

**ILLINOIS COMMERCE COMMISSION**

**DOCKET NO. 06-0706**

**REBUTTAL TESTIMONY**

**OF**

**ROGER CRUSE**

**SUBMITTED ON BEHALF**

**OF**

**ILLINOIS POWER COMPANY d/b/a AmerenIP  
and  
AMEREN ILLINOIS TRANSMISSION COMPANY**

**July 20, 2007**

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4 **OF**

5 **ROGER CRUSE**

6 **I. Witness Identification**

7 **Q1. Please state your name and business address.**

8 A. My name is Roger Cruse. My business address is 370 South Main Street in Decatur,  
9 Illinois, 62523-1479.

10 **Q2. Are you the same Roger Cruse who provided Direct Testimony in this proceeding?**

11 A. Yes.

12 **Q3. What is the purpose of your rebuttal testimony?**

13 A. The purpose of my rebuttal testimony is to respond to the concerns raised by interveners  
14 regarding environmental and cultural issues that may impact the construction of  
15 AmerenIP's LaSalle/Wedron/Ottawa proposed 138 KvA transmission line.

16 **II. Response to IL 71 Resistors**

17 **Q4. What is your general opinion of the IL 71 Resistors' route from the standpoint of**  
18 **environmental and historical resources impacts?**

19 A. The IL 71 Resistors' route presents substantially more environmental concerns than  
20 Ameren's primary proposed route. There is also no evidence that the IL 71 Resistors'  
21 route is preferable with respect to impact on historical resources.

22 **Q5. Dr. Mixon states on page 19 of his Direct Testimony that "after considering all**  
23 **available information, on the basis of 'Environmental Impacts', in my opinion the**

24 **preferred route is either" the IL 71 Resistors' route or Ameren's primary route. Do**  
25 **you agree?**

26 A. No. The IL 71 Resistors' route has the potential to have greater environmental impacts  
27 than Ameren's proposed primary route. Aerial photographic review and field evaluations  
28 were conducted by Natural Resources Consulting Inc. (NRC) to evaluate potential  
29 impacts on the Indiana bat. The IL 71 Resistors' proposed route has the potential to  
30 impact substantially more Indiana bat habitat. Most of the IL 71 Resistors' route  
31 parallels the western side of the Fox River through heavily wooded areas which may  
32 contain suitable Indiana bat habitat (see AmerenIP Exhibit 11.01). Although there is an  
33 existing railroad corridor, a substantial amount of clearing would still be required.

34 Ameren's primary route would require up to 12 acres of woodland clearing from Ottawa  
35 to Wedron.

36 In addition to Indiana bat habitat, the IL 71 Resistors' route also has the potential to  
37 impact more wetlands than Ameren's proposed primary route. NRC completed a detailed  
38 evaluation of the wetland resources along the primary route through review of aerial  
39 photographs, National Wetlands Inventory (NWI) mapping, USGS topographic maps,  
40 and IDNR hydrography mapping. Furthermore, wetland ecologists from NRC conducted  
41 a field wetland delineation and evaluation within the primary route. However, a field  
42 verified wetland delineation and evaluation would need to be conducted to determine the  
43 precise acreage of impacted wetlands on the IL 71 Resistors' route.

44 **Q6. Dr. Mixon states on page 19 of his Direct Testimony that “from Exhibit 4.3, section**  
45 **15 the two routes will have about the same impact on State Parks and Conservation**  
46 **Areas.” What is your response?**

47 A. The information contained in Exhibit 4.3, Section 15 relies solely on existing mapped  
48 features provided by the IDNR. However, based on information included in the City of  
49 Ottawa’s Comprehensive Green Space Plan, the IL 71 Resistors’ proposed route has  
50 substantially more impacts on conservation areas than Ameren’s proposed primary route  
51 (See AmerenIP Exhibit 11.02).

52 **Q7. Are you aware of the Illinois Department of Natural Resources' position regarding**  
53 **the IL 71 Resistors' route?**

54 A. Yes. The IDNR reviewed the location of the IL 71 Resistors' proposed route and  
55 provided written comments (AmerenIP Exhibit 11.03). Specifically, the IDNR believes  
56 that this proposed route appears likely to further fragment a significant portion of the  
57 western shore line of the Fox River. The IDNR states that they would object to any  
58 alternative alignment likely to increase fragmentation of remaining wooded areas in the  
59 vicinity or encroach upon designated public resources and areas including the Fox River  
60 and its riparian corridor.

