

**ILLINOIS COMMERCE COMMISSION**

**DOCKET No. 12-0598**

**DIRECT TESTIMONY ON (ROBINETTE) REHEARING**

**OF**

**JEFFREY V. HACKMAN, P.E.**

**Submitted On Behalf**

**Of**

**AMEREN TRANSMISSION COMPANY OF ILLINOIS**

**November 13, 2013**

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7   **I.    INTRODUCTION, PURPOSE AND SCOPE**

8   **Q.    Please state your name, business address and present position.**

9   A.    My name is Jeffrey V. Hackman. My present position is Senior Director of Transmission  
10 Operations and Project Management for Ameren Services Company (Ameren Services), located  
11 at 1901 Choteau Avenue, St. Louis, Missouri, 63166.

12 **Q.    Are you the same Jeffrey V. Hackman who provided direct and rebuttal testimony**  
13 **in the initial phase of this proceeding?**

14 A.    Yes, I provided direct and rebuttal testimony on behalf of Ameren Transmission  
15 Company of Illinois (ATXI) in the initial phase of this proceeding.

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

17 A.    My testimony responds to the direct testimony on rehearing of Mr. Andrew Robinette,  
18 who proposes to move a portion of the Meredosia to Pawnee segment of the transmission line  
19 from his property to his neighbors' properties. Specifically, I respond to Mr. Robinette's  
20 concerns regarding safety and health risks he claims are caused by the transmission line's  
21 electromagnetic field.

22 **II. RESPONSE TO MR. ROBINETTE**

23 **Q. In the initial proceeding, did the Illinois Commerce Commission approve a route for**  
24 **the Meredosia to Pawnee segment?**

25 A. Yes. The Illinois Commerce Commission (Commission) approved a route that was the  
26 subject of a stipulation among ATXI, Morgan and Sangamon Counties Landowners and Tenant  
27 Farmers (MSCLTF) and FutureGen Industrial Alliance, Inc. (FutureGen) - the Stipulated Route.  
28 ATXI identified this same route at the start of this docket as its Alternate Route for this segment,  
29 and continues to support this Stipulated Route.

30 **Q. Please summarize Mr. Robinette's concerns regarding the approved Stipulated**  
31 **Route.**

32 A. Mr. Robinette expressed concerns regarding the risk of electrocution or burns if the  
33 transmission line is "downed or compromised due to a tornado, wind storm or ice storm." He  
34 also has concerns with health risks he claims are associated with the electromagnetic field (EMF)  
35 from the transmission line.

36 **Q. Are these safety concerns unique to the Robinettes' property?**

37 A. No. Any extreme weather condition has the potential to cause damage to the line,  
38 regardless of which route the Commission approved. I pointed out in my rebuttal testimony in  
39 the initial proceeding that any number of worst-case scenarios can be considered: a plane could  
40 hit the line, so could a meteor, or a shed. (*See* ATXI Ex. 12.0 (Rev.), pp. 35-36.) Simply  
41 moving the route away from the Robinettes' property does not eliminate the safety risk of a  
42 downed wire. Moving the line simply shifts the risk somewhere else.

43 **Q. In the initial proceeding, did ATXI address the concerns raised by Mr. Robinette**  
44 **regarding alleged EMF effects of the transmission line?**

45 A. Yes. In my rebuttal testimony in the initial proceeding, I explained how the EMF levels  
46 for the line compare to those emitted by ordinary household appliances. In addition, Dr. Linda  
47 Erdreich testified that EMF does not cause adverse health effects.

48 **Q. How do the EMF levels for the line compare to those emitted by ordinary household**  
49 **items?**

50 A. As I explained in my rebuttal testimony in the original proceeding, when it is in service,  
51 the transmission line's EMF levels are expected to be less than those produced by ordinary  
52 household items. The electric field at the edge of the Project's right-of-way will be less than 1  
53 kV/m (kilovolt per meter). The magnetic field at the edge of the Project's right-of-way, at the  
54 line's typical in-service usage level, is less than 18mg (milligauss). By contrast, at a distance of  
55 one foot, a blender at high speed typically generates a magnetic field of 20mg, some microwave  
56 ovens on the highest setting generate magnetic fields of 200mg, a hair dryer at the highest setting  
57 generates a magnetic field of 70mg, and a refrigerator typically generates a magnetic field of  
58 20mg.<sup>1</sup>

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<sup>1</sup> (ATXI Ex. 12.0 (Rev.), p. 24.)

