

**DIRECT TESTIMONY
OF
GREG ROCKROHR**

**ENERGY ENGINEERING PROGRAM
SAFETY AND RELIABILITY DIVISION
ILLINOIS COMMERCE COMMISSION**

**Ameren Transmission Company of Illinois
Docket No. 12-0598**

Petition for a Certificate of Public Convenience and Necessity, pursuant to Section 8-406.1 of the Illinois Public Utilities Act, and an Order pursuant to Section 8-503 of the Public Utilities Act, to Construct, Operate and Maintain a New High Voltage Electric Service Line and Related Facilities in the Counties of Adams, Brown, Cass, Champaign, Christian, Clark, Coles, Edgar, Fulton, Macon, Montgomery, Morgan, Moultrie, Pike, Sangamon, Schuyler, Scott and Shelby, Illinois.

March 29, 2013

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1 Introduction

2 Q. **Please state your name and business address.**

3 A. My name is Greg Rockrohr. My business address is 527 East Capitol Avenue,
4 Springfield, Illinois 62701.

5 Q. **By whom are you employed and in what capacity?**

6 A. I am employed by the Illinois Commerce Commission (“Commission”) as a
7 Senior Electrical Engineer within the Energy Engineering Program of the Safety
8 and Reliability Division. In my position, I review planning and operating practices
9 of Illinois’ regulated electric utilities, and at times, provide information or
10 recommendations to the Commission through Staff reports or testimony in
11 docketed proceedings.

12 Q. **What is your work experience prior to coming to the Commission?**

13 A. Prior to joining the Commission Staff (“Staff”) in 2001, I was employed as an
14 electrical engineer by Pacific Gas and Electric Company in California for
15 approximately 18 years. Prior to that, I was an electrical engineer at Northern
16 Indiana Public Service Company for 3 years.

17 Q. **What is your educational background?**

18 A. I hold a Bachelor of Science degree in Electrical Engineering from Valparaiso
19 University. While employed in the utility industry and at the Commission, I have
20 attended classes and conferences relevant to electric utility operations. I am a
21 registered professional engineer in the state of California.

22 Q. **What is the purpose of your testimony?**

23 A. Ameren Transmission Company of Illinois (“ATXI”) filed a petition requesting a
24 Certificate of Public Convenience and Necessity (“CPCN” or “certificate”),
25 pursuant to Section 8-406.1 of the Illinois Public Utilities Act (the “Act”), to
26 construct, operate, and maintain an overhead 345 kilovolt (“kV”)¹ electric
27 transmission line across central Illinois (the “Illinois Rivers Project” or “Project”).
28 ATXI estimates Project costs of \$1,091,600,000 for its primary route, and
29 \$1,167,500,000 for its alternate route proposal.² The purpose of my testimony is
30 to state my opinions and observations regarding ATXI’s request.

31 Conclusions regarding ATXI’s Petition

32 Q. **What conclusions have you reached regarding ATXI’s request for a CPCN?**

33 A. I have concluded that the Commission should grant ATXI’s request, in part, but
34 specific facilities should be excluded. Though I am not an attorney, it is my
35 opinion that ATXI has not demonstrated that the Commission can grant a CPCN
36 that covers all the facilities ATXI included in its petition consistent with Section 8-
37 406.1 of the Act.

38 First, I conclude that many of the benefits ATXI asserts its Project will provide
39 cannot occur unless Ameren Illinois Company (“AIC”) connects its system to
40 ATXI’s proposed 345 kV transmission line. However, I am aware of no
41 commitment on the part of AIC to do that. Despite the fact that there is no
42 evidence to date of AIC’s intention to connect to ATXI’s proposed transmission
43 line, ATXI proposes several 345/138 kV substations to facilitate AIC’s
44 connections. 345/138 kV substation transformers are costly, and since there is

¹ 345 kilovolts is equivalent to 345,000 volts.

² ATXI Ex. 3.0 at18.

45 no indication if/when AIC intends to use the transformers, I have concluded that,
46 even if the Commission grants ATXI a CPCN for the proposed transmission line,
47 the 345/138 kV transformers should be excluded from that CPCN. ATXI is
48 requesting a CPCN from the Commission for equipment that it may not need.

49 Second, I am not convinced that ATXI has chosen the best location for its Mt.
50 Zion substation. It is possible to segregate ATXI's proposed transmission line
51 into segments based upon termination locations. ATXI has not demonstrated
52 that constructing the proposed transmission line in the segments from Pana to
53 Mt. Zion and from Mt. Zion to Kansas is the least costly solution to providing an
54 additional 345 kV transmission line across central Illinois and alleviating
55 forecasted deficiencies in the Decatur area. However, this expedited proceeding
56 does not allow for a thorough exploration of other options. Should the
57 Commission decide to grant ATXI a CPCN for its proposed 345 kV transmission
58 line, I recommend that the Commission exclude the Pana to Mt. Zion and the Mt.
59 Zion to Kansas segments from the CPCN. It is my belief that a separate
60 proceeding should occur to determine the best routing between Pana and
61 Kansas. I have included a discussion about each of the route segments later in
62 this testimony.

63 Finally, I have concluded that several of the substations that ATXI proposes
64 appear to be unnecessary. For example, it appears that, after modifications,
65 ATXI could terminate its 345 kV transmission line at AIC's existing substations at
66 Ipava, Kansas, Sidney, and Rising, rather than at additional substations that

67 ATXI proposes to construct. Therefore, in my opinion, these substations should
68 be excluded from any CPCN that the Commission grants.

69 I also have concerns about management, supervision, and financing of this
70 Project. I do not know whether ATXI is capable of efficiently managing and
71 supervising the construction of the 345 kV transmission line that it proposes.

72 ATXI has only one employee, and I am concerned about what might happen to
73 the management and supervision of the Project if that one employee were no
74 longer working for ATXI. I also do not know whether ATXI is capable of financing
75 the construction of the Project because of what I perceive as a lack of evidence
76 on the subject.

77 Based on ATXI's representations, it is my opinion that ATXI has met the
78 requirements for provision of technical information in its filing, payment of an
79 application fee, holding of public meetings, and notice provision.

80 I also believe there are reasons why the Commission may wish to consider the
81 possibility of a future Section 8-509 eminent domain proceeding related to this
82 Project.

83 Section 8-406.1 of the Act

84 Q. **How did you reach your conclusions regarding ATXI's request?**

85 A. I reviewed the criteria that Section 8-406.1 of the Act requires the Commission to
86 use when forming its decision about granting a utility a certificate for an electric
87 transmission line. Though I am not an attorney, it is my understanding that
88 Section 8-406.1 of the Act provides for an expedited schedule compared to a

89 request for a CPCN made under Section 8-406 of the Act.³ Subsection 8-406.1(f)

90 states:

91 The Commission shall, after notice and hearing, grant a certificate
92 of public convenience and necessity filed in accordance with the
93 requirements of this Section if, based upon the application filed with
94 the Commission and the evidentiary record, it finds the Project will
95 promote the public convenience and necessity and that all of the
96 following criteria are satisfied:

- 97 (1) That the Project is necessary to provide adequate, reliable,
98 and efficient service to the public utility's customers and is the
99 least-cost means of satisfying the service needs of the public
100 utility's customers or that the Project will promote the
101 development of an effectively competitive electricity market
102 that operates efficiently, is equitable to all customers, and is
103 the least cost means of satisfying those objectives.
- 104 (2) That the public utility is capable of efficiently managing and
105 supervising the construction process and has taken sufficient
106 action to ensure adequate and efficient construction and
107 supervision of the construction.
- 108 (3) That the public utility is capable of financing the proposed
109 construction without significant adverse financial
110 consequences for the utility or its customers.

111 It is my opinion that the criteria from Subsection 8-406.1(f) listed above should
112 serve as the primary basis for the Commission's decision when considering
113 whether to grant ATXI's request. ATXI relies upon a determination by the
114 regional transmission organization to support its position that the Illinois Rivers
115 Project is necessary to promote the development of an effectively competitive
116 electricity market that operates efficiently. As further explained by Midwest
117 Independent Transmission System Operator, Inc., ("MISO") witness Jeffery R.
118 Webb, through various studies, MISO determined ATXI's Project is necessary
119 because without it, 345 kV and 138 kV transmission facilities in Illinois will be

³ Section 8-406.1 of the Act became effective July 28, 2010.

120 loaded above safe operating levels or operate with inadequate voltage levels.⁴
121 The Illinois Rivers Project includes four of the six projects in Illinois that MISO
122 included in its Multi-Value Project (“MVP”) Portfolio. My understanding is that
123 projects within MISO’s MVP Portfolio must: (1) deliver energy in a manner that is
124 more reliable and/or more economic than it otherwise would be without the
125 transmission upgrade, (2) provide multiple types of economic value across
126 multiple pricing zones and so be cost beneficial, or (3) generate quantifiable
127 financial and reliability benefits in excess of project costs.⁵ While it is possible
128 that ATXI or AIC could construct alternative projects to resolve specific loading
129 and voltage issues within Illinois,⁶ the Illinois Rivers Project appears to me to be a
130 superior approach, as it addresses needs within MISO’s entire operating region:
131 not only needs within Illinois. Since costs for the Illinois Rivers Project would be
132 spread across the entire MISO footprint, Illinois customers would bear
133 approximately 9% of the Project cost,⁷ whereas costs for correcting local
134 reliability and voltage issues with separate projects in a piecemeal fashion might
135 be born exclusively by ratepayers within the Ameren footprint. Since MISO’s
136 studies demonstrate the need for an additional 345 kV line across the state even
137 if reliability and voltage issues were separately resolved, the aggregate cost of all
138 the separate projects plus a 345 kV transmission line across the state are likely to
139 be higher. Therefore, resolving the reliability and voltage issues as part of the

⁴ MISO Ex. 1.0 at 31-32

⁵ MISO witness Jeffery W. Webb provides a more thorough discussion of MISO MVP criterion in MISO Ex. 1.0 at 14-18

⁶ ATXI’s response to Staff DR ENG 1.30, included as Attachment A.

