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Witness: Christina Reichert
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Sponsoring Party: Matthew and
Christina Reichert
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. EA-2014-0207

REBUTTAL TESTIMONY OF

CHRISTINA REICHERT

ON BEHALF OF

MATTHEW AND CHRISTINA REICHERT

September 14, 2014

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1 **I. INTRODUCTION**

2 **Q: What is your name?**

3 A: Christina M. Reichert.

4 **Q: What is your occupation?**

5 A: Bed & Breakfast Proprietress.

6 **Q: What is your home address?**

7 A: 25589 Fort Orleans Avenue, Brunswick, MO 65236.

8 **Q: What is your spouse's name?**

9 A: Matthew D. Reichert.

10 **Q: How long have you lived at this address?**

11 A: Matt has lived here for his entire life. I have lived here since we married.

12 **Q: Did you or Matt's family own this property prior to your occupancy?**

13 A: Yes! Matt's great-grandfather purchased the original 280 acres in 1871.

14 **Q: How long has this property been in Matt's family?**

15 A: 143 years. This farm has been in Matt's family since 1871. We have been
16 recognized as a Century Farm and want to pass this rich family heritage on to our
17 children, the fifth generation of farmers. Missouri has a rich agricultural heritage that is
18 being compromised by this project. We, along with approximately 700 other landowners,
19 are being asked to bear this unfair burden.

20 **Q: Are you for or opposed to the application for a Certificate of Convenience by**
21 **Grain Belt Express Clean Line (GBE)?**

22 A: Matt and I are very much opposed to the Grain Belt Express Clean Line

1 transmission line and ask the Public Service Commission to please DENY the Certificate
2 of Convenience and Necessity.

3 **Q: Why do you oppose GBE's transmission line?**

4 A: We feel that GBE's transmission line will undermine the rich agricultural history
5 the Reichert family has built over the past 143 years, will forever mar the landscape,
6 affect our quality of life and potentially our health, negatively impact our Bed &
7 Breakfast, hinder development of our farmland, restrict and in some cases negate farming
8 practices, increase the percentage of our farm tied up in easements to 30%, diminish land
9 and home values, have a negative impact on the environment, and potentially affect the
10 use of 21st century technology.

11 **II. LOSS OF PROPERTY RIGHTS**

12 **Q: What is the main reason for opposing the transmission line?**

13 A: Originally, it was the dramatic visual impact it would have on our farm. However,
14 as we learned more about the line, educated ourselves about the far reaching affects of
15 Clean Line's HVDC transmission we have come to the conclusion that, at the most basic
16 level, this project threatens all Missouri landowners' private property rights.

17 **Q: What do you think will happen if GBE is granted the Certificate of
18 Convenience and Necessity ?**

19 A: If GBE is granted the Certificate of Necessity and Convenience, they will have
20 the power to exercise eminent domain, stripping landowners of the freedom to negotiate a
21 fair price for the use of their land. Steve Fairchild said it well in his County Corner piece
22 in Today's Farmer: "I bring up Kelo to highlight what happens when we stretch the

1 meaning of the Fifth Amendment. What happened in New London, Conn wasn't so much
2 property takings for the public good, it was property taking for a politically connected
3 few sold as property takings to fulfill a public purpose. In this case, private property was
4 condemned on public relations and a promise. Turns out both of those things failed.”¹ A
5 great deal of PR has gone into this project. From our research, there does not seem to be
6 much substance to their promises. We do not want Clean Line gambling with our
7 children's future and the future of our neighbors, friends, and fellow Missourians.

8 **III. REDUCTION IN PROPERTY VALUES**

9 **Q: What is the next most important reason for opposing the transmission line?**

10 A: It has always been our dream that one or several of our children would return to
11 the farm, build a home and raise their children. Our youngest daughter, Kaitlynn, lives
12 with us and owns and operates a successful business in Brunswick. The Clean Line would
13 mar the view of the location she has had picked out for her home since she was a little
14 girl. Our youngest son, Gabriel, loves the farm and wants to continue the farming
15 heritage. One of the prettiest locations for a home will be destroyed by the Clean Line.