61 **Q8. Dr. Mixon states on page 20 of his Direct Testimony that “on the basis of ‘Impacts**  
62 **on historical resources’, in my opinion the preferred route is the IL 71 Resistors’**  
63 **route.” What is your response?**

64 A. I disagree with Dr. Mixon’s opinion. Ameren has been working closely with the Illinois  
65 Historic Preservation Agency (IHPA) during the route selection process over the last 14  
66 months. Ameren has submitted all primary and alternate route information for both the

67 LaSalle-Wedron and Ottawa-Wedron Lines, including aerial maps, to the IHPA for their  
68 review and comments. The IHPA is required by the Illinois State Agency Historic  
69 Resources Preservation Act (20 ILCS 3420, as amended, 17 IAC 4180) to review all state  
70 funded, permitted, or licensed undertakings for their effect on cultural resources. In  
71 addition, the IHPA is required to review and comment on the possible effects on cultural  
72 resources, including historic properties and archaeological sites under Section 106 of the  
73 National Historic Preservation Act of 1966, as amended, and its implementing  
74 regulations, 36 CFR 800: "Protection of Historic Properties". Based on the reviews  
75 conducted by the IHPA for the proposed project, the IHPA has determined that this  
76 project will have no effect on any historic properties and the project is in compliance with  
77 Section 106 of the National Historic Preservation Act and the Illinois State Agency  
78 Historic Resources Preservation Act, as shown in the letters included in AmerenIP  
79 Exhibit 11.04. Therefore, the IHPA has stated that they have no objections to any of the  
80 proposed routes by Ameren. Since the IL 71 Resistors' route is comprised of segments of  
81 Ameren's routes, all routes are comparable from a historical and cultural resources  
82 perspective and there is no basis to conclude that the IL 71 Resistors' route is superior in  
83 this respect.

### 84 **III. Response to PROTED 80**

#### 85 **Q9. Are there environmental concerns with PROTED 80's proposed routes?**

86 A. Yes. NRC completed a preliminary assessment of natural habitats, wetlands, threatened  
87 and endangered species, and nature preserves utilizing available GIS data, aerial  
88 photographs, and general knowledge of the area based on previous field assessments for  
89 all of PROTED 80's proposed routes.

#### 90 **PROTED 80 Alternative 1 Environmental Concerns**

91 PROTED 80 Alt 1 has the potential for having environmental impacts. As the PROTED  
92 80 Alt 1 route moves east it crosses over an environmentally sensitive area associated  
93 with Buck Creek, a tributary to the Fox River as shown on AmerenIP Exhibit 11.06. This  
94 particular tributary has been identified by the IDNR as an Illinois Natural Area Inventory  
95 Site (INAIS). INAIS contain high quality natural communities, habitat for threatened and  
96 endangered species, and/or are areas that support unique concentrations of species.  
97 Based on the aerial review conducted by NRC and quantitative analysis utilizing  
98 Geographic Information Systems (GIS) mapping technology, the PROTED 80 Alt 1 route  
99 occupies (based on a 100-foot ROW) 14.3 acres of wetlands, requires clearing 16.8 acres  
100 of potentially suitable Indiana bat habitat.

101 **PROTED 80 Alternatives 2 & 3 Environmental Concerns**

102 The PROTED 80 Alt 2 and 3 routes also present environmental concerns. Although  
103 neither of the alternative routes impact any known nature preserves, the most significant  
104 environmental concerns that these two alternatives present are associated with the  
105 proposed crossing locations over the Little Vermilion River, as shown on AmerenIP  
106 Exhibits 11.07 and 11.08. Ameren has met with representatives from the IDNR on a  
107 number of occasions, with specific discussions regarding environmental concerns  
108 associated with crossing over the Little Vermilion River. The IDNR has indicated that  
109 this particular forested corridor bordering the Little Vermilion River within the N.  
110 LaSalle area is an important wildlife corridor, primarily because of the lack of similar,  
111 large intact forested corridors within this agriculturally dominated and heavily  
112 fragmented landscape. In addition, the USFWS has concerns over impacts on potentially  
113 high quality Indiana bat habitat associated with the forested corridor along the Little

114 Vermilion River. In addition, the PROTED 80 Alt 3 requires at least four waterway  
115 crossings within the Little Vermilion River riparian corridor, including crossing a  
116 meandering tributary to the Little Vermilion River three times. Based on these impacts,  
117 I conclude that each of the three PROTED 80 routes will have environmental impacts that  
118 renders them less suitable as transmission line routes when compared to Ameren's  
119 proposed primary route.