⁷ ATXI Ex. 1.0 at 8

140 larger Illinois Rivers Project would be beneficial to electric customers in Illinois,
141 due to the cost sharing methodology for MISO Multi-Value Projects. Specifically,
142 MISO determined that the Project is necessary to promote the development of an
143 effectively competitive electricity market as wind generation continues to
144 develop.⁸ Though I did not independently verify MISO's study results, I have no
145 reason to question MISO's conclusion that an additional 345 kV line across
146 central Illinois is necessary and the least cost means to satisfy the service needs
147 of not only electric utility customers in Illinois, but also electric utility customers in
148 the entire MISO footprint.

149 **Q. How will ATXI recover its costs if ATXI builds the proposed 345 kV**
150 **transmission line and substations that it proposes?**

151 A. ATXI witness Dennis D. Kramer states that ATXI's Project is eligible for project
152 cost sharing as described in the MISO Tariff 367 Schedule 26A.⁹ Therefore, it is
153 my understanding that ATXI anticipates recovering its costs through transmission
154 rates from retail and wholesale customers throughout the MISO footprint. ATXI
155 witness Maureen A. Borkowski explains that AIC customers will pay
156 approximately 7% of the cost.¹⁰

157 **Q. Is ATXI capable of efficiently managing and supervising the construction of**
158 **the 345 kV transmission line that it proposes?**

⁸ MISO Ex. 1.0 at 25-26.

⁹ ATXI Ex. 2.0 at 17.

¹⁰ ATXI Ex. 1.0 at 8

159 A. I do not know. ATXI indicates that it will fully rely upon its affiliate, Ameren
160 Services, to provide all planning, design, and engineering.¹¹ Ms. Borkowski
161 states that Ameren Services has successfully overseen other projects,¹² and I
162 have no reason to question that statement. However, I do have a concern that
163 ATXI apparently directly employs only one individual, namely Ms. Borkowski.¹³
164 While I do not doubt Ms. Borkowski's capabilities, it is not clear to me what would
165 happen to ATXI, or this Project, should Ms. Borkowski leave ATXI. Given my
166 understanding that ATXI's organization includes only one individual, I would
167 encourage ATXI in its rebuttal testimony to include additional information about
168 its structure, including but not limited to succession planning information, in order
169 to demonstrate that ATXI will continue to exist and be able to complete the Illinois
170 Rivers Project even if Ms. Borkowski leaves.

171 Q. **Section 8-406.1(f)(3) of the Act requires that, in order to grant a CPCN, the**
172 **Commission must find that ATXI is capable of financing the proposed**
173 **construction without significant adverse financial consequences for the**
174 **utility or its customer. Do ATXI's financing plans allow the Commission to**
175 **make such a finding?**

176 A. I do not know. ATXI witness Darrell E. Hughes presents ATXI's plans to finance
177 its proposed Project.¹⁴ Mr. Hughes states that ATXI will primarily rely on Ameren
178 Corporation for its source of funds.¹⁵

¹¹ ATXI Ex. 3.0 at 3

¹² ATXI Ex. 1.0 at 9

¹³ ATXI's response to Staff DR 1.02, included as Attachment B

¹⁴ ATXI Ex. 6.0, generally

¹⁵ ATXI Ex. 6.0 at 2

179 Q. **Does Section 8-406.1 of the Act contain any other requirements beyond**
180 **those contained in Section 8-406.1(f)?**

181 A. Yes. There are several other requirements contained in Section 8-406.1 of the
182 Act that the Commission must consider, including:

- 183 • Section 8-406.1(a)(1), which requires that the utility provide specific
184 factual information in its application about the Project. ATXI provides
185 references to where to find this information within its filing as Exhibit F to
186 its Petition.
- 187 • Section 8-406.1(a)(2), which requires the utility to pay an application fee.
188 ATXI submitted its application fee with its application on November 7,
189 2012.
- 190 • Section 8-406.1(a)(3), which requires the utility to include a showing that it
191 held at least three public meetings about the Project to receive public
192 comment in each county where the Project is to be located – all no earlier
193 than 6 months prior to filing its petition. ATXI Exhibits 4.7 through 4.9
194 constitute the showing of the required public meetings.
- 195 • Section 8-406.1(d), which requires the utility to publish notice about the
196 project in the official state newspaper within 10 days of the utility filing.
197 ATXI filed a certificate of publication on December 11, 2012, indicating its
198 notice about the Project was published in the official state newspaper on
199 November 14, 2012, and again on November 22, 2012.
- 200 • Section 8-406.1(d), which requires the utility to establish a dedicated
201 website at least 3 weeks prior to the first public meeting and maintain that

202 website until project completion. Staff received notification that ATXI's
203 website became active on April 23, 2012, exactly 3 weeks prior to its first
204 open house (public meeting) associated with the Project, which took place
205 on May 14, 2012. The web address for ATXI's dedicated website is:
206 <http://www.ilriverstransmission.com>.

207 In my opinion, ATXI has satisfied these Section 8-406.1 requirements.

208 Q. **Are there any other aspects of utility filings under Section 8-406.1 of the**
209 **Act that you would like to make the Commission aware?**

210 A. Yes. Section 8-406.1(i) provides that any Commission decision granting a
211 certificate under Section 8-406.1 of the Act shall include an order pursuant to
212 Section 8-503 of the Act, authorizing or directing the construction of the Project in
213 the manner and within the time specified in the order. As I previously stated, I
214 am not an attorney, but I understand Section 8-406.1(i) to require that if the
215 Commission issues an order granting a certificate under Section 8-406.1 of the
216 Act, it must also include an order pursuant to Section 8-503 of the Act for the
217 same facilities.

218 Q. **Why do you wish to make the Commission aware of the above requirement**
219 **regarding an order pursuant to Section 8-503 of the Act?**

220 A. Public Act 96-1348 created Section 8-406.1 of the Act, and also modified Section
221 8-509 of the Act to include special provisions applicable to Section 8-406.1.
222 Specifically, in cases where a CPCN pursuant to Section 8-406.1 is granted,
223 Section 8-509 provides the Commission with only 45 days to consider that
224 request.

225 When necessary for the construction of any alterations, additions,
226 extensions or improvements ordered or authorized under Section 8-
227 406.1, 8-503, or 12-218 of this Act, any public utility may enter
228 upon, take or damage private property in the manner provided for
229 by the law of eminent domain. If a public utility seeks relief under
230 this Section in the same proceeding in which it seeks a certificate of
231 public convenience and necessity under Section 8-406.1 of this Act,
232 the Commission shall enter its order under this Section either as
233 part of the Section 8-406.1 order or at the same time it enters the
234 Section 8-406.1 order. If a public utility seeks relief under this
235 Section after the Commission enters its order in the Section 8-
236 406.1 proceeding, the Commission shall issue its order under this
237 Section within 45 days after the utility files its petition under this
238 Section. (emphasis added)
239 (Source: P.A. 96-1348, eff. 7-28-10.)

240 I understand that ATXI has not requested eminent domain authority within this
241 docket, and might not even plan to begin negotiations with landowners until after
242 the Commission's Final Order is issued.¹⁶ Nonetheless, it is my opinion that,
243 given the expedited timeframe (45 days) for any future Section 8-509 proceeding
244 that relates to ATXI's facilities in this docket, the Commission would have little
245 opportunity to gather and consider additional information in a Section 8-509
246 proceeding.

247 ATXI's Project Benefits

248 Q. **What reason(s) does ATXI give for proposing the Project?**

249 A. Ms. Borkowski asserts that the Project "will facilitate the delivery of renewable
250 energy required to meet Illinois public policy mandates, resolve numerous
251 reliability constraints, and provide economic and efficiency benefits due to

¹⁶ ATXI Ex. 5.0, pp. 4-5 and 8-9.

252 reduced production costs and reduced losses in Illinois and across the MISO
253 system.”¹⁷

254 Mr. Kramer asserts that MISO created a portfolio of projects that would provide
255 multiple kinds of reliability and economic benefits and would allow MISO states to
256 meet near term RPS mandates, as well as “reduce the wholesale cost of energy
257 delivery for the consumer by enabling the delivery of low cost generation to load,
258 reducing congestion costs and increasing system reliability, regardless of the
259 future generation mix.”¹⁸ Mr. Kramer alleges that if the Project is not constructed,
260 some alternative project(s) would need to be constructed to eliminate several
261 NERC reliability violations.¹⁹

262 ATXI witness Jeffrey V. Hackman asserts that the Project will enhance import
263 capability, allow Illinois customers increased access to wholesale markets and
264 more robust sources, and materially increase voltage support to several
265 communities. Mr. Hackman also states that the redundancy that the Project
266 adds will result in a reduction in transmission losses and increase reliability
267 because of the independent paths for power flows.²⁰

268 ATXI witness Rodney Frame explains that the Project will allow more supply, and
269 promote development of an effectively competitive electricity market, though he
270 believes the electricity markets in MISO are already effectively competitive.²¹

¹⁷ ATXI Ex. 1.0 at 7. MISO means Midwest Independent Transmission System Operator, Inc.: the regional transmission organization.

¹⁸ ATXI Ex. 2.0 at 17.

¹⁹ Id. at 27-29.

²⁰ ATXI Ex. 3.0 at 17-18.

²¹ ATXI Ex. 9.0 at 8.

271 Finally, MISO witness Jeffery R. Webb asserts that the Project is an integral part
272 of MISO's regional expansion plan, and that if it is not constructed, ATXI and AIC
273 will be unable to continue to provide reliable service to customers because
274 numerous 345 kV and 138 kV transmission facilities will be loaded above safe
275 operating levels or operate below adequate voltage levels.²² In addition, Mr.
276 Webb asserts that if the Project is not constructed, Illinois will not receive the
277 economic benefits that the Project would provide if constructed.²³

278 Q. **Will the Project that ATXI proposes to construct across central Illinois**
279 **provide all of the benefits that ATXI's witnesses and MISO's witness**
280 **allege?**

281 A. No, not by itself. Most of the Project's benefits for Illinois will result only if the
282 Project is fully integrated with AIC's transmission system. However, ATXI
283 specifically excludes the connections with AIC's existing 138 kV transmission
284 system from its Illinois Rivers Project, and makes it clear that AIC is not
285 participating in this proceeding.²⁴ Additional projects beyond ATXI's Illinois
286 Rivers Project, both within and outside of the state of Illinois, will be necessary to
287 achieve all of the benefits ATXI and MISO witnesses attribute to the Project.
288 ATXI Exhibits 2.5 through 2.18 illustrate that, if connected to AIC's existing
289 transmission system, ATXI's proposed 345 kV transmission line would provide an
290 additional transmission source that could resolve several forecasted localized
291 transmission problems, including the elimination of NERC reliability violations,

²² MISO Ex. 1.0 at 31-32.

