

Exhibit No.: _____
Issues: Need for the Project
Witness: Donald W. Shaw
Sponsoring Party: Show-Me Concerned Land Owners
Type of Exhibit: Rebuttal Testimony
Case No.: EA-2016-0358
Date Testimony Prepared: January 24, 2017

**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-2016-0358
Current Transmission Line and an Associated Converter)
Station Providing an Interconnection on the Maywood-)
Montgomery 345 kV Transmission Line)

**REBUTTAL TESTIMONY OF
DONALD W. SHAW
ON BEHALF OF THE
SHOW ME CONCERNED LANDOWNERS
JANUARY 24, 2017**

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2 **OF THE STATE OF MISSOURI**
3 **REBUTTAL TESTIMONY OF**
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7 **JANUARY 24, 2017**

8
9 **I INTRODUCTION**

10 **Q. Please state your name and address?**

11 A. My name is Donald W. Shaw. My address is 2409 Bowe Lane Dr., Jefferson City,
12 Missouri 65109.

13 **Q. On behalf of what party in this case are you testifying?**

14 A. I am testifying on behalf of the Show Me Concerned Landowners.

15 **Q. What is your education and professional background?**

16 A. I retired from Central Electric Power Cooperative. Prior to my retirement, I was Chief
17 Executive Officer of Central.

18 I attended the University of Missouri – Rolla and received a B.S. in Electrical
19 Engineering in 1969, a M.S. in Electrical Engineering in 1971, and a M.S. in Engineering
20 Management in 1978. My concentration was in Electrical Power Systems.

21 In 1971, I was employed by Missouri Public Service Company as a Substation
22 Design Engineer. In 1973, I took a position with Central Electric Power Cooperative
23 (“Central”), where I remained until I retired in 2015. I held several positions at Central,
24 including substation and high voltage transmission design positions and Manager of

1 Engineering and Technical Services. In the latter position, I was responsible for
2 transmission line right-of-way acquisition. When necessary, I represented Central as an
3 expert witness in eminent domain proceedings in circuit court. I served as CEO/General
4 Manager of Central from 1993-2015, and in that capacity, I also served as a member of
5 the Board of Directors of Associated Electric Cooperative (“AECI”), headquartered in
6 Springfield, Missouri. AECI owns the power generation facilities and controls the high
7 voltage transmission lines in the cooperative system. As an AECI director I attended
8 monthly board meetings and oversaw the planning, construction and operation of the
9 power plants and high voltage transmission lines. From 1993 through my retirement in
10 2015, I was ultimately responsible for all business decisions of Central. I was also
11 involved in all significant business decisions of AECI.

12 **II. NEED FOR THE PROJECT**

13 **Q. In your role as an expert witness in eminent domain proceedings, what was your**
14 **function?**

15 A. As Manager of the department that performed the technical studies for Central’s power
16 system improvements and made the final recommendation to the Central board to
17 approve the location of substation and transmission line additions, I was Central’s expert
18 witness that testified regarding the need for new facilities necessary for adequate and
19 reliable power system operation. This expert opinion was necessary for the Circuit Court
20 to find that proper technical studies by qualified engineers had been done and that the
21 rights being sought were needed to provide adequate and reliable electric service to
22 Missouri electrical consumers. My guiding principle was whether the new facilities were
23 necessary for the public benefit.

1 **Q. What preliminary steps did you undertake to determine whether a new**
2 **transmission line was needed?**

3 A. In anticipation of presenting a request to the Board of Directors, my department would
4 undertake studies to determine the need for additional facilities to providing basic electric
5 services as well as what property rights would be needed to support those facilities. My
6 department would look at many options for fulfilling the proposed “need” under
7 consideration. We did the study on a system wide basis, taking into consideration all
8 options for fulfilling the need for additional service. Oftentimes, the need could be
9 satisfied by simply using the facilities that already existed. One common approach was
10 to increase line operating voltage levels. In other words, some studies simply indicated
11 that there was no need for new facilities. If there was a need for the facilities, we would
12 present our studies to the Board of Directors for their approval.

13 We also used the studies in the Circuit Court proceedings, provided the Board of
14 Directors approved the new facilities. The evidence presented to the court always
15 included testimony regarding the public need for the proposed facility as well as the
16 evaluation of possible alternatives that were considered when reaching a conclusion
17 regarding the best overall solution.

18 **Q. Based on your business judgment and experience with Central and AECl, is there a**
19 **need for the Grain Belt Express project?**

20 A. No, there is not. While I have not done the engineering analysis of the project, it is clear
21 to me from the surrounding circumstances that there is no need for the project. There are
22 no load serving entities that have committed to purchasing service from the project. No

1 load serving entity has intervened in this case other than the Missouri Joint Municipal
2 Electric Utility Commission. I conclude that there has been no request for service
3 requiring the project, and, therefore, there is no need.

4 While certain wind generators have requested service from the GBX project, there
5 is no binding commitment to provide or pay for service. These requests for service are
6 merely a request for an opportunity to sell service. They are no more and no less than a
7 job seeker submitting his resume to a potential employer. Neither entity has an
8 obligation under such requests. The requests have no economic value. They are not
9 requests from entities which have an obligation to serve load.

10 In addition, neither MISO nor SPP have included the project as a transmission
11 facility in their study process. There, therefore, has been no system wide study to
12 determine the best way to respond to the “need” Clean Line claims. There has been no
13 assessment that the so called need can be handled by other system changes such as
14 increasing line operating voltage levels or system reconfigurations.

