

STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

AMEREN TRANSMISSION COMPANY OF ILLINOIS)

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,) Docket No. 12-0598
Macon, Montgomery, Morgan, Moultrie, Pike,)
Sangamon, Schuyler, Scott and Shelby, Illinois.)

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TESTIMONY OF LORI SPANGLER ON BEHALF OF JDL BROADCASTING, INC.

Direct Testimony of Lori Spangler

On Behalf of

JDL Broadcasting, Inc.

1

2 **I. INTRODUCTION**

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

4 A. My name is Lori Spangler. My business address is 627-1/2 Archer Avenue, Marshall,
5 Illinois, 62441. I have owned JDL Broadcasting, Inc. with my husband since August, 1998.

6 **II. PURPOSE OF TESTIMONY**

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

8 A. The purpose of my testimony is to detail the reasons for JDL Broadcasting's opposition
9 to construction of ATXI's proposed 345kV transmission line within 220 feet of JDL
10 Broadcasting's 500 foot tall FM radio tower and transmitting facility. As discussed below, I am
11 concerned that construction of the 345kV line so close to the tower would pose safety risks,
12 would require either expensive relocation or redesign of the tower's guy wire system or
13 replacement of the radio tower, and would create risks of interference to our broadcast radio
14 signal. For those reasons, I believe that the ATXI 345kV transmission line, if it is built at all,
15 should be constructed on ATXI's Alternate Route between the Kansas Substation and the
16 Indiana State line.

17 **III. JDL BROADCASTING AND THE LOCATION OF ITS TOWER AND**
18 **TRANSMITTING FACILITY.**

19 Q. **Please describe your business.**

20 A. JDL Broadcasting, Inc. owns WMMC-FM. WMMC is a 6,000 watt station serving Clark
21 County. WMMC is the only radio station serving Clark County with news, weather, sports
22 broadcasts and emergency notifications. We are truly a “hometown” radio station. We broadcast
23 over 80 high school sporting events (football, basketball, softball, baseball) every year. We have
24 civic leaders such as mayors, police chiefs, county sheriffs, high school coaches and city council
25 members on the air on a regular basis. We air many public service announcements promoting
26 fundraising events for members of the community in need. We play an important part in keeping
27 the inhabitants of the rural communities in our area connected. We provide a reasonably priced
28 advertising medium for many of the small businesses located in Clark County. We are the only
29 local radio station providing this type of service and we take that responsibility seriously.

30 Q. **What are your job duties and responsibilities?**

31 A. My responsibilities include managing all aspects of running an office, preparing the daily
32 commercial log, order entry and billing of clients, purchasing of office and broadcast equipment,
33 and making sure all office and broadcast equipment is functioning properly. If the equipment is
34 not functioning properly, I am responsible for troubleshooting the problem and arranging for the
35 appropriate repair work to be done. Other responsibilities include filing of Federal
36 Communications Commission (FCC) paperwork and maintenance of the JDL Broadcasting
37 tower site.

38 Q. **Where are your studio and tower located?**

39 A. The studio for WMMC is located at 627-1/2 Archer Avenue, Marshall, Illinois, 62441.
40 The tower and transmitter for WMMC are located at 13825 N. 1030th Street, Martinsville,

41 Illinois, 62442.

42 **Q. Do you own the land on which your tower is located?**

43 A. WMMC's tower is located on Dahnke's Pine Patch, a Christmas tree farm owned by
44 Doug and Yvonne Dahnke. We have a 24 year lease allowing us to place our tower and
45 transmitter facility on their property. This lease began in August, 2002 and runs through July,
46 2026.

47 **Q. Please describe your tower.**

48 A. WMMC's tower is 500 feet tall. This 500 foot tower has six sets of guy wire anchors to
49 support it. Each guy wire anchor has three guy wires attached to it for a total of 18 guy wires.
50 The tower and each guy wire anchor has a chain link fence enclosure around it to protect it from
51 public access. WMMC's tower is approximately 220 feet from the center of ATXI's proposed
52 easement as it crosses Dahnke's Pine Patch. A photograph that I took of the tower recently is
53 attached to my testimony as JDL Ex. 1.1.

54 **Q. Are any part of the tower or guy anchors located within the proposed ATXI**
55 **easement?**

56 A. Yes. The outer guy anchor on the northeast side of the tower is located approximately
57 five feet inside the proposed easement. This is the point where the guy anchor enters the ground.
58 There is at least another seven and a half feet underground that is part of the guy anchor. A
59 drawing detailing the design of the outer guy anchor is attached as JDL Exhibit 1.2. There also
60 is a fence limiting access to the guy wire anchor that is within the proposed easement area. A
61 photograph of that fence and the outer northeast guy wire anchor is attached to my testimony as
62 JDL Ex. 1.3. There are 504 other radio stations with towers located within the borders of

63 Illinois. I looked at the tower location of each of them using www.radio-locator.com. Not one
64 of the other 504 radio stations appears to have guy anchors within the easement of a transmission
65 line.