²³ Id.

²⁴ ATXI's response to Staff DR ENG 1.35, included as Attachment C

292 low voltage conditions, and transmission constraints. Mr. Webb confirms that
293 ATXI's Project is a necessary component of a portfolio of projects that provide
294 benefits broadly across MISO.²⁵ ATXI proposes installing several 345/138 kV
295 transformers as part of the Illinois Rivers Project, but does not plan to connect
296 anything to those transformers.²⁶ The Commission should be aware that many of
297 the benefits that ATXI and MISO attribute to the Illinois Rivers Project will be
298 realized only if AIC connects its existing 138 kV transmission system to ATXI's
299 proposed new transformers. There are currently no proposals before the
300 Commission to make those connections and no commitments by either ATXI or
301 AIC to make those connections in the future.

302 Q. **Why did neither ATXI nor AIC propose to install the connections to AIC's**
303 **138 kV transmission system as part of the Illinois Rivers Project?**

304 A. I do not know. As Attachment C illustrates, ATXI simply states that AIC is not a
305 party to the proceeding, but does not explain why AIC is not a party to the
306 proceeding. The exclusion of the 138 kV connections from the Illinois Rivers
307 Project is especially perplexing because (a) ATXI states it included AIC's cost for
308 the 138 kV connections in its Project cost estimates,²⁷ and (b) the 138 kV
309 connections are part of the MISO MVP projects.²⁸ In my opinion, the lack of
310 record evidence from AIC about its plans for future 138 kV connections in this
311 proceeding severely impairs the Commission's ability to grant ATXI a CPCN

²⁵ MISO Ex. 1.0 at 14-18

²⁶ ATXI Ex 2.0 at 23-24, ATXI Ex. 2.4.

²⁷ ATXI's response to Staff DR ENG 3.01(a), included as Attachment D

²⁸ ATXI's response to Staff DR ENG 3.01(c), included as Attachment D and MISO's response to Staff DR ENG-MISO 1.1(c), included as Attachment E

312 pursuant to Section 8-406.1 of the Act and enter an order pursuant to Section 8-
313 503 of the Act. ATXI specifically included the proposed substations with 345/138
314 kV transformers within its request for a CPCN, yet it is not evident if or when
315 these substations will connect to any 138 kV transmission lines. There is
316 currently no evidence in this case that the substations will serve any useful
317 purpose upon Project completion or at any point in the future. ATXI and MISO
318 agree that the connections to AIC's 138 kV system are necessary in order to
319 obtain most of the benefits from the Project,²⁹ so for ATXI to receive a CPCN
320 from the Commission, I believe it is vital that ATXI demonstrate to the
321 Commission that those 138 kV connections will occur. Unfortunately AIC is not a
322 party in this proceeding and has accordingly offered no opinion on the topic of
323 connecting to ATXI's proposed transformers. As I understand it, ATXI's petition
324 asks the Commission to grant it a CPCN in an expedited proceeding for
325 substation facilities based solely upon ATXI's and MISO's belief that AIC will in
326 the future connect to the transformers in question. Inasmuch as ATXI and AIC
327 are corporate affiliates of Ameren Services Company and many ATXI witnesses
328 are Ameren Services Company employees, and given that Ameren Services
329 Company plans and designs transmission facilities for both ATXI and AIC,³⁰
330 ATXI's witnesses might possess information about AIC's intentions that have not
331 been made public in this proceeding. However, I am aware of no confirmation
332 from AIC that it intends to connect to the 345/138 kV substations that ATXI
333 proposes, and unless AIC provides that confirmation, it is my view that the

²⁹ Id.

³⁰ ATXI response to Staff DR ENG 3.05, included as Attachment F

334 Commission should exclude all of the 345/138 kV transformers and some of
335 ATXI's proposed substations from any CPCN that the Commission grants.

336 Q. **How might ATXI address your concern about AIC's connections to ATXI's**
337 **proposed substations?**

338 A. This issue could be easily resolved if, in its rebuttal testimony, ATXI presented a
339 documented commitment from AIC to connect to and use each of the individual
340 substations that ATXI proposes to install as part of the Illinois Rivers Project,
341 along with AIC's timeline for doing so. Upon provision of this information, the
342 Commission would know that AIC shares ATXI's and MISO's plans for AIC to
343 connect its 138 kV system to ATXI's proposed 345 kV line via ATXI's proposed
344 substations.

345 Q. **Does ATXI's exclusion of AIC's 138 kV connections to ATXI's proposed**
346 **345/138 kV substation sites cause you any other concern?**

347 A. Yes. Though ATXI demonstrated that prior to its filing it held at least three public
348 meetings in each county that its proposed transmission line crosses, I am
349 concerned that ATXI did not explain to attendees of those meetings that after
350 ATXI constructs the 345 kV transmission line and substations, it is ATXI's
351 expectation that its affiliate, AIC, will construct 138 kV transmission lines in the
352 same areas to connect to ATXI's proposed substation sites. Regardless of which
353 company actually installs them, I am perplexed as to why all the connections to
354 the 345/138 kV substations that ATXI proposes were not included as part of the
355 Illinois Rivers Project, particularly since Ameren Services plans and designs the
356 transmission facilities for both companies. ATXI's exclusion of the 138 kV

357 connections from its Project creates potential problems. First, since potential
358 routes for AIC's 138 kV lines are not to be determined in this proceeding,
359 attendees of ATXI's public meetings are likely unaware of the possibility that
360 ATXI or AIC might construct additional 138 kV transmission structures and
361 transmission lines in the near future. Second, the location of ATXI's substations
362 determines not only the proposed 345 kV route, but will also determine the route
363 for any future 138 kV lines to be constructed in order to connect AIC's existing
364 138 kV system to ATXI's proposed substations. Since the landowners who might
365 be affected by the location of those 138 kV lines and structures may not have
366 known that ATXI's proposed Project might affect them, there would be no reason
367 for them to attend the public meetings for this proceeding: those landowners are
368 not along ATXI's proposed 345 kV transmission line route. ATXI, intervening
369 parties, Staff and the Commission should be able to consider information about
370 possible routing for both 345 kV and 138 kV transmission lines, not only the 345
371 kV lines. It is possible that the public could have provided ATXI with important
372 information regarding potential 138 kV routes that could have caused ATXI to
373 select a different substation site entirely. Since, in most cases, ATXI proposes
374 that two transmission line segments connect to each of its proposed substation
375 sites, any change in the location of a substation site would require both segments
376 that connect to the substation site to have routes other than the routes that ATXI
377 is proposing. For these reasons, ATXI's exclusion of the 138 kV connections
378 could lead to some decisions on substation siting and 345 kV line routing in this

379 proceeding that are made with incomplete information, resulting in unnecessarily
380 difficult route selections for the 138 kV connecting lines in future proceedings.

381 Q. **Is there any additional reason you find the exclusion of the 138 kV**
382 **connections to ATXI's proposed substations puzzling?**

383 A. Yes. ATXI's response to Staff data request ENG 1.08 further demonstrates why I
384 consider ATXI's exclusion of the 138 kV connector lines from its petition
385 perplexing and a source of concern. In that data request Staff asked why ATXI,
386 rather than AIC, was proposing to construct the 345 kV transmission line
387 segment between Sidney and Rising Substations, since AIC owns the 345 kV
388 lines west of Rising and east of Sidney that ATXI plans to connect. ATXI stated
389 in its response that ATXI, and not AIC, is proposing to build the line because it is
390 part of the MISO approved MVP project.³¹ Yet, the 138 kV transmission lines
391 that would connect to ATXI's proposed transformers and that would be
392 necessary to fully integrate ATXI's Project are also part of the MISO approved
393 MVP project, and ATXI excludes those lines from its Illinois Rivers Project.³²
394 ATXI's response to Staff DR ENG 1.08 would logically result in a conclusion that
395 ATXI will include the 138 kV connections as part of the Illinois Rivers Project,
396 because those connections are part of the MISO MVP project just as the Sidney
397 to Rising segment is part of the MISO MVP project. Excluding these 138
398 connections means additional CPCN proceedings will be necessary at the
399 Commission to complete the MISO MVP project.

³¹ ATXI response to Staff DR ENG 1.08, included as Attachment G.

³² MISO response to Staff DR ENG-MISO 1.1(b), included within Attachment E.

400 Routes

401 Q. **What information did you review regarding possible routes for ATXI's**
402 **proposed 345 kV transmission line?**

403 A. I reviewed ATXI's petition, direct testimony, and responses to data requests. I
404 also reviewed intervener/landowner responses to ATXI's data requests and
405 alternative route proposals. I attended one ATXI open house in Chatham where
406 ATXI provided information to the public about its proposed Project, including its
407 proposed routes. I examined the maps ATXI provided as part of its filing,
408 especially ATXI Ex. 4.2. I inspected AIC's primary and alternative routes via
409 helicopter on October 22 and 23, 2012, accompanied by ATXI representatives. I
410 also used public-domain internet sites, including Bing Maps
411 (<http://be.bing.com/maps>) and Google Maps (<http://maps.google.com>),
412 recognizing that the images on these internet sites might not show the present
413 condition of development on a given property.

414 Q. **Do you wish to provide any general comments regarding routing for ATXI's**
415 **proposed 345 kV transmission line?**

416 A. Yes. My route discussion will begin with the western end of the Illinois Rivers
417 Project and move eastward across the state by transmission line segment.³³

418 Section 8-406.1(f) of the Act states, in relevant part:

419 The Commission shall, after notice and hearing, grant a certificate
420 of public convenience and necessity filed in accordance with the
421 requirements of this Section if, based upon the application filed with
422 the Commission and the evidentiary record, it finds the Project will
423 promote the public convenience and necessity and that all of the
424 following criteria are satisfied:

³³ These are the same segments identified by Ms. Borkowski in ATXI Ex. 1.0, p. 5.