120 **Q10. Has the Illinois Department of Natural Resources or the Illinois Nature Preserve**  
121 **Commission provided comments regarding the PROTED 80 proposed alternative**  
122 **routes?**

123 **A.** Yes. Both the IDNR and INPC have reviewed the routes proposed by PROTED 80 and  
124 provided written comments (AmerenIP Exhibits 11.03 & 11.09). Both of these agencies  
125 stated that they will oppose and object to changes in Ameren's proposed alignment that  
126 may increase fragmentation in the vicinity of designated public resources and areas  
127 including Mitchell's Grove Nature Preserve, Blackball Mines Nature Preserve, the Little  
128 Vermilion River, State listed species and their habitats known to occur in the vicinity, and  
129 those areas previously identified during the meetings between Ameren, IDNR, and INPC  
130 in 2006.

131 **Q11. Mr. Bennett states on page 17 of his Direct Testimony that "Ameren's proposed**  
132 **primary route passes through or near many areas which are suitable for Indiana**  
133 **bat habitat as it leaves La Salle, passes near Utica and crosses the Fox River." What**  
134 **is your response?**

135 **A.** Mr. Bennett is incorrect. Ameren's proposed primary route as it leaves the LaSalle  
136 substation was sited within the current alignment predominantly to avoid and minimize

137 impacts on the Indiana bat, nature preserves, and forest fragmentation. Probably one of  
138 the clearest illustrations of this in regards to Indiana bat habitat can be seen on AmerenIP  
139 Exhibit 11.10, which shows the Illinois Gap Analysis Project (IL-GAP) for the Indiana  
140 Bat. The IL-GAP (<http://www.inhs.uiuc.edu/cwe/gap>) was initiated in 1996 at the  
141 Illinois Natural History Survey (INHS, <http://www.inhs.uiuc.edu>), which is a division of  
142 the Illinois Department of Natural Resources. The INHS has been conducting research  
143 on Illinois' biological resources since 1858, which makes it the ideal institution for  
144 conducting the state's Gap Analysis. The main goal of Gap Analysis is to prevent  
145 additional species from being listed as threatened or endangered. AmerenIP Exhibit  
146 11.10 is the Gap Analysis data layer for potentially suitable Indiana bat habitat. As  
147 illustrated on this exhibit, most of the Indiana bat habitat within the project area is  
148 identified along the Little Vermilion River. Ameren's proposed primary route crosses  
149 over a segment of the Little Vermilion River that has been historically disturbed by non-  
150 metallic mining operations, which correlates with the lack of Indiana bat habitat  
151 identified on the Gap Analysis in this location. Two of the PROTED 80 alternative  
152 routes (Alt 2 and Alt 3) cross through large sections of Indiana bat habitat as identified on  
153 the IL-GAP. In fact, in contrast to Mr. Bennett's statement, Ameren's proposed primary  
154 route was sited strategically (with consultation from IDNR and USFWS) to avoid impacts  
155 on Indiana bat habitat as it leaves the LaSalle area. Based on the IL-GAP data, Ameren's  
156 primary route transects through three acres of potential Indiana bat habitat from the  
157 LaSalle Substation to I-39, whereas two of the PROTED 80 alternative routes (Alt 2 and  
158 Alt 3) transect through substantially more identified suitable habitat between the

159 substation and I-39, specifically: Alt 2 – eight acres; and Alt 3 – ten acres. PROTED 80  
160 Alt 1 transects three acres of potential Indiana bat habitat in this area.  
161 Mr. Bennett’s comment that “Ameren’s proposed primary route passes through or near  
162 many areas which are suitable for Indiana bat habitat as it ... passes near Utica...” is an  
163 incorrect statement as well. The proposed transmission line ROW would be located  
164 along the northern edge of this habitat patch adjacent to I-80, therefore avoiding and  
165 minimizing further fragmentation of the riparian corridor. In regards to Indiana bat  
166 habitat adjacent to the Fox River, both Ameren’s proposed primary route and PROTED  
167 80 Alt 1 cross the river in areas with very similar forested habitat types and require about  
168 the same amount of tree clearing. PROTED 80 Alt 2 and 3 routes cross the Fox River at  
169 the same location as Ameren’s primary route. Therefore, the PROTED 80 proposed  
170 routes do not alleviate any of the necessary tree clearing associated with the Fox River  
171 crossing within suitable Indiana bat habitat.