16 **Q: How will the transmission line affect the value of your property?**

17 A: That is a huge concern. We did a complete remodel of the original home-place in
18 1987 and another major remodel of our Bed & Breakfast in 2012. We have a lovely home
19 with six bedrooms and five bathrooms situated in the rolling hills of northern Missouri. It
20 is a very pastoral setting, cattle grazing in lush pastures, wide-open spaces, star-studded
21 skies and the tranquility of country life. We never would have invested that kind of

1 Steve Fairchild, *POWER LINE, PIPE LINE, PUBLIC USE, PRIVATE TAKINGS*, Today's Farmer, March 21, 2014, available at <http://todaysfarmermagazine.com/mag/country-corner/846-power-line-pipe-line-public-use-private-takings>.

1 money with the prospect of a 600 kV HVDC transmission line located outside our front
2 door.

3 **Q: What will be the dollar amount of the reduction?**

4 A: We are not sure how it will devalue the property since there are no HVDC lines
5 this large in the United States. We have contacted an appraiser, Boyd Harris, to assist us
6 in the process. He has experience with the negative impact on the ability to sell property
7 located near a transmission line.² The GBE HVDC line will definitely have an impact on
8 our property value.³ Based on Mr. Harris' experience, the devaluation will be probably be
9 significant.⁴

10 **Q: Do you have any examples of the negative impact of proximity to a HVDC**
11 **line?**

12 A: I ran across this article about the purchase of 100 homes by BC Hydro which “put
13 an end to the long-running dispute with some homeowners about a high-voltage
14 transmission line it put up near the homes.”⁵ The article goes on to say, “The homes went
15 on the market last September at **discounts of about \$70,000 or more.**”⁶ (emphasis
16 added). This article is relevant to our situation since GBE cites BC Hydro HVDC lines in
17 Vancouver to support their project.⁷ It is not fair that the landowner has to bear the
18 financial burden of decreased land values when it is the transmission line developer that

2 Rebuttal Testimony of Boyd L Harris on Behalf of Matthew and Christina Reichert, Case No. EA-2014-0207, September 15, 2014.

3 *Id.* at 2:16-3:15

4 *Id.* at 2:16-3:1

5 *Tsawwassen homes selling fast: BC Hydro*, CBC News, July 21, 2010, available at <http://www.cbc.ca/news/canada/british-columbia/tsawwassen-homes-selling-fast-bc-hydro-1.961436>.

6 *Id.*

7 *Understanding Electric and Magnetic Fields in Association with HVDC Transmission Lines*, Direct Testimony of Dr. Anthony Wayne Galli, P.E. on Behalf of Grain Belt Express Clean Line LLC, Schedule AWG-8, Page 4.

1 caused the problem. If the Clean Line is approved, time will tell if the land values are
2 affected. It is not equitable to expect the landowner to assume the financial loss. It is
3 wrong to force speculation on a landowner through eminent domain. There should be
4 appropriate compensation.

5 **Q: How should that compensation be determined?**

6 The article "Condemnation for Energy Corridors: Selected Legal Issues in Acquisitions
7 for Pipeline, Transmission Lines and Other Energy Corridors"⁸ discusses valuation for
8 property takings. The discussion includes the element of fear of health effects as part of
9 valuation process. The article states that the "majority view among courts is that evidence
10 of fear in the marketplace is admissible with respect to the value of the property taken
11 without proof of the reasonableness of the fear."⁹ The article further states that the majority
12 view "appears to be the best approach because it appropriately places the focus on the impact
13 of the alleged fear on property value, and shields the court from having to engage in analysis
14 of competing scientific views on issues where no scientific consensus exists, such as the link
15 between EMF and cancer and other health issues."¹⁰

16 **IV. NEGATIVE IMPACT ON BUSINESS**

17 **Q: Are there any other reasons why you oppose the transmission line?**

18 A: This project will dramatically affect our Bed & Breakfast business.

19 **Q: When did you open your Bed & Breakfast (B&B)?**

20 A: 1994.

8 Eleasalo (Salo) V. Ale, *Condemnation for Energy Corridors: Selected Legal Issues in Acquisitions for Pipeline, Transmission Line and Other Energy Corridors*, Faegre & Benson LLP, February 2009, available at www.faegrebd.com/webfiles/Energy%20Corridors%20White%20Paper.pdf.

9 *Id.* at 11-12.

10 *Id.* at 12.

1 Q: How many rooms are in your B&B?

2 A: We have a walk-out basement Bed & Breakfast in our home with a fully furnished
3 kitchen, living room, fireplace, central air and heating, two bedrooms with private baths.
4 We also have an additional room, with a shared bath, on the main floor of our home.