425 (1) That the Project is necessary to provide adequate, reliable,
426 and efficient service to the public utility's customers and is
427 the least-cost means of satisfying the service needs of the
428 public utility's customers or that the Project will promote the
429 development of an effectively competitive electricity market
430 that operates efficiently, is equitable to all customers, and is
431 the least cost means of satisfying those objectives.
432 (emphasis added)

433 Though not an attorney, I understand Section 8-406.1 to require that the
434 transmission line be constructed along the least cost available route - whether it
435 is built to satisfy the needs of customers or to satisfy the objective of promoting
436 the development of an effectively competitive electricity market that operates
437 efficiently.

438 Q. **How did you evaluate the various route proposals?**

439 A. To evaluate the routes, I attempted to identify the least costly of the viable routes
440 for each transmission line segment. Generally, a route that follows a straight line
441 is shorter and costs less than a route that meanders. Not only is a shorter route
442 less costly initially, but since there are fewer facilities to maintain, ongoing
443 expenses associated with a shorter route are less. In addition, the structures
444 used for a straight route are normally less costly than structures that must
445 support the uneven forces from conductors due to a route that changes direction.
446 This is illustrated by ATXI's response to Moultrie County Property Owners data
447 request MCPO-AIC 3.08, which shows that ATXI's estimated average price for
448 each tangent structure, which would be used to support transmission lines with
449 angles of 1 degree or less, is \$33,000. ATXI's estimated average cost for a
450 structure if the angle in the transmission line is from 1 to 15 degrees, a "running
451 angle", is \$74,250 - more than double that of a tangent structure. ATXI's

452 estimated average cost for a dead-end structure, required for angles above 15
453 degrees, is \$107,250 - more than three times that of a tangent structure.³⁴ When
454 reviewing alternative routes for each line segment, I estimated the transmission
455 line length, generally by measuring the lines depicted on ATXI Ex. 4.2, and
456 counted the number of dead-end structures involved. I do not represent that all
457 of the route lengths I provide are exact, but the relative lengths for any given
458 segment are correct, so that a comparison of routes is valid. In addition, I
459 favored routes that passed close to fewer residences. There may be additional
460 relevant facts about some of the routes that I do not know, which could result in a
461 route being more or less desirable than I indicate. My goal with this testimony is
462 to convey my opinions regarding which viable routes appear to me to be least
463 cost, and explain why. Then, if ATXI and interveners disagree with my
464 conclusion, they can explain in their rebuttal testimony why they believe I am in
465 error.

466 **Mississippi River to SE Quincy**

467 **Q. Do you have any initial comments regarding ATXI's proposed location for**
468 **its SE Quincy Substation?**

469 **A.** I first note that ATXI's proposed construction at the SE Quincy Substation site
470 does not include a tie to any existing 345 kV transmission line, or to any existing
471 138 kV transmission line, so the need for the SE Quincy Substation is entirely
472 dependent upon ATXI's assumption that AIC will connect to it. The contingency
473 models that ATXI included as ATXI Ex. 2.16 through Ex. 2.19 serve to illustrate

³⁴ ATXI's response to MCPO-AIC DR 3.08, included as Attachment H.

474 how ATXI envisions that AIC will electrically connect AIC's existing 138 kV
475 transmission system to ATXI's proposed 345 kV transmission line via the SE
476 Quincy Substation site, and how those connections, if made, could relieve future
477 reliability deficiencies expected to exist under various contingencies. However, a
478 number of alternative substation sites exist and AIC's existing 138 kV
479 transmission lines could be connected to any of them. Mr. Hackman explains the
480 process ATXI used to select its substation sites and that ATXI selected the SE
481 Quincy site to minimize integration costs with AIC's existing 138 kV system.³⁵ In
482 addition, ATXI Exhibit 4.10 illustrates the geographic area in which ATXI
483 assumes AIC will be modifying its existing 138 kV transmission lines and/or
484 constructing new ones in order to connect to ATXI's proposed SE Quincy
485 Substation. There is no evidence from AIC in this proceeding to indicate that it
486 accepts ATXI's assumptions.

487 **Q. If connections to AIC's 138 kV system will be executed as ATXI assumes, is**
488 **ATXI's proposed location for the SE Quincy substation logical?**

489 **A.** Yes. If AIC commits to connecting its existing 138 kV system to a new 345/138
490 kV substation near Quincy, the substation site that ATXI proposes is a logical
491 one. ATXI indicates that AIC could create up to four 138 kV circuits by
492 connecting two existing 138 kV circuits to the SE Quincy Substation.³⁶
493 Furthermore, the location that ATXI proposes for its SE Quincy substation is
494 generally in line with the proposed Mississippi River crossing and the Meredosia

³⁵ ATXI Ex. 3.0 at 11-13

³⁶ ATXI Ex. 2.0 at 23.

495 Substation site.³⁷ However, this assumes evidence that is not currently in the
496 record in this proceeding; that is, that AIC's 138 kV system will be modified as
497 ATXI assumes it will.

498 Q. **Did any interveners suggest routes for the Mississippi River to SE Quincy**
499 **segment of ATXI's proposed 345 kV transmission line which differ from the**
500 **primary and alternate routes that ATXI proposed?**

501 A. Yes. N. Kohl Grocer Company, D/B/A Kohl Wholesale ("Kohl") indicates a
502 preference for ATXI's alternate route, but also suggests two additional alternative
503 routes.³⁸ As its primary alternative route proposal, Kohl suggests a modification
504 to the alternate route that ATXI proposes that would shorten the route and
505 eliminate several dead-end structures: aligning with W. Turtle Lake Road
506 (County Road ("CR") 675N) from the Mississippi River until it reaches ATXI's
507 proposed alternate route. Kohl indicates that its primary alternate route is the
508 same route that was submitted to ATXI by the Great River Economic
509 Development Foundation ("GREDF").³⁹ Though shorter than ATXI's alternate
510 route, it appears to me that Kohl's primary alternative route would be longer and
511 more costly to construct than ATXI's primary route.

512 Kohl submitted a second alternative route that first parallels an existing 161 kV
513 transmission line and then an existing 138 kV transmission line as it extends east
514 from the Mississippi River. It appears to me that Kohl's second alternative route
515 has the advantage of being the shortest route and that it contains the fewest

³⁷ ATXI Ex. 4.2, Part 1 at 26 is a map that shows ATXI's proposed SE Quincy site.

³⁸ Alternate Route Proposal of N. Kohl Grocer Company

³⁹ Staff understands that the Great River Economic Development Foundations did not submit an alternative route in this proceeding.

516 dead-end structures. Therefore, in my opinion, the second alternative route
517 proposed by Kohl is the best route choice for this segment. The following table
518 summarizes my estimate of the approximate lengths and the number of required
519 dead-end structures for the ATXI and Kohl route proposals:

520 Table 1

	ATXI's Primary Route	ATXI's Alternate Route	Kohl's Primary Alternate Route	Kohl's Secondary Alternate Route
Estimated Length (miles)	5.3	6.2	5.8	4.8
Estimated # Dead - End Structures	4	9	6	4

521
522 **Q. Has ATXI provided any information about its ability to use Kohl's**
523 **Secondary Alternate Route?**

524 **A.** Yes. ATXI's response to Staff data request ENG 2.01 explains that using Kohl's
525 Second Alternate Route might require the proposed 345 kV line to cross the
526 existing transmission line twice in order to avoid two existing residences. In
527 addition, ATXI indicated that at State Highway 57, a new 150-foot right-of-way
528 may not fit parallel to the existing line without displacement of an existing
529 building. However, in response to a data request from the Adams County
530 Property Owners and Tenant Farmers, ATXI provided a map that appears to
531 show that AIC's legacy company, Central Illinois Public Service Company, had
532 planned to use Kohl's Secondary Alternative Route for a 345 kV transmission

533 line during the 1980's,⁴⁰ so I do not know whether actual current conditions
534 match ATXI's stated concerns about the route.

535 **Q. If ATXI's concerns about possible clearance issues reflect actual**
536 **conditions, could these potential clearance issues be adequately**
537 **addressed to render the route usable?**

538 A. Yes, but the cost of addressing these clearance issues could cause the cost of
539 utilizing the Kohl's Secondary Alternate Route to increase to the point that ATXI's
540 primary route would be less costly. I recommend that ATXI provide a cost
541 comparison with its rebuttal testimony, similar to what it provides with ATXI Ex.
542 7.4, but that also includes Kohl's Secondary Alternate Route for the Mississippi
543 River to Quincy segment.⁴¹

544 **Q. Do you have any additional comments regarding this segment?**

545 A. Yes. In its response to Staff data request ENG 2.01, which asked why ATXI had
546 not proposed the route identified by Kohl's as its Secondary Alternate Route,
547 ATXI stated:

548 ...from a reliability perspective, common/adjoining rights-of-way are
549 undesirable since they are susceptible to common-mode failures.
550 For power transfers, which tend to be directional, a common mode
551 failure of both the Illinois River circuit and the existing transmission
552 would eliminate both paths carrying flows in that "direction".

553 It is my understanding that common-mode failures are normally considered for
554 transmission lines that are constructed on common structures. If two
555 transmission lines are on non-overlapping rights-of-way, as I understand Kohl to
556 propose, the transmission lines could have more clearance from one another

⁴⁰ ATXI's response to ACPO's DR 3.01, ACPO 3.01 Attach.

⁴¹ ATXI Ex. 7.4 is included as Attachment I.

557 than either line has to other objects. Furthermore, ATXI's own primary and
558 alternate route proposals include many miles where its proposed 345 kV
559 transmission line runs parallel with and adjacent to an existing 138 kV line.
560 Therefore, I recommend that in its rebuttal testimony, ATXI plainly state whether
561 it has identified any specific NERC reliability rules that specifically require
562 contingency analyses for transmission lines that occupy parallel, but separate
563 and non-overlapping rights-of-way.

564 **SE Quincy to Meredosia**

565 **Q. Is ATXI's proposed location for the Meredosia Substation logical?**

566 **A.** Yes. ATXI's selection of a substation site at or adjacent to the switchyard for the
567 Meredosia Generating Station is logical because, per MISO's MVP Portfolio, the
568 345 kV line is to split into two branches at Meredosia, with one branch heading
569 north to Ipava and the other east to Pawnee.⁴² Though no 345 kV transmission
570 lines exist there at this time, Meredosia is a logical location for the tap to Ipava to
571 minimize the length of that route. In addition, accommodation of the proposed
572 FutureGen 2.0 clean coal generation plant, to be located at Meredosia, would
573 occur with a substation location near the Meredosia generation plant.⁴³ Also,
574 AIC connection costs would be minimized should AIC elect to connect its existing
575 facilities at the Meredosia 138 kV switchyard to ATXI's proposed 345 kV
576 transmission line. However, AIC is not a party to this proceeding and has
577 provided no indication that it intends to connect its existing facilities to ATXI's 345

⁴² See MVP #9, as shown on Map of MISO MVP Portfolio, included as Attachment J. (copied from MISO's website: <https://www.midwestiso.org/WhatWeDo/Pages/One-Pagers.aspx>)

⁴³ ATXI Ex. 3.0 at 13.