172 **Q12. Mr. Bennett states on page 17 of his Direct Testimony that “all of the PROTED**  
173 **alternatives eliminate the concern of the Indiana bat habitat as they leave La Salle**  
174 **and as it passes near Utica.” Do you agree?**

175 A. No. In fact, as discussed above, two of the PROTED 80 alternatives (Alt 2 and Alt 3)  
176 introduce additional Indiana bat habitat impacts that were clearly avoided in Ameren’s  
177 primary route – specifically in regards to the proposed crossing locations over the Little  
178 Vermilion River.

179 **Q13. Are there concerns related to historical resources that would favor the PROTED 80**  
180 **routes?**

181 A. No. I do not believe that there are historical concerns for either the PROTED 80 or  
182 Ameren proposed routes. As discussed above, the IHPA has approved Ameren's primary  
183 route for the LaSalle-Wedron Line regarding historic and cultural resources. The IHPA  
184 also recently completed a cultural resources review for all of the proposed PROTED 80's  
185 routes at the request of Ameren and determined that these routes will not impact historic  
186 properties or cultural resources either.

187 **Q14. Mr. Bennett states on page 18 of his Direct Testimony that “the PROTED 80**  
188 **alternatives reduce the potential for encountering unexpected archeological finds.”**  
189 **Do you agree?**

190 A. No, I disagree. As far as encountering unexpected archeological finds, it is my opinion  
191 that one would be more likely to find archeological artifacts transecting through  
192 agricultural fields such as that proposed by PROTED 80 rather than adjacent to a major  
193 Interstate corridor. Furthermore, the Illinois Department of Transportation (IDOT) is  
194 required to complete archeological investigations for highway projects. If significant  
195 archeological sites were encountered along I-80 by IDOT, they would have been  
196 registered with IHPA.

197 **IV. Response to SOLVE**

198 **Q15. Ms. Jasiak states on page 7 of her Direct Testimony that “building a transmission**  
199 **line along the primary route would disturb environmentally sensitive areas of PCBs**  
200 **(polychlorobiphenyls), hydrocarbons and solvents produced by the defunct**  
201 **Electrical Utilities Co. drainage.” Can you comment on this testimony?**

202 A. Ameren’s proposed primary route avoids the Electric Utilities Co. Superfund site and is  
203 located more than 1,000 feet from the site boundaries (see AmerenIP Exhibit 11.11).  
204 Ameren has had discussions with the IEPA and USEPA with respect to the primary  
205 route’s proximity to this designated Superfund site. These agencies do not share  
206 SOLVE's concern and do not believe that construction of the primary route will impact  
207 the ongoing remediation of these sites or pose a public health concern. Ameren will  
208 continue coordination with both the IEPA and USEPA regarding this Superfund site as  
209 final design of the transmission line progresses.

210 **Q16. Ms. Jasiak states on page 7 of her Direct Testimony that “the primary transmission**  
211 **route would also be adjacent to a proposed Superfund site at the closed M&H Zinc**  
212 **Co. Toxic heavy metals exist at and near the site according to the IEPA.” Does this**  
213 **pose a concern?**

214 A. Ameren’s proposed primary route avoids the Matthiessen & Hegeler (M&H) Zinc Co.  
215 designated Superfund site (see AmerenIP Exhibit 11.11). The primary route is nearly  
216 300 feet from the site boundaries at its closest proximity and is located on the opposite  
217 side of the Little Vermilion River. Ameren has discussed the location of the primary  
218 route with respect to the M&H Zinc Co. Superfund site with the IEPA and USEPA.  
219 Neither agency believes the construction will impact the remediation process or pose a  
220 public health concern. USEPA representatives indicated that since this is a new

221 Superfund site, contamination investigations are still on-going and detailed information is  
222 not available in regards to the extent of contamination. USEPA recommended that  
223 Ameren practice due diligence in the project area closest to this Superfund site in the  
224 same manner that is practiced in other potentially contaminated areas encountered by  
225 Ameren. Ameren will continue to coordinate all activities with both the IEPA and  
226 USEPA as final design of the transmission line progresses.