66 **IV. POSSIBLE ACTIONS TO ADDRESS THE CONFLICT BETWEEN JDL**
67 **BROADCASTING'S TOWER FACILITIES AND ATXI'S PROPOSED TRANSMISSION**
68 **LINE.**

69 **A. Construction Of A Support Pole To Relocate The Northeast Guy Wire**
70 **And Anchor.**

71 **Q. Does the location of this guy anchor within the proposed easement cause a problem?**

72 A. Yes. According to the Illinois Rivers Transmission Project website there may not be
73 structures within the easement. I would consider the guy wire anchor and the surrounding fence
74 to be a structure that would not be allowed to remain within the easement. Any additional
75 easement needed during construction could also impact the outer guy wire anchor on the
76 northwest side of the tower.

77 **Q. What could possibly be done to remedy the situation?**

78 A. Our tower was designed and constructed by Electronics Research, Inc. (ERI) based in
79 Chandler, Indiana. Because ERI designed and constructed the WMMC tower, ERI is the first
80 entity to whom I would turn for design modifications to the tower and support structure, and
81 construction of the same. To obtain a better understanding of our technical and business options,
82 I consulted Shawn Knotts, the ERI Western Region Account Manager, to determine in broad
83 parameters what kind of costs we might incur. I also consulted James Redlinger, ERI's chief
84 structural engineer, about design options. And I spoke to Charles Ellis, owner of Ellis

85 Engineering, to determine whether it might be possible to obtain FCC approval to relocate the
86 tower and transmitter facility.

87 The guy anchor could be possibly be relocated outside the easement. This would require
88 permission from Dahnke's Pine Patch before this solution is even considered.

89 If permission was granted, the guy wires for the northeast guy anchor could be attached
90 to a support pole instead of attaching them to a guy anchor buried in the ground. Normally with
91 a 500 foot tower the outer guy anchor is placed in the ground 350 feet from the center of the
92 tower. My outer guy anchors are 248 feet from the center of the tower. The inner guy anchors
93 are 175 feet from the center of the tower. The distance between inner and outer guy anchors
94 where they enter the ground is 73 feet. This means the tower is short-guyed. It was designed to
95 minimize the amount of land required by the tower support structure. I have attached as JDL
96 Exhibits 1.4 and 1.5 pictures of the inner and outer guy wire for the WMMC tower that I took
97 recently from different locations.

98 Use of a support pole to move the location of the northeast guy anchor out of the
99 easement would require the relocation of each guy anchor using additional concrete to properly
100 support the tower. New guy anchors must be buried in concrete and allowed to cure for several
101 weeks before guy wires can be attached to them. Current guy anchors and guy wires must
102 remain in position to support the tower while the concrete on the new anchors is curing. Due to
103 the fact that the distance between inner and outer guy anchors is currently only 73 feet, there is
104 limited space to increase the concrete base of the guy anchors if the outer guy anchor is moved
105 closer to the inner guy anchor. Each of the 18 guy wires on the tower would also need to be
106 replaced with a larger size guy wire. Moving the guy anchors closer together may not be

107 possible as it could compromise the capacity and structural integrity of the tower.

108 The cost of a support pole is not inexpensive. I do not have a cost estimate for the support pole
109 because it would depend on the height of the pole. The height of the pole would depend on the
110 results of a structural study to determine if the movement of the guy anchor to a pole would
111 compromise the structural integrity of the tower and the exact placement of the pole. Other
112 costs would include replacing pine trees damaged during construction and replacing fences
113 around the guy anchors. This solution is not recommended by Electronics Research, Inc., the
114 company that manufactured and erected the tower.

115 I have not commissioned a structural analysis because I did not want to incur unnecessary costs
116 until I know where the ATXI transmission line is going to be located and that it actually is
117 necessary to make design changes to the WMMC tower. However, I did consult with ERI's
118 structural engineer, James Redlinger, concerning the possibility of using a support pole to
119 relocate the guy wire and anchor that are within the prospective easement of the 345kV
120 transmission Line. Mr. Redlinger recommended against that option because he was concerned
121 that the outer and inner guy wires were already close and that any further shortening of the guy
122 wire distance from the tower would impact the structural integrity of the tower. Furthermore,
123 construction of a support pole and redesign of the guy wire support system would not address
124 other concerns, identified below, arising from the proximity of the proposed transmission line to
125 the tower and transmitting facilities.

126 **B. Relocation Or Reconstruction Of The Tower.**

127 Q. **Are there any other remedies?**

128 A. The tower could possibly be moved to a different location on Dahnke's Pine Patch or

129 moved to a piece of property owned by someone else.