578 kV line. Even if AIC does intend to connect, it has provided no timeline for such
579 connection. Given that the 138 kV connections are specifically excluded from
580 ATXI's construction plans, any CPCN that the Commission grants to ATXI in this
581 proceeding for the transmission line and Meredosia Substation should exclude
582 the 345/138 kV transformer that ATXI proposes to place at Meredosia unless
583 ATXI provides evidence in rebuttal that AIC has committed to connecting its 138
584 kV system to that transformer and specified a timeframe for that connection.

585 Q. **Did any interveners suggest a different route for the SE Quincy to**
586 **Meredosia segment than the primary and alternate routes that ATXI**
587 **proposed?**

588 A. Yes. Adams County Property Owners and Tenant Farmers ("ACPO") provided
589 three alternative routes. ACPO Alternative 1, which I understand to be ACPO's
590 preferred route, extends east from the SE Quincy Substation. Where ACPO
591 Alternative 1 intersects with an existing AIC 138 kV line near the center of Burton
592 Township, ACPO Alternative 1 then parallels that 138 kV line to the vicinity of
593 Meredosia. Generally, I understand ACPO's Alternative 1 to lie between ATXI's
594 primary route and Hwy 104 for much of its length. The map that ACPO
595 submitted with its Alternative 1 route does not appear to indicate how the 345 kV
596 transmission line would cross the Illinois River to reach the Meredosia Substation
597 site adjacent to the Meredosia Plant Switchyard. For the purpose of this
598 testimony, I assumed that at the point AIC's existing 138 kV transmission line
599 crosses ATXI's primary route from Meredosia to Ipava (as depicted on ATXI Ex.
600 4.2, Part 7 at 2), ACPO's Alternative 1 turns south and parallels ATXI's primary

601 route to ATXI's proposed Meredosia site. ACPO's Alternative 2 modifies ATXI's
602 preferred route in the vicinity of Payson and Plainville (as depicted on ATXI Ex.
603 4.2, Part 3 at 3 and Part 4 at 1). Rather than using a half section line in Payson
604 Township east of CR 1400E that lies between CR 200N and CR 300N, as ATXI
605 proposes, ACPO suggests extending the route further south before a turn to the
606 east. As it continues to the east, ACPO's Alternative 2 angles back north and
607 rejoins ATXI's preferred route at Hwy 96. This route is longer than ATXI's
608 primary route, and adds two additional dead-end structures, so is likely to be
609 more costly than ATXI's primary route. ACPO's Alternative 3 appears to suggest
610 a modification to ATXI's Alternative Route between Interstate 172 and CR 1253
611 (as depicted on ATXI Ex. 4.2, Part 8 at 2). The western edge of ACPO's
612 Alternative 3 does not appear on the map ACPO submitted, so that I am not
613 certain of ACPO's intended routing between the edge of the map and the SE
614 Quincy substation site. Nonetheless, it is my understanding that ACPO's
615 Alternative 3 would place the route very near a residence that exists between
616 Lentz Rd. and I-172, North of CR 600N, so that the modification offered as
617 ACPO's Alternative 3 would move the line away from some structures but closer
618 to others. As I understand the route, ACPO's Alternative 3 would be no longer
619 than ATXI's proposed alternative route, but would require two additional dead-
620 end structures, and therefore would likely be more costly.

621 Q. **Do you have an opinion regarding the best transmission line route for the**
622 **Quincy - Meredosia segment of ATXI's proposed transmission line?**

623 A. Yes. It appears to me that ACPO's Alternative 1 would be the shortest and least
624 cost route. As it extends east from the proposed SE Quincy Substation site I
625 understand ACPO's Alternative 1 to generally follow an alignment that
626 corresponds to CR 800N. This route is more direct than either of ATXI's
627 proposed routes, and I am unaware of any reasons this route could not be used.

628 Q. **If ATXI demonstrates that ACPO's Alternate 1 cannot be used, or would**
629 **become more costly than other routes if it were to be used, which route**
630 **should the Commission next consider?**

631 A. Should ATXI demonstrate in rebuttal testimony that ACPO's Alternative 1 cannot
632 be used, or that using it would be more costly than other alternatives, I would
633 then suggest combining elements of ATXI's primary and alternate routes to form
634 a SE Quincy – Meredosia "hybrid route". Specifically, ATXI would utilize its
635 primary route when leaving the SE Quincy Substation site until it reaches the
636 quarter-section line north of CR 600N. The route would then follow ATXI's
637 alternate route until that route joins ATXI's primary route at the CR 400N
638 alignment (ATXI Ex. 4.2 Part 9 at 2), then follow ATXI's primary route east until
639 reaching the proposed Meredosia Substation site. This hybrid route avoids
640 several structures, including residences, and in my opinion is shorter and less
641 costly than either the primary or alternate route that ATXI proposes, as indicated
642 in the following table.⁴⁴

643

⁴⁴ A modified version of Part 2 of ATXI's Appendix A to its petition that illustrates the "Hybrid Route" is included as Attachment K.

644

Table 2

	ATXI's Primary Route	ATXI's Alternate Route	ACPO's Alternate 1	Hybrid Route
Estimated Length (miles)	48.7	48.2	43.6	46.3
Estimated # Dead -End Structures	23	32	6	21

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In summary, ACPO's Alternate 1 route would be the shortest route, and the route containing the fewest dead-end structures, so would likely be the lowest cost route, and thus appears to me to be the best choice. The "Hybrid Route," as described above, appears to me to be the next best route choice. I recommend that ATXI provide an exhibit with its rebuttal testimony that is similar to ATXI Ex. 7.4 that includes cost estimates for using ACPO's Alternate 1 route and the "Hybrid Route" as it is described above.

653

Meredosia to Ipava

654

Q. Is ATXI's proposed location for the Ipava substation logical?

655

A. No. It appears to me that it would make more sense for ATXI to terminate the Meredosia to Ipava segment of its 345 kV line at the existing AIC substation at Ipava. Mr. Hackman states with regard to the Ipava substation: "The area around the existing transmission substation was judged by the Design professionals on the selection team to be unsuitable for the ultimate development of the Project substation because of the topology and proximity of the road,

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661 residence and watercourse.”⁴⁵ Yet, my observation of the existing AIC
662 substation site during my aerial route inspection and using publicly available web
663 sites leads me to the opinion that the existing substation could be expanded to
664 the south or to the north to provide adequate space for the 345 kV termination
665 and tie to existing AIC 345 kV line. ATXI does not propose installing a 345/138
666 kV transformation at Ipava, so not as much space would be required as at some
667 of the other substation sites that it proposes. I see no reason why a new,
668 additional substation site east of the existing AIC substation site would be
669 necessary to tie the proposed 345 kV line to the existing AIC 345 kV line. ATXI’s
670 response to Staff DR 5.01 appears to indicate that ATXI does not possess a
671 drawing of or know the dimensions of the existing Ipava substation, and so does
672 not know whether it could terminate its proposed 345 kV line using the existing
673 AIC substation at Ipava.⁴⁶ ATXI’s primary and alternate routes both pass the
674 existing AIC Ipava substation to reach ATXI’s proposed Ipava Substation site. If
675 ATXI provides convincing evidence in rebuttal testimony that connecting its
676 proposed 345 kV line to AIC’s existing 345 kV line cannot occur at the existing
677 AIC Ipava Substation, then I would consider that ATXI’s selection of a site just
678 east of the existing Ipava Substation along the route of AIC’s existing 345 kV line
679 would be a logical location for an additional substation. However, if ATXI is
680 unable to explain in greater detail why it is unable to terminate its proposed 345
681 kV transmission line at AIC’s Ipava Substation, and why an additional substation

⁴⁵ ATXI Ex. 3.0 at 14

⁴⁶ ATXI objected to Staff’s DRs that requested additional information regarding the size and location of the Ipava site. Staff DR ENG 5.01, included as Attachment L.

682 is needed, the Commission should exclude ATXI's proposed Ipava Substation
683 site from any CPCN that it grants.

684 Q. **Did any interveners suggest a different route for the Meredosia to Ipava**
685 **segment than the primary and alternate routes proposed by ATXI?**

686 A. Yes. The Nature Conservancy ("TNC") proposed two alternative routes, a
687 primary and an alternate, that would avoid the Spunky Bottoms Preserve and
688 LaGrange Wetland Mitigation Bank. If either of TNC's alternate routes were to
689 be used, ATXI's transmission line from Meredosia to Ipava would cross the
690 Illinois River northeast of the Meredosia Generating Plant.⁴⁷ TNC's primary
691 recommendation is that ATXI's proposed 345 kV transmission line follow ATXI's
692 alternate route from Meredosia until it reaches an existing AIC 138 kV
693 transmission line, at which point the route runs adjacent and parallel to the
694 existing 138 kV line until it again meets ATXI's alternate route.⁴⁸ I understand
695 TNC's alternate route proposal to also follow ATXI's alternate route when leaving
696 Meredosia, but at the point ATXI's alternate route veers back to the west to cross
697 the Illinois River, TNC's alternate route continues straight north to cross the
698 Illinois River, then turns east, then back north to rejoin ATXI's alternate route.⁴⁹

699 Q. **Which of the routes between Meredosia and Ipava do you think represents**
700 **the best route choice?**

701 A. As already discussed with respect to the other route segments, I understand that
702 the language of Section 8-406.1 requires that the route that represents the least

⁴⁷ The Nature Conservancy's Identification of an Alternative Route at 3

⁴⁸ Attachment A to The Nature Conservancy's Identification of an Alternative Route.

⁴⁹ Attachment B to The Nature Conservancy's Identification of an Alternative Route.

