 IRS and OIG standards and in the accounting standards in SAS 39.

365 **Q. What are the consequences of Staff’s failure to adequately document the
366 sample and its review?**

367 **A.** One of the basic tenets of any objective study is the ability for an independent
368 reviewer to replicate the effort and confirm or deny the results. Staff’s failure to

369 follow well established documentation standards precludes such independent
370 review of her work and denies the Ameren Illinois Utilities the opportunity to
371 question. As a consequence, in my opinion, Staff's sample is not credible.

372 **V. CONCLUSION**

373 **Q. Does this conclude your testimony?**

374 **A.** Yes, it does.

APPENDIX – STATEMENT OF QUALIFICATIONS

I am an executive director at Ernst & Young and the National Director for Statistics and Sampling in Tax. I have worked as a statistician for over 15 years. My diverse experience has included managing or providing technical direction on sampling and statistical aspects of hundreds of projects. I have conducted inventory, cost segregation, R&D and other tax related sampling projects, designed dozens of samples for hospital billing studies, designed and implemented numerous surveys, and have advised on the statistical methodology of a number of other efforts. I have successfully critiqued samples developed by regulators in various contexts and have been an expert statistical witness in both litigation and regulatory proceedings.

Prior to joining Ernst and Young, I headed a group of internal statistical consultants at the Statistics of Income Division of the Internal Revenue Service (IRS). In that position, I was the spokesperson for the technical merits of the statistical work that I directed. This included several studies that received Congressional and media scrutiny. Before joining the IRS, I was at the National Center for Education Statistics.

I am a member and elected Fellow of the American Statistical Association and an elected member of the International Statistical Institute. I am also a member of the Institute of Mathematical Statistics, the Washington Statistical Society, and the Caucus for Women in Statistics. I have held elected office in the Washington Statistical Society (president), the Caucus for Women in Statistics (president), and the American Statistical Association. I am chairing an American Statistical Association committee to consider instituting an

accreditation program for statisticians. I am a past associate editor for the *Journal of the American Statistical Association* and am currently an associate editor for both the *Journal of Data Science* and *Applied Stochastic Models for Business and Industry*. I have presented and published several statistical papers, authored a monograph paper, and contributed a chapter to a case study text published by the Society for Industrial and Applied Mathematics.

I received my Ph.D. in statistics from the University of Maryland and have served as an adjunct professor of statistics at The George Washington University.

Selected Publications

- McCarthy, John, Stanislevic, Howard, Lindeman, Mark, Ash, Arlene, Addona, Vittorio, Batcher, Mary (2008), Percentage-Based Versus Statistical Power-Based Vote Tabulation Audits, *The American Statistician*.
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