130 **Q. What is involved in moving the tower?**

131 A. Any movement of the tower, no matter the distance, would require FCC approval. This
132 process is extremely rigorous, expensive and does not guarantee that approval for relocation
133 would be given. The FCC requirements include:

- 134 1. The entire principal community (city of license) must be covered with a 3.16mV/m
135 contour.
136 (47 CFR §73.315).
137
- 138 2. Minimum distance separation between stations. There must be contour protection for
139 same channel and on first, second and third adjacent channels. (47 CFR, §§73.207,
140 73.213 and 73.315)
141
- 142 3. An Environmental Assessment must be completed for the construction of any tower over
143 450 feet which would include the following determinations (47 CFR, §1.1307):
144
 - 145 a. Whether or not the tower would be located in an officially designated wilderness area.
146
 - 147 b. Whether or not the tower would be located in an officially designated wildlife
148 preserve.
149
 - 150 c. Whether or not the tower may affect listed threatened or endangered species or
151 designated critical habitats; or is likely to jeopardize the continued existence of any
152 proposed endangered or threatened species or likely to result in the destruction or
153 adverse modification of proposed critical habitats.
154
 - 155 d. Whether or not the tower may affect districts, sites, buildings, structures or objects
156 significant in American history, architecture, archeology, engineering or culture that
157 are listed, or are eligible for listing, in the National Register of Historic Places.
158
 - 159 e. Whether or not the tower may affect Indian religious sites. This requires notification
160 of every Indian Tribe in the United States.
161
 - 162 f. Whether or not the tower will be located in a flood plain.
163
 - 164 g. Whether or not the tower construction will involve significant change in surface
165 features (e.g., wetland fill, deforestation or water diversion).
166

167 h. Whether or not the tower would cause human exposure to excessive levels of
168 radiofrequency radiation.

169
170 i. Whether or not the tower would be in the path of migratory birds.
171

172 The Federal Aviation Administration (FAA) must also be notified of construction of any tower
173 that is more than 200 feet tall. Before construction may begin, the FAA must complete an
174 aeronautical study to determine the impact of a tower on aeronautical operations, procedures and
175 flight safety. (14 CFR §77.29).

176 **Q. Please discuss moving the tower on Dahnke's Pine Patch.**

177 A. Relocation of the tower to a different position on Dahnke's Pine Patch may be difficult or
178 impossible. If the power line is built, the 150 foot easement permanently removes that portion of
179 the property from use as a Christmas tree farm because no trees are allowed to grow in the
180 easement. This would likely mean increased tree planting on other areas of the property not
181 currently being utilized. There may not be a location on the property where owners would agree
182 to let JDL Broadcasting relocate the tower and guy anchors.

183 If there was a location available, this would require the tower to be dismantled and erected in the
184 new area. This could take a week or two. While that was happening, WMMC would be off the
185 air leading to a loss of revenue. The cost of relocation is not inexpensive. Shawn Knotts of ERI
186 provided an estimate for dismantling, installing new foundations, erecting the tower and moving
187 the antenna of \$125,000. Those costs do not include engineering fees, FCC lawyer fees,
188 surveyor fees, replacement costs for damage to trees on Dahnke's pine patch, removal of old
189 fences, construction of new fences, construction of a new transmitter building, construction of a
190 road to the transmitter building, electrical work at the new transmitter building, heating and air
191 conditioning at the new building and any other costs I may have forgotten.

192 If there was only a smaller area the owners were willing to lease to me, it is possible a 500 foot
193 self-supporting tower could be erected. Based on the ERI estimates I received from Mr. Knotts,
194 the cost of a 500 foot self-supporting tower is \$300,000. The removal of the existing foundations
195 and the 500 foot guyed tower is \$100,000. The installation of new foundations and tower is
196 \$100,000. That's \$500,000 and does not include engineering fees, FCC lawyer fees, replacement
197 costs for damage to pine trees on Dahnke's Pine Patch, removal of old fences, construction of
198 new fences, construction of a new transmitter building, construction of a road to the transmitter
199 building, electrical work at the new transmitter building, heating and air conditioning at the new
200 building, and any other miscellaneous costs. A copy of the email containing ERI's cost
201 estimates is attached as JDL Ex. 1.6. The cost estimates I obtained from ERI were obtained by
202 JDL Broadcasting in the ordinary course of its business and were for the purpose of assessing
203 costs and options should the ATXI transmission line be erected on the proposed ATXI Primary
204 Route. The estimates were retained as business records for the same reason.

205 **Q. Are there any issues with moving the tower to a different piece of property?**

206 A. An FM spacing analysis was performed by Charles Ellis to see if there was a possibility
207 that the tower would be able to be moved to a different piece of property without interfering with
208 the broadcast signal of another station. The result of this analysis was that there is no usable area
209 that meets all allocation criteria specified by the FCC.