703 cost should be used. The following table illustrates my understanding of the
 704 distances and number of dead-end structures associated with the various routes
 705 considered for the Meredosia to Ipava segment. My review of the areal maps did
 706 not indicate any significant benefits of one route over the other beyond cost.
 707 Assuming similar construction practices would be used on all the routes, it is my
 708 belief that the route length and number of dead-end structures will tend to be the
 709 primary cost drivers for this segment. The following table shows what I believe to
 710 be the approximate length and number of dead-end structures required for each
 711 route proposal.

712 Table 3

	ATXI's Primary Route	ATXI's Alternate Route	TNC's Alternate 1	TNC's Alternate 2
Estimated Length (miles)	49.8	47.9	42.1	43.8
Estimated # Dead - End Structures	22	35	29	29

713
 714 Based upon the information that I reviewed, it appears that TNC's Alternate 1
 715 would be the best route choice for this segment. TNC's route recommendation
 716 does not cross either of the natural areas that TNC identified. In addition, my
 717 review indicates that TNC's Alternate 1 would be considerably shorter than either
 718 route that ATXI proposes. Since I am unaware of circumstances that would
 719 prevent ATXI from constructing TNC's Alternate 1, that route appears to me to be

720 the best choice for the Meredosia to Ipava segment. I recommend that ATXI
721 provide an exhibit with its rebuttal testimony that is similar to ATXI Ex. 7.4 that
722 includes its cost estimate for using TNC's primary route.

723 **Meredosia to Pawnee**

724 Q. **Is ATXI's proposed location for the Pawnee Substation logical?**

725 A. Yes. Mr. Hackman explains that verifiable evidence of mine subsidence is
726 occurring at AIC's existing Pawnee Substation.⁵⁰ If not for that assertion, it would
727 be my opinion that ATXI should terminate the Meredosia to Pawnee segment of
728 its Illinois Rivers Project at AIC's existing Pawnee substation. However, given
729 that one of the primary purposes of the Project to create a dependable source for
730 the delivery of wind generation both in and out of the state, it is reasonable for
731 ATXI to seek a location outside of the area of mine subsidence to terminate its
732 345 kV transmission line, and the location it has selected, along the existing 345
733 kV transmission line connecting Pawnee to the Kincaid Generation Plant, is
734 logical. However, since AIC has not provided evidence that it will connect to the
735 345/138 kV transformer that ATXI proposes to install at Pawnee, it is my
736 recommendation that the Commission exclude this 345/138 kV transformer from
737 any CPCN that it grants in this proceeding.

738 Q. **Did any interveners suggest a different route for the Meredosia to Ipava**
739 **segment than the primary and alternate routes proposed by ATXI?**

740 A. Yes. It is my understanding that four interveners expressed opinions regarding
741 this segment of ATXI's Illinois Rivers Project.

⁵⁰ ATXI Ex. 3.0 at 14

- 742
- The FutureGen Industrial Alliance, Inc. (“FutureGen”), in filing an
743 alternative route, simply expresses its support for ATXI’s alternate route.⁵¹
 - The Morgan and Sangamon County Landowners and Tenant Farmers
744 (“M&SCL”) additionally express support for ATXI’s alternate route, and
745 also submitted a route alternative that follows an existing AIC 138 kV line
746 between Meredosia and Pawnee.⁵²
 - Gregory and Theresa Pearce (“Pearces”) express support for ATXI’s
748 alternate route, but in the alternative suggest two different options for
749 modifying ATXI’s primary route as it is depicted on ATXI Ex. 4.2, Part 32,
750 at 1.⁵³ The first alternate route from Pearce would follow an existing AIC
751 138 kV line rather than ATXI’s primary route for approximately 3.6 miles in
752 Chatham Township in Sangamon County. Pearces’ second alternate
753 route would modify ATXI’s primary route in Sections 20 and 21 of
754 Chatham Township so that the route would turn east along the half section
755 line of Section 20, then south along the half section line of Section 21,
756 where it would then rejoin ATXI’s primary route.
 - Andrew Robinette and Stacy Robinette (“Robinettes”) express support for
758 ATXI’s primary route, but if ATXI’s alternate route is used, suggest it be
759 modified so that the line is routed diagonally from the northwest to the
760

⁵¹ Identification of Alternative Route of FutureGen Industrial Alliance, Inc.

⁵² Morgan and Sangamon County Landowners and Tenant Farmers Identification of Alternative Route.

⁵³ Alternate Route Proposal of Gregory and Theresa Pearce, including maps.

761 southeast through Section 21 in what is labeled as Centerville Precinct
762 Township on ATXI Ex. 4.2, Part 39 at 2.⁵⁴

763 Q. **Which of the routes proposed for the segment between Meredosia and**
764 **Pawnee do you think would represent the best choice?**

765 A. After reviewing the various route proposals, it appears to me that constructing
766 this segment parallel to the existing 138 kV line, as M&SCL suggests, would
767 result in by far the shortest and lowest cost route. Two interveners expressed
768 support for ATXI's alternate route, but ATXI's cost estimate provided in ATXI Ex.
769 7.4 indicates that constructing the line along ATXI's alternate route would be \$15
770 million more costly than constructing it along ATXI's primary route. Should ATXI
771 provide compelling evidence in its rebuttal testimony that it cannot construct this
772 segment along the route that M&SCL proposes, or that construction on that route
773 would be more costly than other options, then it is my opinion that ATXI's primary
774 route, as modified by Pearces' first alternative would be the next most logical
775 route. The following table provides my estimates for the length and number of
776 dead-end structures required for each route.

777

⁵⁴ Intervenor Alternate Route Proposal of Adam Robinette and Stacy Robinette.

778

Table 4

	ATXI's Primary Route	ATXI's Alternate Route	M&SCL	Pearce 1	Pearce 2	Robinettes
Estimated Length (miles)	67.7	75.6	57.3	66.5	67.7	75.2
Estimated # Dead - End Structures	28	24	14	29	30	25

779

780

I recommend that ATXI provide an exhibit with its rebuttal testimony that is similar to ATXI Ex. 7.4 that includes its cost estimate for using M&SCL's proposed route as well as the first alternate route proposed by Pearce.

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783

Pawnee to Pana

784

Q. Is ATXI's proposed location for the Pana Substation logical?

785

A. Yes. Mr. Hackman explains that, as at Pawnee, mine subsidence is occurring at AIC's existing Pana Substation,⁵⁵ so that ATXI's decision to terminate the Pawnee to Pana segment of its Illinois Rivers Project at a new substation outside of the area of mine subsidence is logical. In addition, the location ATXI selected along the existing AIC 345 kV transmission lines from Pana to Kincaid and Pana to Coffeen is logical, since the proposed 345 kV line will tie to both. However, since no evidence exists to show that AIC will connect to the 345/138 kV transformer that ATXI proposes to install at Pana within any defined timeframe, it is my recommendation that the Commission exclude the 345/138 kV transformer from any CPCN that it grants in this proceeding.

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⁵⁵ ATXI Ex. 3.0 at 15

795 Q. **Did any interveners suggest a route for the Pawnee to Pana segment that**
796 **differs from the primary and alternate routes proposed by ATXI?**

797 A. I am not aware of any alternate route proposals from interveners for the Pawnee
798 to Pana segment.

799 Q. **Which of the routes proposed for the segment between Pawnee and Pana**
800 **do you think would represent the best choice?**

801 A. ATXI presented a primary and two alternative routes for this segment. It appears
802 to me that ATXI's second alternative route would be the best choice. The
803 primary route appears to be about 2.1 miles longer than the second alternative
804 route, but as depicted on ATXI Ex. 4.2, Part 49, page 1 and ATXI Ex. 4.2 Part 56
805 at 2, both ATXI's primary route and its first alternate route use the CR 800E
806 alignment between CR 600N and CR 400N, and in doing so pass very close to
807 two residences. Had ATXI's primary route and its first alternate route instead
808 continued along the alignment of CR 600N to the east of CR 800E to CR 1000E
809 before turning south, it is my opinion that the lines would have been shorter and
810 there would be no residences in close proximity. Nonetheless, ATXI's note at the
811 bottom of ATXI Ex. 7.4 indicates that estimated costs for its primary and second
812 alternate route options are \$65,868,000 and \$65,018,000, respectively. Since
813 ATXI's estimate indicates that its second alternate route would likely be
814 constructed at a lower cost, and because this route would not pass close to the
815 two residences mentioned above, it appears to me that ATXI's second alternate
816 route is superior to both its primary route and its first alternate route for the
817 Pawnee to Pana segment. The following table shows my estimate of the

818 approximate length and number of dead-end structures required for each of the
 819 proposed routes for this segment.

820 Table 5

	ATXI's Primary Route	ATXI's Alternate Route 1	ATXI's Alternate Route 2
Estimated Length (miles)	34.4	38.5	32.3
Estimated # Dead - End Structures	4	10	10

821

822 **Pana to Mt. Zion**

823 Q. **Is ATXI's proposed location for the Mt. Zion Substation logical?**

824 A. No. It is my opinion that, even if the 345 kV line were to supply a 345/138 kV
 825 transformer near Mt. Zion, it would have been more logical for ATXI to locate the
 826 Mt. Zion Substation site further south - nearer a line between Pana and Kansas.
 827 Similar to the SE Quincy substation, ATXI does not plan to tie its proposed 345
 828 kV transmission line to any existing 345 kV transmission lines in the Mt. Zion
 829 vicinity. The only reason for the proposed ATXI Mt. Zion Substation is to supply
 830 AIC's 138 kV transmission system with an additional 345 kV source. Since no
 831 evidence exists in this proceeding which demonstrates that AIC will connect its
 832 138 kV system to ATXI's proposed Mt. Zion substation, I do not believe ATXI's
 833 proposed Mt. Zion substation site is logical. Even if AIC were to commit to
 834 connecting its 138 kV system near Mt. Zion to ATXI's 345 kV transmission line, it

835 is my opinion that it is more economical for AIC to extend two 138 kV lines
836 further south to the 345 kV line than for ATXI to extend two 345 kV north to Mt.
837 Zion.⁵⁶ This is due to more costly structure and hardware costs for 345 kV lines,
838 and required rights-of-way for 345 kV lines are wider and therefore more costly
839 as well. In my opinion, it would be more logical for ATXI to route its proposed
840 transmission line along the least-cost route between Pana and Kansas. Again,
841 given that no evidence exists that AIC will connect to the 345/138 kV transformer
842 that ATXI proposes to install at Mt. Zion, it is currently my opinion that the
843 Commission should exclude the proposed substation and 345/138 kV
844 transformer proposed for Mt. Zion from any CPCN that it grants. I may change
845 this opinion if ATXI demonstrates that its proposal represents the least cost
846 option when the combined cost of constructing the 345 kV lines and any future
847 138 kV connections that AIC commits to making are considered together.