15 **Q. Does the contract between Clean Line and MJMEUC change your opinion?**

16 A. No, it does not. I agree with Glen Justis. There is no real economic value to MJMEUC
17 contract. Clean Line has no obligation to build the line. If they do, MJMEUC has no
18 obligation to take service from the GBX project. There is no commitment to provide or
19 take service from either party. As a cooperative executive, I would not have made a
20 business judgment based on the contract. I cannot see how either Clean Line or
21 MJMEUC can base any utility planning decision on the contract. The contract appears to
22 be designed as a means to acquire this Commission’s approval of the GBX project.

1 **Q. As an employee of Central, what education or training did you receive on climate**
2 **science?**

3 A. As an employee of Central Electric Power Cooperative and a board member of AECl, I
4 attended several seminars that included climate change presentations and discussions. I
5 had the opportunity to have one on one conversations with climate experts from various
6 Universities, including the Arizona State University and the University of Missouri. I
7 have also done independent research and made climate change presentations.

8 **Q. Do you agree with the common popular opinion that there is man made climate**
9 **change?**

10 A. No, I do not. First, let me be clear there is no consensus on man made climate change.
11 There does seem to be some consensus among government entities that there is
12 something to man made climate change. However, even that seems to be eroding. It is
13 simply not the case that man made climate change justifies a need for the GBX project. I
14 have attached supporting documents as schedules to my testimony with their supporting
15 links where possible. My first reference here is [Schedule DWS-1](#).

16 **Q. Please elaborate.**

17 A. There is no verifiable link between fossil fuel combustion and the accompanying release
18 of CO₂ into the atmosphere with climate change or global warming. Claims of global
19 warming and climate change are based on computer models. These models are based on
20 assumptions that have not yet been verified. As an example, according to computer
21 models, the earth should warm as CO₂ levels rise in the atmosphere. For the last 18
22 years, CO₂ levels have been rising, but satellite temperature measurements have recorded

1 no discernible temperature increases as the models have predicted. Legitimate science
2 requires that hypotheses be verified with conclusive data. Many of the projections made
3 by the computer models have been refuted or not supported by the data. My reference for
4 this is attached as [Schedule DWS-2](#).

5 **Q. If there were some measurable temperature change resulting from the emission of**
6 **CO2 into the atmosphere, what would the impact be in terms of climate change**
7 **from the GBX project?**

8 A. Allow me to start by quantifying the amount of CO₂ that exists in the atmosphere. The
9 air we breathe is about 78% Nitrogen 21% Oxygen and the remaining 1% is trace gasses,
10 including CO₂ which is about 0.04% (4 one hundredths of 1%). The amount of CO₂ in
11 our atmosphere is not even close to the CO₂ levels in our atmosphere at certain period in
12 our history. During certain periods in our history, CO₂ levels have been as much as 10
13 times higher than they are now. We have seen a small increase in CO₂ levels since the
14 year 1990 due to deforestation and increased use of fossil fuels. So it can be safely
15 concluded that CO₂ levels is not the overriding factor in our climate. Attached are two
16 temperature graphs over time as Schedule DWS-3.

17 In addition, China emits about 2 times the amount of CO₂ into the atmosphere that
18 the U.S. does. In 2014, worldwide CO₂ emissions totaled 35,699 million metric tons. The
19 United States was responsible for about 5,300 MMT and the US coal and natural gas
20 plants were responsible for about 2,000 MMT or 2,000/35,99 (5.5%) of the worldwide
21 total. Stated another way, if ALL of the US coal and natural gas generation was
22 eliminated worldwide CO₂ emissions would fall 5.5%.

1 Even if we could produce such a reduction in CO₂ emissions, the result would not
2 be good. The operation of the US transmission system has evolved with generation
3 sources and loads distributed in a manner that has operated in a stable and reliable
4 manner. A shift in the distribution of generation resources necessary to produce this
5 emission reduction would have a catastrophic impact on operation of the transmission
6 system. But it would have an immeasurably small impact on CO₂ emissions and virtually
7 no impact on the earth's temperature which has been basically stable for the past 18
8 years. And certainly, the impact of the GBE project would be miniscule.

9 **Q. What are your conclusions regarding the GBE project?**

10 A. The Commission should deny the application for a CCN. There is no need for the project
11 to serve load within Missouri. There is no climate justification significant enough to
12 compromise the property rights of the landowners in the state of Missouri.

13 **Q. Does this conclude your testimony?**

14 A. Yes, it does.

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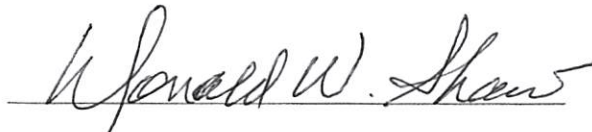
Case No. EA-2016-0358

AFFIDAVIT OF DONALD W. SHAW

STATE OF MISSOURI)
) ss
COUNTY OF Cole)

Donald W. Shaw, being first duly sworn on his oath, states:

1. My name is Donald W. Shaw.
2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Show Me Concerned Landowners, consisting of 7 pages, having been prepared in written form for introduction into evidence in the above-captioned docket.
3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.


Donald W. Shaw

Subscribed and sworn before me this 23 day of January, 2017.

JOSHUA R. HANLIN
Notary Public - Notary Seal
STATE OF MISSOURI
County of Cole
My Commission Expires 9/15/2019
Commission # 15638231


Notary Public