5 Q: Where do your guests come from?

6 A: Many of our guests are from Missouri and come for a weekend get-away or farm-
7 stay. Many come from all over the United States for weddings, family reunions, etc.
8 However, we have had B&B guests from all over the world stay at our B&B over the past
9 20 years in addition to the students from the English as a second language program at the
10 University of Missouri, Columbia. As a result of our international guests interest in the
11 farm, our focus has grown in the international market. We have been working to develop
12 an extended stay opportunity for those interested in experiencing the American culture,
13 improve their English, and learn about agriculture.

14 Q: How has your occupancy increased?

15 A: The last couple of years the occupancy has increased to over _____.

16 Q: How will the GBE HVDC line dramatically affect your B&B?

17 A: We expect to see a drop in occupancy as a result of this HVDC transmission line.
18 GBE claims there are no health risks associated with high-voltage transmission lines.¹¹
19 However, the public believes that there is a health risk. The statements at the public
20 hearings confirm this perception.

21 Q: Why does this perception matter?

22 A: Most people would not be able to tell the difference between an AC transmission

¹¹ *Guidebook for Missouri Leaders*, Grain Belt Express Clean Line, April 2014.

1 line and a DC transmission line. We rely upon referrals from previous guests and word of
2 mouth in our community. Sycamore Valley Farm B&B will no longer be the wholesome
3 escape to the “family farm” that our guests so enjoy. It will more akin to an industrial
4 farm and commercial enterprise.

5 **Q: Do you have other concerns?**

6 A: The HVDC will forever mar the landscape. Up to this present day, our guests first
7 impression of Sycamore Valley Farm is a gorgeous rolling landscape with cows grazing
8 in lush green pastures, corn growing in the bottom ground, tall stately trees, and
9 occasional wildlife. If the GBE transmission line is built, that view will include an
10 menacing 150’ lattice tower structure in our “front yard.” As guests travel up our lane and
11 round the corner to the B&B entrance they will take in the dreadful view of a 110’
12 monopole towering above the gorgeous bottom ground and the second imposing 150’
13 lattice tower structure standing watch in the west. Not the first impression our guests
14 have enjoyed for the past 20 years. The drawing in Schedule CU-1 of the Testimony of
15 Christina Umbriaco illustrates the massive intrusion of the power line into our family
16 environment. When our guests eat breakfast, our kitchen overlooks the bottom area
17 where the towers will be located. When our guests sit on the patio, the HVDC
18 transmission line will be their view. We will lose our pastoral setting.

19 **Q: Any other concerns regarding the B&B**

20 A: Yes! Our guests often take walks down to the creek or head over to the pond for
21 some fishing or to try out the rope swing. We often take guest on hayrides to show them
22 the farm and cattle operation. If the transmission line is built, all of these activities will

1 take place in the shadow of these imposing structures. Not only will we lose the beautiful
2 view, but the corona noise will destroy the peace and quiet appreciated by so many. In
3 addition, there will be constant corona noise. For an example, refer to the video at
4 <https://www.youtube.com/watch?v=XR1-ZUA7EAo> - Crackling DC Powerline. The
5 Oak Ridge National Laboratory study cited by Dr. Galli states “In contrast, audible noise
6 from dc transmission lines is generally greater during fair weather than for rain.”¹² The
7 study further states “There is also some indication that audible noise from a dc line may
8 be more irritating to people than ac line noise of the same magnitude. This may also be a
9 factor in especially quiet locations.”¹³ The line will have a negative impact on guests
10 looking for a quiet place of peace and solitude.

11 **V. INEQUITABLE TREATMENT OF LAND OWNERS**

12 **Q: Why do you think that GBE is treating land owners inequitably?**

13 A: The issue of easements and compensation is a complex subject. An individual
14 should have as much information as possible to negotiate a fair settlement. Grain Belt
15 has not demonstrated the intent to treat all land owners equally and equitably through
16 legally binding agreements. They are taking advantage of individuals' lack of knowledge
17 concerning possible negotiable issues and actual legal rights.

18 First, Grain Belt has already been soliciting and signing easement and compensation
19 agreements with land owners. The full extent of the issues with the transmission line

12 *HVDC Power Transmission Environmental Issues Review*, Oak Ridge National Laboratory, April 1997, Direct
Testimony of Dr. Anthony Wayne Galli, P.E. on Behalf of Grain Belt Express Clean Line LLC, Schedule AWG-
7, Page 65.