848 Q. **Did any interveners suggest a different route for the Pana to Mt. Zion**
849 **segment than the primary and alternate routes proposed by ATXI?**

850 A. Yes, five parties offered alternative routes.

851 • I understand the recommended route from Mr. Leon Corzine (“Corzine”) to
852 follow Hwy 51 from ATXI’s alternate route, just north of Pana, until
853 reaching ATXI’s primary route, just north of Macon, at which point it would
854 follow ATXI’s primary route. Corzine also suggests that the Commission
855 not approve any route from Pana to Mt. Zion. If, however, the
856 Commission determines that a transmission line connecting Pana and

⁵⁶ ATXI’s response to Staff DR ENG 2.10(c), included as Attachment M, states ATXI’s understanding that AIC would connect two 138 kV transmission lines to the proposed Mt. Zion Substation.

857 Kansas should be installed, Corzine recommends paralleling AIC's
858 existing 138 kV line.

859 • The Assumption Group, similar to Corzine, suggests a route along Hwy 51
860 north of Pana.

861 • Macon County Property Owners ("MaconCPO"), like Corzine, suggest that
862 ATXI has not demonstrated a need for the Mt. Zion substation, and so
863 suggests the line instead be routed from Pana to Kansas parallel to an
864 existing 138 kV line.

865 • Moultrie County Property Owners ("MoultrieCPO") offer two alternative
866 routes. The first, included as Exhibit A, addresses only the segment
867 between Mt. Zion and Kansas. The second, included in MoultrieCPO's
868 submission as Exhibit B, suggests a 345 kV route directly connecting
869 Pana to Kansas that does not extend north to Mt. Zion.

870 • The Village of Mt. Zion ("Village") submission suggests a substation site
871 south of the site proposed by ATXI - along Henry Rd., on the east side of
872 Section 28, rather than along Sulphur Springs Rd., on the north side of
873 Section 17, as ATXI proposes. The map included in the Village's
874 submission appears to require use of ATXI's alternate route from Pana to
875 Mt. Zion and ATXI's primary route to from Mt. Zion to Kansas.⁵⁷

876 Q. **Which of the routes proposed for the segment between Pana and Mt. Zion**
877 **do you think would represent the best choice, if the Commission grants**
878 **ATXI the CPCN it requests to construct the Pana to Mt. Zion segment?**

⁵⁷ This conclusion is based upon Staff's comparison of Mt. Zion's submission with ATXI Ex. 4.2, Part 66 at 2.

879 A. If ATXI constructs a 345 kV line between Pana and Mt. Zion, then, out of the
880 alternatives presented, it appears to me that ATXI's primary route would
881 represent the best choice. Though I support a substation site south of the one
882 ATXI proposes, as the Village suggests, the Village's submission appears to
883 depend upon the use of the more costly ATXI alternate route from Pana.
884 Because of that dependence, use of the Village's suggested alternate substation
885 site would likely be more costly than use of ATXI's suggested substation site and
886 primary route. I agree with Corzine/Assumption Group that a shorter route that
887 parallels Route 51 north of Pana would be desirable. I understand the
888 Corzine/Assumption Group alternative route to use ATXI's alternate route until
889 that route reaches Hwy 51. Unfortunately, the existing proposals, as I
890 understand them, would route the line very close to several residences south of
891 Assumption: either along Hwy 51 between CR 900N and CR 1000N, or along
892 ATXI's alternate route at CR 2500E. Though I do not believe there to be
893 adequate time in this expedited proceeding to explore modifications to the
894 Corzine/Assumption Group suggestion, it appears to me that a good choice for
895 this segment would be to further consider use of Hwy 51 as a corridor for the
896 transmission line from Assumption northward. The table below compares my
897 estimate of the length and number of dead-end structures for the various Pana to
898 Mt. Zion alternatives based upon my review of ATXI Ex. 4.2.

899

900

Table 6

	ATXI's Primary Route	ATXI's Alternate Route	Corzine/ Assumption Group	Village of Mt. Zion
Estimated Length (miles)	33.8	38.3	31.4	34.0
Estimated # Dead - End Structures	11	18	16	16

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Mt. Zion to Kansas

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Q. Is ATXI's proposed location for the Kansas Substation site logical?

914

A. Before I answer that, I need to point out an inconsistency in ATXI's presentation.

915

It is not apparent to me whether ATXI plans to construct an additional substation

916

site at Kansas, or to connect to AIC's existing substation. Mr. Kramer indicates

917 ATXI will connect to the existing AIC Kansas Substation.⁵⁸ Mr. Hackman
918 indicates that ATXI plans to construct an additional substation adjacent to AIC's
919 existing substation.⁵⁹ I recommend that ATXI address this inconsistency in its
920 rebuttal testimony.

921 It is my opinion that it is not logical for ATXI to construct an additional substation
922 site at Kansas, if that is indeed ATXI's plan. It appears to me that ATXI could
923 terminate its proposed 345 kV transmission line in AIC's existing substation.
924 Furthermore, it is again unclear why ATXI proposes an additional 138 kV
925 transformer at Kansas in its petition since ATXI has not provided evidence of any
926 commitment from AIC to connect to it. Once again, I recommend the
927 Commission exclude ATXI's proposed 345/138 kV transformer from any CPCN
928 that it grants, unless ATXI demonstrates that AIC is committed to connecting its
929 138 kV transmission facilities to it within a defined timeframe. Notwithstanding
930 my opinion that ATXI does not need its own substation, termination of ATXI's
931 proposed line at AIC's Kansas Substation is logical because the proposed line
932 can then connect to an existing 345 kV line that extends north and south of that
933 location.

934 Q. **Did any interveners suggest a route for the Mt. Zion to Kansas segment**
935 **that differs from the primary and alternate routes proposed by ATXI?**

936 A. Yes. Six interveners provided route suggestions associated with this segment.
937 Separately, Corzine, MaconCPO, and MoultrieCPO each presented an alternate
938 route that bypasses ATXI's proposed Mt. Zion Substation site entirely, and I will

⁵⁸ ATXI Ex. 2.0 at 24.

⁵⁹ ATXI Ex. 3.0, p. 16

939 address those proposals separately later in my testimony. Those that provided
940 route suggestions which include this segment are as follows.

- 941 • MoultrieCPO suggests an alternative route that extends generally east of Mt.
942 Zion before turning south to Kansas.
- 943 • The Copeland Family (“Copeland”) proposes a modification to ATXI’s primary
944 route in Coles County as it is depicted on ATXI Ex. 4.2, Part 71 at 2, whereby
945 instead of using an alignment with CR 300E, the transmission line route
946 would use an alignment of CR 350E so that the transmission line would be
947 farther from existing residences.
- 948 • John Richard Reed (“Reed”) would prefer ATXI’s alternate route, but as an
949 alternative proposes a modification to ATXI’s primary route in Coles County
950 as it is depicted on ATXI Ex. 4.2, Part 73 at 2, whereby, the transmission line
951 would jog to the north along the CR 2220E alignment until reaching the
952 existing AIC 138 kV transmission line right-of-way, where it would turn east
953 and align with ATXI’s proposed primary route.
- 954 • Janet Roney (“Roney”) submitted, but later withdrew an alternative route
955 proposal.
- 956 • Tarble Limestone Enterprises (“Tarble”) did not submit a route of its own, but
957 stated it supports ATXI’s alternate route both from Mt. Zion to Kansas and
958 from Kansas to Sugar Creek.
- 959 • As previously stated, the Village suggests a Mt. Zion substation site south of
960 ATXI’s proposed site, which appears to require a shortened version of ATXI’s
961 primary route to Kansas.

962 Q. **Which of the routes proposed for the segment between Mt. Zion and**
 963 **Kansas do you think would represent the best choice?**

964 A. If ATXI constructs the proposed transmission line between the Mt. Zion site that it
 965 proposes and the Kansas site, it appears that either the ATXI alternate route or
 966 the route that MoultrieCPO suggests would result in similar costs. Though my
 967 review indicates MoultrieCPO's preferred route would likely be shorter, I believe
 968 that MoultrieCPO's preferred route would require more dead-end structures. A
 969 decision between these two routes may need to be based upon something other
 970 than cost. ATXI Exhibit 7.4 indicates that ATXI's estimate for its primary route for
 971 this segment is about \$2.5 million less than its estimate for its alternate route. My
 972 review results indicated that ATXI's primary route appears to be longer and
 973 would likely require more dead-end structures than its alternate route, so that
 974 ATXI's cost estimates for the routes seem illogical. The following table shows
 975 the results of my review of this segment.

976 Table 7

	ATXI's Primary Route	ATXI's Alternate Route	MoultrieCPO Potential Route A	Copeland / Reed	Village of Mt. Zion
Estimated Length (miles)	67.9	66.7	64.4	67.9	63.7
Estimated # Dead - End Structures	27	24	27	27	26

977

978 It would be helpful if in its rebuttal testimony ATXI would explain why its
979 estimated costs for its primary route are lower than for its alternate route for the
980 Mt. Zion to Kansas segment. In addition, ATXI should provide an exhibit similar
981 to ATXI Ex. 7.4 that includes its estimated cost for using MoultrieCPO's preferred
982 route and its estimated cost for using the Village's proposed substation site and
983 its primary route rather than the substation site ATXI proposes.

984 **Pana to Kansas**

985 Q. **Earlier you mentioned interveners suggested alternative routes that**
986 **bypassed ATXI's proposed Mt. Zion substation site. Did you also review**
987 **those suggestions?**

988 A. Yes, though I am not yet convinced the Commission should grant a CPCN for
989 constructing any of them. ATXI has requested a CPCN that includes segments
990 from Pana-Mt. Zion-Kansas. ATXI has itself not presented any routes directly
991 from Pana to Kansas, and still might provide convincing evidence that the
992 segments connecting Mt. Zion are necessary. If the Commission, at the
993 conclusion of this proceeding, determines that ATXI has not adequately
994 explained the need for its proposed routing to Mt. Zion, then my recommendation
995 would be for the Commission to exclude the Pana-Mt. Zion-Kansas segments
996 from any CPCN it grants. That way, ATXI would have an opportunity to study the
997 alternative Pana-Kansas routes presented in this proceeding and determine
998 whether to pursue one of those routes, a Pana to Kansas route of its own, or to
999 provide more evidence that routing the proposed 345 kV line to Mt. Zion is
1000 necessary.