227 **Q17. Ms. Jasiak states on page 6 of her Direct Testimony that “the topography of the**  
228 **Ameren primary route west of I-39 takes it through steeply wooded, ravines,**  
229 **deteriorating railroad beds, through a quarry, close to neighborhood homes and two**  
230 **subdivisions of approximately 100 homes. Throughout, Ameren’s primary route**  
231 **would also traverse some of the deepest portions of the Little Vermilion River**  
232 **Valley.” Do these represent valid concerns?**

233 A. No, these do not represent valid concerns. In fact, the primary route was sited  
234 specifically from the LaSalle substation to I-80 to avoid the deepest portions of the Little  
235 Vermilion river valley. By contrast, the PROTED 80 alternative routes that have been  
236 endorsed by SOLVE transverse through wooded areas of the Little Vermilion river  
237 valley.

238 By comparison, the areas immediately adjacent to the proposed crossing have already  
239 been significantly impacted by the quarry operation. As a result, there is only a narrow  
240 band of woodland along the river bank. Beyond this point, the original geologic features  
241 and topography have been significantly altered. The primary route traverses southeast  
242 through the quarry in order to avoid a high quality, steeply wooded portion of the Little  
243 Vermilion River to the south as well as the M&H Zinc Co. Superfund site.

244

245 **Q18. Ms. Jasiak states on page 7 of her Direct Testimony that “SOLVE is also concerned**  
246 **about the impact of EMF (electromagnetic field) radiation on existing residential**  
247 **areas and park land. We feel that this is still unresolved controversy.” What is your**  
248 **response?**

249 A. Based on scientific research that has been conducted for over 30 years, there is no  
250 sufficient, reliable evidence to conclude that long-term exposures to electric and magnetic  
251 fields at levels found in communities or occupational environments are adverse to human  
252 health or cause any disease. In fact, there is no confirmed mechanism that would provide  
253 a firm basis to predict any biological effect at the low EMF levels evident in our daily  
254 activities. In spite of the fact that there is no conclusive finding of any proven adverse  
255 health effect, Ameren takes a cautionary position in dealing with the siting of its  
256 transmission lines by avoiding, wherever possible, occupied structures along the  
257 proposed route.

258 **Q19. Do power lines produce EMFs?**

259 A. Yes. All electrical conductors such as power lines produce EMFs when current is  
260 flowing through them.

261 **Q20. Are EMFs harmful?**

262 A. The general consensus of the scientific community is that the evidence for any harmful  
263 effect related to EMFs is inconclusive. Intervenors asserting that EMFs are harmful rely  
264 on a number of “fact sheets,” reports and epidemiological studies that assert there is an  
265 association between power lines and various illnesses, and in particular childhood cancer.  
266 An “association” in epidemiology, which is an statistical analysis of disease occurrence

267 in a population, does not mean that some factor “causes” or even “contributes” to a  
268 specific result, but rather the result tends to occur in the presence of, or in conjunction  
269 with, some factor. Although some studies have concluded an association exists between  
270 EMFs and certain illnesses, most studies have concluded that there is no evidence of any  
271 causal link between EMFs and human health, or that the evidence is weak. In fact, only  
272 epidemiological studies have identified any such linkage. Laboratory research studies,  
273 for the most part, have not substantiated claims that EMFs pose a health risk.

274 **Q21. Are there other factors that support Ameren’s position that EMFs have minimal**  
275 **impact on human health?**

276 A. Yes. The electric utility industry is a highly regulated entity. However, there is only one  
277 regulatory standard that relates to EMF. The National Electric Safety Code (NESC)  
278 imposes a level of electric field measurement directly underneath transmission lines.  
279 This standard only applies to the prevention of electric shock, and does not equate to a  
280 specific regulation of EMFs. There are no local, state, federal standards that regulate the  
281 level of EMFs emanating from electrical conductors.

282 **Q22. Does this conclude your Rebuttal Testimony?**

283 A. Yes.

284