13 *Id.* at 67.

1 have only begun to be identified. The individuals are operating without full knowledge
2 of the facts.

3 Second, Grain Belt has a chapter Agricultural Impact Mitigation in their "Guidebook For
4 Missouri Leaders" that discusses "ways we will minimize and mitigate impacts to
5 agricultural lands."¹⁴ This is not a legally binding document. Their standard Easement
6 Agreement does not include explicit mitigation practices. When our attorney was
7 discussing mitigation issues with Paula Priest, she stated that Grain Belt wants to treat all
8 landowners in Kansas, Missouri, Illinois, and Indiana with equal fairness. Then she
9 directed us to view the YouTube video on the Grain Belt web site. A YouTube video is
10 not a legally binding document.

11 Third, Illinois law requires the execution of an Agricultural Impact Mitigation Agreement
12 (AIMA) between Grain Belt and the Illinois Department of Agriculture. The AIMA
13 establishes the minimum standard for restoring the productivity of all landowners
14 property. Individual landowners can still negotiate higher standards. The AIMA for
15 Grain Belt's sister company Rock Island Clean Line (RICL) is included in Schedule CR-5
16 as a reference.¹⁵ Grain Belt's AIMA will probably be similar to the RICL's AIMA. The
17 AIMA provides specific requirements such as notification times and depths for soil

14 *Guidebook for Missouri Leaders*, Grain Belt Express Clean Line, April 2014.

15 *AGRICULTURAL IMPACT MITIGATION AGREEMENT between ROCK ISLAND CLEAN LINE LLC and the ILLINOIS DEPARTMENT OF AGRICULTURE pertaining to the construction of the ROCK ISLAND CLEAN LINE HVDC AND RELATED AC FACILITIES OWNED BY ROCK ISLAND CLEAN LINE LLC IN ILLINOIS*, May 29, 2013, Schedule CR-5 at 47-49.

1 restoration. These requirements are legally binding. Paula stated that we could
2 incorporate those requirements into our easement agreement. However, we should not
3 have to request the addition of those requirements. If Grain Belt was serious about
4 treating landowners equitably, those conditions would have already been written into the
5 Easement Agreements. Instead Grain Belt has left those requirements out of their basic
6 agreement. Grain Belt is taking advantage of the landowners who do not have access to
7 legal representation or information about what can be negotiated into an easement
8 agreement.

9 **VI. INACCURATE PUBLIC INFORMATION**

10 **Q: Have you attended any of the GBE meetings?**

11 A: Yes, at the Knights of Columbus Hall in Brunswick, Missouri.

12 **Q: What information was provided?**

13 A: The Clean Line representative showed us maps of the proposed route, discussed
14 our particular farm and gave us an overview of the project. Grain Belt Express was to
15 build a 600 kV HVDC transmission from Kansas that would cross Missouri and take
16 renewable energy (wind) to the East Coast grid. They explained the tower heights and
17 Right of Way (ROW). We received the "Clean Line Energy Partners Fact Sheet". They
18 explained that the DC lines were required to be "31' off the ground at the lowest point"¹⁶,
19 which is higher than the requirement for AC lines and that Clean Line was adding 3 feet
20 as an added safety measure.

16 Clean Line Energy Partners Fact Sheet.

1 **Q: What was the first instance where Grain Belt was provided inaccurate**
2 **information?**

3 A: We were told that that the line would not transmit other forms of energy besides
4 wind energy. The explanation was that there was no coal or water in Kansas, only wind.
5 John, a representative from Grain Belt, told me “No” when I asked if someone could
6 hook into the line along the way. We subsequently learned through our own research that
7 there were significant power plants in Kansas such as the Holcomb facility. We also
8 learned that the approval by the Federal Energy Regulatory Commission (FERC)
9 required Grain Belt to maintain an bidding process open to all power generators for
10 access to the proposed line.