1001 • MaconCPO and Corzine suggest a route adjacent and parallel to AIC's
1002 existing 138 kV line between Pana and Kansas, which would route the line
1003 south of Lake Shelbyville. It appears to me that, while the majority of this
1004 route would work quite well, there are several problem locations. For
1005 example, AIC's 138 kV line passes very near a residence southwest of
1006 Shelbyville along CR 950N, just east of Hwy 128, and there appears to me
1007 to be inadequate space for the addition 345 kV line. The existing 138 kV
1008 line also appears to cross over or close to several structures near Lake
1009 Mattoon. In Mattoon, it is not apparent to me that adequate space would
1010 be available for the additional 345 kV transmission line right-of-way. After
1011 the existing 138 kV route joins the Lincoln Prairie Grass Trail, the route
1012 appears to me to be free of conflicts.

1013 • MoultrieCPO also proposes a Pana to Kansas route that is south of Lake
1014 Shelbyville that appears to be longer and require more dead-end
1015 structures than the MaconCPO/Corzine proposal.

1016 The table below compares the estimated length and number of dead-end
1017 structures for the ATXI routes from Pana to Mt. Zion to Kansas with the two
1018 proposals to construct the line directly between Pana and Kansas. These are
1019 clearly not apple-apple comparisons.

1020

1021

Table 8

	ATXI's Primary Route	ATXI's Alternate Route 1	MoultrieCPO Potential Route B	MaconCPO/ Corzine
Estimated Length (miles)	101.6	105.0	75.6	64.8
Estimated # Dead - End Structures	38	42	32	14

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If ATXI demonstrates in rebuttal that it is necessary for AIC to connect its 138 kV transmission lines in Mt. Zion to the proposed 345 kV line between Pana and Kansas, then it should also provide the combined costs of the AIC connections and the Pana-Kansas 345 kV line segments for each alternative shown in the table. ATXI should explain any reasons it cannot use the MaconCPO/Corzine or the MoultrieCPO suggested routes, and why AIC could not supply the Mt. Zion area in the future from a 345/138 kV transformer at Pana or Kansas, or from a 345/138 kV transformer at a new substation located along the path of the MaconCPO/Corzine or MoultrieCPO route alternatives.

1032

Kansas to Indiana State Line

1033

Q. Is ATXI's proposed location for crossing the state line boundary into Indiana logical?

1034

1035

A. Yes. Since the planned termination for the line is directly east of the proposed boundary crossing, it is my opinion that the location is logical.

1036

1037 Q. **Did any interveners suggest a different route for the Kansas to Indiana**
1038 **State Line segment than the primary and alternate routes proposed by**
1039 **ATXI?**

1040 A. Yes. I am aware of four alternative route proposals:

- 1041 • Laura Te Grotenhuis (“Te Grotenhuis”) proposes an alternative to ATXI’s
1042 preferred route near the Hwy 1 crossing in Clark County, as depicted on
1043 ATXI Ex. 4.2, Part 86 at 1. The alternative that Te Grotenhuis proposes
1044 would simply add a jog of 150 feet into the line across Section 36, and
1045 would not significantly add to the length of the transmission line.
1046 However, Te Grotenhuis’ suggestion adds four dead-end structures.
- 1047 • JDL Broadcasting (“JDL”) states its support for ATXI’s alternate route
1048 proposal.
- 1049 • Tarble Limestone Enterprises (“Tarble”) also states its support for ATXI’s
1050 alternate route.
- 1051 • Stop the Power Line Coalition (“SPLC”) proposes two alternative routes.
1052 First, SPLC suggests a route that runs straight east from the Kansas
1053 substation site to Indiana, paralleling an existing AIC 138 kV line for
1054 approximately half that distance. Once the route enters Indiana, SPLC
1055 suggests terminating the proposed 345 kV transmission line in a new
1056 switchyard north of the existing Sugar Creek Substation. I would note that
1057 it is unclear whether Duke Power or some other utility would construct the
1058 additional switchyard, or how the cost of the additional switchyard
1059 compares to the cost of the longer transmission line that would otherwise

1060 be required. SPLC's second route suggestion runs straight east from the
 1061 Kansas substation, paralleling an existing AIC 138 kV line, but at the point
 1062 the existing 138 kV line turns to the northeast in Symmes Township,
 1063 SPLC's second alternative would turn to the south and east in steps until
 1064 joining with ATXI's alternate route.

1065 Q. **Which of the route proposals for the segment between Kansas and the**
 1066 **Indiana State line do you think represents the best choice?**

1067 A. I believe that either ATXI's alternate route or SPLC's second alternative route
 1068 would be the best choice. ATXI's alternate route is slightly shorter, but would
 1069 likely require more dead-end structures than SPLC's second alternative.

1070 Table 9

	ATXI's Primary Route	ATXI's Alternate Route	Grotenhuis	SPLC #1	SPLC #2
Estimated Length (miles)	37.0	33.4	37.1	24.7	33.7
Estimated # Dead - End Structures	18	13	22	2	10

1071
 1072 SPLC's first alternative route would be far shorter in Illinois, since it travels
 1073 directly east from the Kansas substation site to the state line. However, I do not
 1074 know whether this suggested route is viable, because it would require an Indiana
 1075 utility to construct additional facilities: either a 345 kV switchyard as SPLC
 1076 suggests, or a 345 kV line to the Sugar Creek Substation. It is my understanding

1077 that the Commission has no authority to require an out-of-state electric utility to
1078 construct an out-of-state project, and I am not convinced this alternative would
1079 be superior to either ATXI's alternate route or SPLC's second route suggestion.
1080 Therefore, I recommend that ATXI provide an exhibit with its rebuttal testimony
1081 that is similar to ATXI Ex. 7.4 that also includes SPLC's second route suggestion.

1082 **Sidney to Rising**

1083 Q. **Are ATXI's proposed locations for its Sidney and Rising substations**
1084 **logical?**

1085 A. Yes, the locations themselves are logical; however, ATXI proposes constructing
1086 substations adjacent to AIC's existing substations at both Sidney and Rising, and
1087 it again appears to me to be unnecessary for ATXI to construct additional
1088 substations rather than terminating its 345 kV transmission line at AIC's existing
1089 substations. If ATXI were to construct additional substations, the locations it
1090 chose adjacent to AIC's substations is logical, since the function of ATXI's
1091 substation would be to tie to AIC's existing substation. Unless ATXI can
1092 demonstrate why additional substations at Sidney and Rising are necessary, the
1093 Commission should exclude these new, additional substations from any CPCN
1094 that it grants.

1095 Q. **Did any interveners suggest a different route for the Sidney to Rising**
1096 **segment than the primary and alternate routes proposed by ATXI?**

1097 A. Yes. Magdi, Barbara, and Adam Ragheb ("Ragheb") suggest a modification to
1098 ATXI's alternate route southwest of Sidney, as it is depicted on ATXI Ex. 4.2,

1099 Parts 97 – 99, whereby the transmission line would jog north from the half-
1100 section line to the section line in Philo Township between Sections 33 and 34.

1101 Q. **Which of the route proposals for the segment between Sidney and Rising**
1102 **do you think represents the best choice?**

1103 A. ATXI's primary route is far shorter and would require fewer dead-end structures,
1104 and thus in my opinion is the best choice. In addition, based upon the record in
1105 Docket 12-0080, it is my understanding that AIC's legacy utility already acquired
1106 land rights for much of this transmission line route, so that for many years
1107 landowners along ATXI's primary route have been aware of the possibility of a
1108 transmission line.

1109 Table 10

	ATXI's Primary Route	ATXI's Alternate Route	Ragheb
Estimated Length (miles)	24.2	33.8	32.9
Estimated # Dead - End Structures	6	8	13

1110

1111 Misc. Comments

1112 Q. **Do you have any additional comments regarding ATXI's petition?**

1113 A. Yes. In its petition, ATXI requests that the Commission expressly find that a
1114 right-of-way width of 150 feet that ATXI seeks is reasonable and appropriate.⁶⁰ I
1115 do not object to ATXI's seeking of a 150 feet right-of-way width, but it is important

⁶⁰ Petition, ¶11

1116 to note that it is chiefly the height and spacing of the structures that dictates the
1117 required right-of-way width. In other words, if a 150 foot right-of-way were
1118 unavailable within a section of a particular route, that fact would not necessarily
1119 mean the route could not be used.⁶¹ It is conceivable that installing additional
1120 structures to accommodate a narrower right-of-way could be less costly than
1121 using an entirely different route.

1122 Q. **Why would the height and spacing of support structures for an electric**
1123 **transmission line help to dictate the necessary width of the right-of-way?**

1124 A. The right-of-way width is generally determined by the distance the transmission
1125 conductors could be blown during storms or heavy winds. In other words, the
1126 width of the right of way is based on the calculation that regardless of weather
1127 conditions, the conductors will not be blown outside the right-of-way. Since the
1128 height and spacing of the transmission line structures determine how much
1129 allowable sag can occur in the conductor between the structures, the structures
1130 also determine the horizontal distance the transmission conductors could
1131 theoretically be blown during heavy winds.

1132 Q. **Do you believe the schedule for this proceeding allows for development of**
1133 **a complete and thorough record upon which the Commission can base its**
1134 **decision?**

1135 A. No, but I understand that the schedule in this docket is dictated by Section 8-
1136 406.1 of the Act, and it is my belief that a record that is as complete as possible
1137 will be developed. All parties appear to be working diligently to provide each

⁶¹ ATXI response to Staff DR 1.34, included as Attachment N.

1138 other and the Commission with the best information they can within the schedule
1139 for this docket. However, due to the length of ATXI's proposed Project, and the
1140 number of interveners submitting proposals, some information about potential
1141 routes will not be thoroughly addressed in the record. My point is simply that
1142 more time for discovery and development of alternative route proposals might
1143 have led to different proposals and conclusions that are not included in the
1144 record of evidence.

1145 Q. **Does this conclude your direct testimony?**

1146 A. Yes it does.