59 **Q. Are you aware of any information submitted in this case that suggests that there are**  
60 **“numerous health risks” associated with transmission lines?**

61 A. No. To the contrary, Dr. Linda Erdreich testified on behalf of ATXI on this issue. Her  
62 testimony was admitted into the record and is identified as ATXI Exhibit 17.0. Dr. Erdreich  
63 testified that the electric and magnetic fields produced by the transmission line (those fields  
64 being roughly equivalent to that produced by household appliances) would not pose a health  
65 hazard to the public. She stated:

66 [I]t is unlikely that the public located along either the Proposed or Alternate  
67 Routes would have prolonged exposure to ELF EMF at levels above those that  
68 are commonly encountered in residential settings. In general, ELF EMF  
69 levels would be highest directly under the conductors, and would decrease  
70 exponentially with distance from the line. No home or other structures may  
71 be built within the ROW of the Project, where fields would be highest.  
72 Therefore, exposures to these ELF EMF levels would be of limited duration  
73 and intermittent; for example, when walking or driving near the ROW or  
74 when crossing the ROW. Further, the magnetic field levels at the edges of the  
75 ROW and beyond would be similar to those experienced at or near other ELF  
76 EMF sources, such as the distribution lines that feed into our homes and the  
77 electrical appliances and electronics that we use daily.<sup>2</sup>

78 She also summarized extensive scientific research on this subject:

79 the reviews of research about ELF EMF that have been published by national  
80 and international health and scientific agencies are in general agreement that  
81 exposures in the community do not cause adverse health effects. These  
82 reviews provide a sufficient and reliable basis to a reasonable degree of  
83 scientific certainty upon which to conclude that the ELF EMF levels  
84 associated with the Project would not pose a health hazard to the general  
85 public.<sup>3</sup>

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<sup>2</sup> (ATXI Ex. 17.0, pp. 13: 274 – 14: 283.)

<sup>3</sup> (*Id.*, p. 14: 287 - 91.)

86 **Q. Did the Commission’s August 20, 2013 Order specifically address concerns**  
87 **regarding EMF?**

88 A. Yes. In that Order, the Commission stated its understanding that “configuring  
89 transmission lines in particular ways can limit or mitigate the associated aura and  
90 electromagnetic fields (‘EMF’).” (Order at 15.) The Commission noted that several intervenors  
91 had expressed concerns about these externalities, but found that, “[r]egardless of which routes  
92 are chosen, the Commission expects ATXI to construct the facilities in such a way as to  
93 minimize these externalities.” (*Id.*)

94 **Q. Will ATXI construct the line to minimize the risk of EMF-related externalities, as**  
95 **ordered by the Commission?**

96 A. In light of the facts presented in my testimony and that of Ms. Erdreich, it is my position  
97 that EMF does not pose a risk of health-related externalities. However, ATXI will review the  
98 proposed line configurations to assure EMF levels do not exceed the design specifications.

99 **Q. Do you have a recommendation for the Commission?**

100 A. Yes. I recommend that the Commission approve the ATXI/MSCLTF/FutureGen  
101 Stipulated Route as it did in the Order, without the Robinette modification. As the Commission  
102 recognized in its Order, concerns regarding EMF will exist regardless of where the transmission  
103 line is constructed. While ATXI intends to construct the facilities to minimize any such  
104 concerns, moving the line from its current approved location merely shifts the impact to Mr.  
105 Robinette’s neighbors.

106 **III. CONCLUSION**

107 **Q. Does this conclude your direct testimony on (Robinette) rehearing?**

108 **A. Yes, it does.**