11 **Q: Was there a second example of inaccurate information?**

12 A: When we asked the Clean Line representatives if the cable could be buried they
13 said, “No,” and explained the cable could not be insulated at that voltage. In my research
14 I found an article about burying high voltage lines at the Responsible Electricity
15 Transmission for Albertans web site.¹⁷ Their fact sheet states "There are hundreds of
16 other examples from around the world of successfully buried high voltage power lines.
17 One of these, completed in 2000, was a 500kV cable buried in Tokyo, Japan over a
18 29.8km distance (Ynemoto et al. 2003). The technology has been available for several
19 decades."¹⁸ Considering how this power line is going to forever mar the landscape across
20 the country, Grain Belt is being irresponsible by dismissing this option as impossible.

17 *Burying High Voltage Lines*, Responsible Electricity Transmission for Albertans,
<http://retasite.wordpress.com/burying-high-voltage-lines/>.

18 *Power Lines - Myths vs. Facts, Burying High Voltage Power Lines*, Responsible Electricity Transmission for
Albertans, available at <http://retasite.files.wordpress.com/2011/07/fact-8-burying-updated-jan-2010.pdf> .

1 **Q: Was there a third example of inaccurate information?**

2 A: When meeting with GBE's land agent, Paula Priest on May 16, 2014, I asked if
3 the Clean Line would run at full capacity 100% of the time. She, in essence said, Yes!
4 The wind always blows in Kansas. When we challenged that the wind doesn't always
5 blow and would Clean Line transmit other forms of energy, she said she would do some
6 checking and get back to us.

7 **Q: Did Ms. Priest provide additional information about this issue?**

8 A: On August 25, 2014, Paula met with our Attorney to provide answers to our open
9 questions. Once again, Paula asserted there was more than enough wind to fully supply
10 the transmission line and that only renewable energy would be transmitted along the line.
11 She went on to say that other forms of energy would not be transmitted on the line
12 because the converter station would be the "sole property" of the Grain Belt. She stated
13 that other power generators would have to build their own converter stations. However,
14 the approval by the Federal Energy Regulatory Commission (FERC) prohibits Grain Belt
15 from discriminating against power generators in the bidding process. That would include
16 connecting to the converter station. In addition, Grain Belt is marketing this line as
17 transporting clean energy. However, other power generators such as the recently
18 approved coal-fired Holcomb facility could win the bidding process to transport energy
19 on the line. The Holcomb facility is only located approximately 70 miles from the
20 western terminus of the proposed Grain Belt transmission line.

21 **Q: Why is this inaccuracy a concern?**

22 A: As a business person, I understand the importance of utilizing equipment and

1 resources to their fullest capacity. Having a HVDC transmission line that would not run
2 as close to capacity as possible just does not make sense. Although Kansas is a very
3 windy state, it does not have constant winds. When there is no wind, the wind turbines
4 are not generating energy. Either the wind turbines will use generators to continue to
5 produce electricity, hence it is no longer “renewable” or “clean” energy, or Clean Line
6 plans to carry another source of energy. First, it is troubling that our land agent does not
7 seem to understand basic business principles. Second, the “Clean Line” may not be as
8 “clean” as they would like us to believe. The FERC has ruled that Grain Belt may not
9 discriminate in the bidding process. It is possible that Clean Line could transmit a
10 significant amount of so called "dirty energy". We believe it is unethical and wrong for a
11 company to exploit Missouri citizens' interest in renewable energy by telling "half truths".

12 **Q: Was there a fourth example of inaccurate information?**

13 A: Dr. Anthony Wayne Galli states “Other lattice structure types, such as guyed 'vee'
14 and guyed lattice mast structures, have also been identified in the preliminary engineering
15 performed by POWER as being suitable structures. Grain Belt Express has not made a
16 final determination as to the predominant structure type so that landowner preferences,
17 project costs, local terrain, land use, and other relevant factors can be considered when
18 making a final selection. It is likely that a mix of structures will be utilized to help
19 maximize flexibility and minimize costs and impacts with respect to varying terrains and
20 land uses.”¹⁹ Guyed wire structures were never mentioned in any of the Grain Belt
21 Express literature I have read or any of the conversations with Clean Line

19 Galli, 7:20-8:3

1 representatives.²⁰ Grain Belt representatives at the Brunswick meeting, when asked by
2 my husband, stated that guyed wire towers would not be used. This is a blatant
3 misrepresentation that has an important bearing on land use. Paula Priest told us that
4 final placement of the towers and size would be determined before construction started
5 but after the easement is signed. The farmer will not know the exact farming situation he
6 will have until the project is completed. The size, placement, and supporting guy wires of
7 the towers are critical pieces of information for negotiating a fair and equitable easement
8 agreement. The landowner is at a great disadvantage not having this information.