210 V. SAFETY ISSUES

211 **Q. Do you have any other issues with the proposed location of the transmission line?**

212 A. Yes. The physical location of the transmission line so close to the tower also concerns
213 me from a safety standpoint. The tower is approximately 220 feet south of the Primary Route

214 according to testimony given by Donell Murphy in her response to JDL Data Request 2.01. The
215 tower is 500 feet tall. No one ever intends for their tower to collapse, but sometimes that does
216 happen. Icing or other extreme weather conditions could cause the collapse of my tower or one
217 of ATXI's support towers for the transmission line. If JDL Broadcasting's tower fell toward the
218 power line and landed on it, this would be disastrous. The tower could cause failure of the power
219 line. If an ATXI support structure fell toward my tower and landed on one of the guy wire
220 anchors that could bring down my tower.

221 Weather is not the only cause of tower failure. Tower failure can be caused by aviation-related
222 incidents. These incidents occur day or night and do not always involve bad weather. An
223 aviation-related accident would not need to cause total tower failure to prove disastrous for the
224 transmission line. Flying debris from the accident could easily cause an impact. Another cause
225 of tower failure is guy anchor failure due to corrosion of the anchor shaft.

226 There are several articles that are available on the internet which describe tower collapses and
227 their causes. Wikipedia has developed a list of catastrophic collapses of broadcast masts and
228 towers worldwide since 1912, which is available at

229 http://en.wikipedia.org/wiki/list_of_catastrophic_collapses_of_broadcastmasts_and_towers.

230 David Davies, a broadcast engineer with Consolidated Engineering, Inc., also has published an
231 article on the Society of Broadcast Engineers website entitled "North American Tower Failures,
232 Causes and Cures, available at <http://www.sbe.org/sections/documents/TOWERFAILURES.pdf>.

233 Mr. Davies lists no less than eight tower collapses that have occurred in Illinois or neighboring
234 states in the recent past, most but not all of which were related to ice accumulation and/or high
235 wind. The point is, as much as I hate to think about it, broadcast tower collapses can and do

236 happen.

237 **Q. Do you have any other concerns with the location of the transmission line near your**
238 **tower?**

239 A. Yes. The tower, transmitter building and guy wire anchors need to be able to be accessed
240 safely at all times. The high magnetic field near the power line is a concern. Metal tools used by
241 tower crews possibly could arc when used on the tower and guy wire anchors. Fenced areas
242 surrounding the tower and guy wire anchors need to be able to be safely unlocked. Grounding
243 wires on the guy wire anchors occasionally break and need to be replaced. Weed killer needs to
244 be applied several times a year around the tower and guy wire anchors. Safety of anyone
245 accessing any portion of the tower or guy wire anchor areas is of the utmost importance.

246 Due to the fact that the studio is in Marshall and the tower is located in Martinsville, we utilize a
247 studio transmitter link (STL) to send our signal from Marshall to Martinsville where it is
248 broadcast across the listening area. As the signal is sent from the studio to the tower it crosses
249 ATXI's proposed primary route. Possible disruption of that signal as it is being sent is a concern
250 as the placement of support towers for the power line is unknown. If the signal does not reach
251 the tower, it is unable to be broadcast.

252 Next to the tower is WMMC's transmitter building. This building houses sensitive electronic
253 equipment including the FM transmitter and STL receiver. The possibility exists that the close
254 proximity of the proposed transmission line to the electronic equipment would cause interference
255 that could be transmitted on the FM signal to the public. This would cause the loss of listeners
256 and advertising revenue. It would also be detrimental to the small businesses advertising their
257 products and services with us.

258 **VI. CONCLUSION**

259 **Q. What are your conclusions regarding the location of the proposed transmission line**
260 **near the WMMC tower and transmitter facility?**

261 A. The location of the proposed transmission line so close to the WMMC tower causes
262 issues with the placement of the northeast outer guy wire anchor that are extremely expensive to
263 remedy or may be impossible to correct without relocating the tower, which may not be possible.
264 The close proximity of the tower to the transmission line causes major safety issues in case of
265 tower failure. The STL link from the studio to the tower may be broken causing a disruption in
266 programming. The close proximity of sensitive broadcast electronic equipment to the power line
267 may cause interference that would be transmitted to the public causing loss of listeners and
268 advertising revenue. The location of a 345kV transmission line so close to a 500 foot radio
269 tower was not well thought out, and could be dangerous. While ATXI should bear the full cost
270 of any remedy to problems caused by the construction of the transmission line, the better solution
271 is not to locate the proposed 345 kV transmission line anywhere close to a 500 foot radio tower
272 whose proper functioning is essential to the financial viability of the radio station owner. This is
273 particularly true given the essential public interest function our radio station provides for the
274 City of Marshall and the surrounding Clark County Community.

275 **Q. Does this complete your testimony?**

276 A. Yes.