9 **Q: Was there a fifth example of inaccurate information?**

10 A: Dr. Galli states that EMFs do not pose a health risk "based based primarily on the
11 2006 report produced by the Oak Ridge National Laboratory attached as Schedule AWG-
12 7."²¹ The cover of the report is stamped "Received May 29, 1997, OSTI"²² and page 4
13 states "Published April 1997."²³ Dr. Galli's testimony misrepresents this report as being
14 recent when it is in fact 17 years old.

15 **Q: Was there a sixth example of inaccurate information?**

16 A: Grain Belt states in the "Understanding Electric and Magnetic Fields" booklet that
17 "Clean Line's management team includes highly regarded professionals in the electric
18 energy industry. Collectively, the clean line team has organized the financing of billions
19 of dollars of projects and managed the development and construction of thousands of
20 megawatts of generation and transmission lines."²⁴ This booklet makes it sound like

20 *Guidebook* at 42-44.

21 Galli at 27:4-7.

22 Galli, Schedule AWG-7.

23 *Id.* at 4.

24 Galli, Schedule AWG-8 at 17.

1 HVDC lines are a common occurrence throughout North America. When looking at the
2 map on page 4, there appear to be only 11 transmission lines throughout all of North
3 America.²⁵ Of those 11 transmission lines, only two of them appear to be of the same
4 scope as the Grain Belt project. From the map, it is not possible to tell the voltage that is
5 transmitted through the existing HVDC lines. However, it is my understanding that the
6 Clean Line is proposed to be the largest transmission line in the world. Grain Belt later
7 states "HVDC has been employed in many transmission projects worldwide."²⁶ The term
8 "many" is a relative term and its use here gives the impression that HVDC is a common
9 occurrence. This is a highly speculative venture and it is being marketed as an everyday
10 occurrence.

11 **Q: Was there a seventh example of inaccurate information?**

12 A: There are misrepresentations regarding the static magnetic fields. The
13 "Understanding Electric and Magnetic Fields" booklet states that "Static magnetic field
14 levels below overhead DC transmission lines are similar to or less than the static
15 magnetic field of the Earth."²⁷ According to the chart on page 10, the Earth's static
16 magnetic field is 300 to 700 mG but the DC lines magnetic field at 100% is nearly 900
17 mG.²⁸ This is not "similar to or less than" the earth's magnetic field. The booklet further
18 states "Exposure to static magnetic fields standing under a +/-600 kV HVDC
19 transmission is less than 900 mG."²⁹ This is contradictory to the above statement.

20 **Q: Was there a eighth example of inaccurate information?**

25 *Id.* at 4.

26 *Id.* at 15.

27 *Id.* at 9.

28 *Id.* at 10.

29 *Id.* at 12.

1 A: David Berry states that "All of these benefits will be provided to the public
2 without any socialization of transmission costs to ratepayers since only users of the line
3 will be charged for the costs of the Project."³⁰ Mr. Berry is either being disingenuous or
4 lacks basic business knowledge. He ignores a basic business fact that profitable entities
5 pass their costs onto the end consumer. Missouri consumers of Grain Belt's clean energy
6 will ultimately pay both the kWh price for the wind generated electricity and an allocated
7 portion of the operating and capital costs for the Clean Line.

8 **VII. POTENTIAL SAFETY CONCERNS**

9 **Q: What is one of your safety concerns?**

10 A: Working around the DC lines increase potential for injury since "DC fields can
11 give rise to shocks to persons who contact large metallic objects, such as a truck, near the
12 transmission line."³¹ The reaction to such a shock may cause an individual to stumble,
13 fall, or cause other injuries.

14 **VIII. UNDETERMINED HEALTH RISKS**

15 **Q: Why do you say that GBE is misrepresenting the health risks?**

16 A: Dr. Galli states "Furthermore, the IARC, the WHO, the ICES and the ICNIRP
17 (cited above) have all concluded that the current body of research does not indicate that
18 strong static electric or magnetic fields cause long-term health effects."³² This is a
19 misleading statement leading one to believe there has been decades of extensive research.
20 The WHO 2006 study "Environmental Health Risk 232, Static Fields" states

21 "There are no studies of exposure to static electric fields from which to make any

30 Direct Testimony of David Berry Executive President - Strategy and Finance on Behalf of Grain Belt Express
Clean Line LLC at 4:32-34.

31 Galli, Schedule AWG-7 at 22.

32 Galli at 27:7-9.

1 conclusion on chronic or delayed effects. IARC (2002) noted that there was insufficient
2 evidence to determine the carcinogenicity of static electric fields."³³ For static magnetic
3 fields "the available evidence from epidemiological and laboratory studies is not
4 sufficient to draw any conclusions about chronic and delayed effects. IARC (2002)
5 concluded that there was inadequate evidence in humans for the carcinogenicity of static
6 magnetic fields, and no relevant data available from experimental animals. They are
7 therefore not at present classifiable as to their carcinogenicity to humans."³⁴ The WHO
8 Health Risk Assessment goes on to conclude "This risk assessment for static fields has
9 been conducted with all the scientific information available. This has involved identifying
10 whatever health risks can be determined and quantified. Nonetheless, the severe lack of
11 information has meant that it has not been possible to properly characterize the risks from
12 static field exposure. There are indications, from modeling studies and/or some
13 observations in people, of field levels that could elicit acute effects. However, the
14 information on long-term and delayed effects is insufficient to characterize risk, only
15 general statements can be made, and these rely on very few well-conducted studies.
16 Having identified large gaps in knowledge, research recommendations have been made in
17 Chapter 1."³⁵

18 The WHO states in "Static Electric and Magnetic Fields" that "It is not possible to
19 determine whether there are any long-term health consequences even from exposure in
20 the millitesla range because, to date, there are no well-conducted epidemiological or
21 long-term animal studies. Thus the carcinogenicity of static magnetic fields to humans is

33 *STATIC FIELDS, Environmental Health Criteria 232*, World Health Organization, 2006 at 216, available at http://www.who.int/peh-emf/publications/EHC_232_Static_Fields_full_document.pdf?ua=1.

34 *Id.*

35 *Id.* at 217.

1 not at present classifiable (IARC, 2002).³⁶ It would seem that the WHO is not willing to
2 say that there are no health risks associated with even small amounts of exposure to static
3 magnetic fields.

4 **Q: Is there further evidence of the misrepresentation of the health risks?**

5 Grain Belt claims in their "Understanding Electric and Magnetic Fields" that health
6 agencies "have all concluded that the current body of research does not indicate that strong
7 static electric or magnetic fields cause long-term health effects."³⁷ This is a direct
8 contradiction to the WHO report cited in the Clean Line literature.

9 **Q: Are there any other issues with respect to GBE's representations about the**
10 **health risks?**

11 A: Grain Belt states "The scientific literature establishes that DC transmission lines
12 do not pose health or safety issues for humans or animals."³⁸ The WHO study "Effects of
13 HVDC Transmission Lines on Dairy Cattle" states that two studies have been
14 conducted.³⁹ The first studied the health of dairy cows located near a +/-400 kV CPA/UPA
15 dc transmission line. The closest herd was within 1/4 mile of the line and the farthest
16 between 6 and 10 miles. According to the study, "Health and productivity of the herds
17 were found to be the same before and after energization, and were also found to be
18 unrelated to distance of the herds from the transmission line."⁴⁰ The more direct test for
19 effects of the HVDC transmission line were conducted. "Simulated farming and ranching

36 *Static Electric and Magnetic Fields*, World Health Organization, March 2006, available at
<http://www.who.int/peh-emf/publications/facts/fs299/en/>

37 *UNDERSTANDING ELECTRIC AND MAGNETIC FIELDS OF HVDC LINES*, Clean Line Energy Partners, May
2011.

38 *Guidebook* at 123.

39 *Effects of HVDC Transmission Lines on Dairy Cattle*, World Health Organization, Page 17.

40 *Id.*

1 conditions were set up and carefully maintained directly under the +/- 500 kV Pacific
2 Intertie in central Oregon.”⁴¹ This study was conducted for three seasons with “no
3 deleterious effects on cattle production or health status could be attributed to exposures
4 from the transmission line.” These studies are not representative of the proposed
5 transmission line or real farming operations. First, the study lines used, respectively, 400
6 and 500 kV lines. Second, three seasons or three quarters of a year is not representative
7 of a real farming operation. The livestock may spend 12 to 15 years around or under
8 Clean Line's +/-600 kV transmission line.

9 **IX. UNDERSTATED AND MISLEADING COSTS**

10 **Q: Why do you state that the costs for wind energy are misleading?**

11 A: David Berry states that "High capacity factor wind energy sourced from western
12 Kansas is today the cheapest form of renewable energy in the Midwest and is fully
13 competitive with the cost of generating electricity from fossil-fueled power plants.”⁴²
14 What he fails to mention is that the cost includes the Production Tax Credit (PTC). The
15 Union of Concerned Scientists, advocates for clean energy, state that the "cost of
16 electricity from the wind has dropped from about 25 cents/kWh in 1981 to averaging near
17 4 cents/kWh in 2008, with 50 percent of projects in the range of 3.3 to 5.2 cents/kWh
18 **(including the federal production tax credit).**"⁴³ (emphasis added). However, the PTC
19 has not been renewed by Congress and phases out after 10 years. "The tax credit lasts for
20 10 years after a project is complete, so most of the wind energy produced in the U.S. will

41 *Id.*

42 Berry at 5:3-6

43 *How Wind Energy Works*, Union of Concerned Scientists, October 21, 2013, *available at*
http://www.ucsusa.org/clean_energy/our-energy-choices/renewable-energy/how-wind-energy-works.html.

1 continue to receive federal support for at least a few more years. And any wind turbine
2 that was under construction before the end of last year will still get a full decade of
3 credits."⁴⁴ The per kWh amount will inevitably increase and may no longer be such a
4 "bargain" for Missouri's users of electricity. Experiences in other countries shows that
5 electricity rates climb dramatically when wind energy is implemented. Dawn Davis, for
6 Huntington County Concerned Citizens, lists the following increases: Denmark's rates
7 have tripled in 20 years, Germany's rates have increased more than 80% since 2000, and
8 England's rates have risen 50%.⁴⁵

9 **X. SUMMARY**

10 **Q: What are your final comments?**

11 A: Grain Belt's inconsistencies, marginalizing the studies, giving just part of the story
12 in regards to the type of structures, etc., may not seem like a big deal. However, Grain
13 Belt Express is asking landowners to entrust over over 5,000 acres in easements to their
14 care. Farmers must pay attention to the details or it can have detrimental affects. Missouri
15 should not be required to entrust its precious resources to a company that either
16 does not pay attention to details or is engaged in an deliberate effort to mislead Missouri.

17 **Q: Do you have any additional comments to add to your Testimony?**

18 A: No.

44 Matthew Philips, *Wind Energy Companies Prepare for Tax Credit's End*, BusinessWeek, January 9, 2014, available at <http://www.businessweek.com/articles/2014-01-09/wind-energy-companies-prepare-for-tax-credits-end>.

45 Dawn Davis, *Wind Farms Come With Big Costs*, Huntington County Concerned Citizens, April 17, 2014, available at <http://www.huntingtonccc.org/content/wind-farms-come-with-big-costs.html>.

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of the Application of Grain Belt Express)
Clean Line LLC for a Certificate of Convenience and)
Necessity Authorizing it to Construct, Own, Operate,)
Control, Manage, and Maintain a High Voltage, Direct) Case No. EA-2014-0207
Current Transmission Line and an Associated Converter)
Station Providing an interconnection on the Maywood -)
Montgomery 345 kV Transmission Line)

AFFIDAVIT OF CHRISTINA REICHERT

STATE OF MISSOURI)
) SS.
COUNTY OF CHARITON)

Christina Reichert, being duly sworn under oath, states the following:

1. My name is Christina Reichert.
2. My Rebuttal Testimony is attached to this Affidavit and made a part of this Affidavit for all purposes.
3. My Rebuttal Testimony consists of 24 pages including cover sheet and Affidavit and has been prepared in written form for introduction as evidence in Case No. EA-2014-0207.
4. I swear and affirm that my answers contained in the Rebuttal Testimony in response to those questions in the Testimony are true and accurate to the best of my knowledge, information, and belief.
5. I swear and affirm that any attachments to the Rebuttal Testimony are true and accurate to the best of my knowledge, information, and belief.

Christina Reichert
Christina Reichert

In witness whereof, I have hereunto subscribed my name and affixed my official seal on
Sept. 14, 2014

Jennie Drag
NOTARY PUBLIC

My Commission Expires:

