

Exhibit No. 300
Issues: Need for the Project
Witness: Joseph J. Jaskulski, P.E.
Type of Exhibit: Rebuttal
Sponsoring Party: MO Landowners Alliance
Case No.: EA-2016-0358
Date Testimony Prepared: January 24, 2017

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. EA-2016-0358

REBUTTAL TESTIMONY OF

JOSEPH J. JASKULSKI

ON BEHALF OF

MISSOURI LANDOWNERS ALLIANCE

January 24, 2017

NP

1 **Q. Please state your name.**

2 A. Joseph J. Jaskulski

3 **Q. On whose behalf are you testifying?**

4 A. I am testifying on behalf of the Missouri Landowners Alliance (MLA) .

5 **Q. By whom are you employed, and in what capacity?**

6 A. I am President of Project Performance Group, LLC.

7 **Q. Please briefly describe the usual types of projects and work performed by**
8 **Project Performance Group.**

9 A. Project Performance Group provides a wide variety of management and
10 technical consulting services to the electric power industry, including development
11 assistance, acquisition due diligence, energy project management, commissioning and
12 training, business plan development, energy audits, outage management, root-cause
13 failure analysis, performance testing, power supply procurement, and expert witness
14 services.

15 **Q. Please describe your educational background and work experience as it**
16 **relates to your testimony in this case.**

17 A. I have a Bachelor of Science Degree in Mechanical Engineering from
18 Valparaiso University, a Master of Science Degree in Mechanical and Aerospace
19 Engineering from the Illinois Institute of Technology, and a Master of Management
20 Degree from the Kellogg School at Northwestern University. I currently teach
21 “Managerial Finance” at Northwestern University at the McCormick School of
22 Engineering’s Master of Project Management Program, and formerly taught “Financial
23 Issues for Engineers.”

24 I am a registered Professional Engineer in the State of Illinois, a LEED
25 Accredited Professional and hold a Chief Engineer's license from the National Institute
26 for the Uniform Licensing of Power Engineers.

27 I worked eleven years at Commonwealth Edison, the utility that serves the
28 northern third of Illinois, including Chicago, in their construction, engineering, and
29 operations departments. I worked ten years at Indeck Energy Services, a private
30 developer and operator of independent power generating facilities. Concurrently, I was
31 president and part owner of Indeck Operations, which ran thirteen generating facilities on
32 three continents. I opened a Chicago office for General Physics to provide technical and
33 management consulting services to the electric power sector, and converted it to Project
34 Performance Group in 2000. I ran the Construction Management and Energy Solutions
35 Divisions of Kenny Construction Company from 2005 to 2009. In 2009 I restarted
36 Project Performance Group.

37 My resume is attached as Schedule JJC-1.

38 **Q. What material submitted by Grain Belt in this case did you review in**
39 **preparation for this testimony?**

40 A. I reviewed the Application filed by Grain Belt on August 30, 2016, and the
41 accompanying direct testimony from the following witnesses: Michael P. Skelly, David
42 Berry, Dr. Wayne Galli, Mark O. Lawlor, Suedeem Kelly, J. Neil Copeland, Edward C.
43 Pfeiffer, and Prescott Hartshorne. I also reviewed numerous responses to Data Requests
44 and the attachments thereto.

45 **Q. What are the issues you will be addressing?**

46 A. First, I will address the lack of firm commitments from wind generators,
47 potential utility customers, or load serving utilities to buy capacity on the proposed
48 transmission line. Second, I will address the purported \$10M in saving MJMEUC expects
49 under the Grain Belt Transmission Service Agreement. Third, I will address Production
50 Tax Credits in the context of Grain Belt’s schedule. Fourth, I will address whether wind
51 power generated in Kansas and transmitted to Missouri over Grain Belt is cheaper than
52 wind power generated in Missouri.

53 **Q. Please summarize your overall findings with regard to the first issue.**

54 A. Developments since Grain Belt’s 2014 case have not materially changed the
55 facts the Commission relied on in rejecting that application. Just as in the last case, Grain
56 Belt still has no memorandums of understanding with wind generators, and no firm
57 commitments from any load serving utilities to buy capacity on the proposed
58 transmission line.

59 **Q. Are there commitments of any kind with any wind generators to buy**
60 **capacity on the proposed line?**

61 A. No. Grain Belt stated in its November 3, 2016 response to MLA Data
62 Request G.11: “Please list all wind generators which have any form of contract,
63 memorandum of understanding or similar agreement with Grain Belt to purchase capacity
64 on the proposed line. RESPONSE: Grain Belt does not have any such contracts at the
65 time of this response.” Subsequently, Grain Belt provided Memorandums of

66 Understanding with ** [REDACTED]
67 [REDACTED]

69 [REDACTED]**

70 **Q. Are there commitments of any kind with any load serving entities to buy**
71 **capacity on the proposed line?**

72 A. No. Grain Belt stated in its November 3, 2016 response to MLA Data Request
73 G.3: “Please list all load-serving entities in Missouri (not including MJMEUC) which
74 have any form of contract, memorandum of understanding or similar agreement with
75 Clean Line or Grain Belt to purchase capacity on the proposed line. RESPONSE: None.”

76 Grain Belt also stated in its November 3, 2016 response to MLA Data Request
77 G.7: “Please list all load-serving entities located outside of Missouri which have any form
78 of contract, memorandum of understanding or similar agreement with Grain Belt to
79 purchase capacity on the proposed line. RESPONSE: Grain Belt does not have any such
80 contracts at the time of this response.”

81 I discuss below why the MJMEUC Transmission Services Agreement (TSA) is
82 not a commitment.

83 **Q. Are there any memorandums of understanding between wind farms with**
84 **potential load-serving utility customers of wind energy from the project?**

85 A. None have been identified. Grain Belt stated in its November 3, 2016
86 response to MLA Data Request G.5: “Please list each load-serving entity in Missouri
87 which to Grain Belt’s knowledge has any form of contract, memorandum of
88 understanding or similar agreement to purchase energy to be transmitted over the
89 proposed Line. RESPONSE: Grain Belt is not aware of any such contracts at this time.”

90 Grain Belt also stated in its November 3, 2016 response to MLA Data Request
91 G.9: “Please list each load-serving entity outside of Missouri which to Grain Belt’s
92 knowledge has any sort of contract, memorandum of understanding or similar agreement
93 to purchase energy to be transmitted over the proposed Line. RESPONSE: Grain Belt
94 does not have any such contracts at the time of this response.”

95 **Q. At the time you finalized your testimony, had Grain Belt provided any**
96 **updated information to any of the data requests you have mentioned above?**

97 A. Not to my knowledge.

98 **Q. Is the MJMEUC TSA a commitment to buy capacity on the proposed**
99 **transmission line?**

100 A. No it is not. In Paragraph 4 of its Application, Grain Belt describes the
101 MJMEUC TSA as the most significant new milestone achieved by Grain Belt since its
102 previous application. In Paragraph 25, Grain Belt says: “Of MJMEUC’s total 225 MW
103 transmission service, 200 MW is for service from Kansas to Missouri. In addition,
104 MJMEUC has agreed to purchase 25 MW of capacity (with the option to purchase
105 another 25 MW) for service from Missouri into PJM.” (Grain Belt Application, Para 25).

106 However, Grain Belt fails to mention that MJMEUC may without penalty or cost
107 elect to take no capacity over the new line, and that decision will be made sixty to ninety
108 days before the line is then expected to enter service. Per Grain Belt’s November 3, 2016
109 response to MLA Data Request G.21 the new line is now expected to enter service in
110 November of 2021. If that schedule holds, MJMEUC’s actual commitment to buy
111 capacity, if any, on the proposed transmission line could occur as late as October 1, 2021.

112 In short, there currently is no commitment from MJMEUC to buy any capacity on the
113 proposed transmission line.

114 **Q. What provisions of the MJMEUC TSA state there is no commitment of**
115 **any kind from MJMEUC to buy capacity on the proposed transmission line?**

116 A. Section 3.4 of the TSA states: “Transmission Customer may, through the
117 Notice of Decision, reduce any or all of the Contract Capacities under this Agreement
118 without limit or penalty”. The Notice of Decision is to be provided “no later than sixty
119 (60) days prior to the Commencement Date”, the date the line enters commercial service.

120 That section goes on to make it clear that MJMEUC may reduce its Kansas to
121 Missouri Contract Capacity to zero: “For the avoidance of doubt, and notwithstanding
122 anything to the contrary in this Agreement, (i) the final KS-MO Transmission Service
123 Contract Capacity as reflected in the Notice of Decision may be any amount between 0
124 and 200 MW”.

125 **Q. Do similar terms apply to MJMEUC’s purchase of Missouri to PJM**
126 **capacity?**

127 A. Yes. Section 3.4 (v) of the TSA states: “...the final MO-PJM Transmission
128 Service Contract Capacity as reflected in the Notice of Decision may be any amount
129 between 0 and 50 MW...”

130 **Q. Will MJMEUC have made any payments to Grain Belt prior to excising**
131 **their capacity options?**

132 A. No. Payments are not due until after Grain Belt enters commercial service.

133 **Q. If MJMEUC elects 0 MW for both paths, what payment is due Grain**
134 **Belt?**

135 A. None. Section 3.5 of the TSA defines the Transmission Service Charge as the
136 sum of the products of applicable Contract Capacity and Contract Rates. If the Contract
137 Capacities for both paths are zero, the Transmission Customer Payment is zero.

138 **Q. How would you describe the MJMEUC TSA.**

139 A. The TSA is nothing more than an option agreement. MJMEUC has the right,
140 but no obligation, to purchase capacity on the proposed line. The option can be exercised
141 as late as sixty days before the line enters service.

142 MJMEUC and Grain Belt have both described the TSA as an option. MJMEUC's
143 May 2, 2016 Meeting Minutes (MJM.7 Page 45) state, "John Grotzinger [Chief
144 Operating Officer at MJMEUC] reviewed the terms of the Grain Belt transmission option
145 for MoPEP." MJMEUC's June 2, 2016 Board Meeting Minutes (MJM.7, Page 43) state:
146 "Michael Skelly, President of Clean Line Energy Partners, introduced the project which
147 would begin near Dodge City, KS to pick up wind power, connect to MISO in Ralls
148 County, then end near Terre Haute, IN. In the proposed contract, MJMEUC would have
149 an option for up to 200 MW of transmission into Missouri."

150 Assuming that MJMEUC would or would not take any capacity on Grain Belt is
151 speculative. MJMEUC has reserved the right to take no capacity whatsoever, suggesting
152 that they may view that as a real possibility. Because MJMEUC may elect to take no
153 capacity on Grain Belt, a decision it likely will not make until 2021, the MJMEUC
154 Transmission Service Agreement adds nothing of significance to the facts before the
155 Commission in Grain Belt's previous application. In the intervening four years,
156 MJMEUC might well find a more attractive alternative, which they presumably would
157 take instead of the agreement with Grain Belt.

158 **Q. Will the MJMEUC TSA help Grain Belt finance the construction of its**
159 **transmission Project?**

160 A. In my opinion, it will not. On Page 15 of his testimony, Mr. Berry stated
161 Grain Belt “intends to issue project-specific debt secured by the revenue stream from the
162 transmission capacity contracts to raise the capital necessary to complete the remaining
163 development activities, construct the Project, and place it into operation.” This is typical
164 for a project of this nature. But since MJMEUC could decide later to buy no capacity on
165 Grain Belt, and consequently make no payment, the MJMEUC TSA cannot be used to
166 secure a portion of the revenue stream required to secure the debt.

167 **Q. Does Grain Belt agree with this conclusion?**

168 A. Apparently so. In MLA’s Data Request DB.34, we asked Mr. Berry the
169 following: “With reference to page 18 line 10 - page 20 line 7 of your testimony, please
170 list all transmission projects of which you are aware where construction loans were
171 backed in whole or in part by TSAs which included an explicit option for the prospective
172 buyer to not buy any capacity on the line.” Mr. Berry responded: “I am not aware of any
173 such projects.”

174 **Q. Turning to the second issue, has Grain Belt or MJMEUC made a**
175 **meaningful analysis that the MJMEUC TSA will save its members \$10 million**
176 **annually?**

177 A. Not that I am aware of. Mr. Lawlor states at Page 3 of his direct testimony that
178 MJMEUC estimates that the capacity purchase of 200 MW from the Project will save
179 members at least \$10 million annually compared to an existing contract for fossil fuel
180 generation. However, in Grain Belt’s response to the PSC Staff’s Date Request 0033,

181 Grain Belt states: “MJMEUC shared the results of the savings estimate but not the
182 calculation.”

183 **Q. Were you able to verify the alleged savings from material supplied by the**
184 **MJMEUC?**

185 A. No. The only support provided for the \$10 million estimate from the
186 MJMEUC was an eight-row spreadsheet in response to MLA’s Data Request MJM.13:
187 “With reference to page 3 lines 16-18 of the direct testimony of Mr. Lawlor, please
188 provide a copy of the studies or analyses (including work papers) in which the MJMEUC
189 estimated the \$10 million in annual savings to its members.”

190 **Q. Is that spreadsheet a legitimate analysis showing that the MJMEUC TSA**
191 **will save its members \$10 million annually?**

192 A. No. It is a flawed calculation of the cost of transmitting 100 MW and 200 MW
193 of wind power from SPP to MISO. There is no calculation of, or comparison to, buying
194 wind power over Grain Belt. The spreadsheet also contains an error in calculating the loss
195 component of the costs. The total costs end up including addition of megawatt-hours and
196 dollars which is flawed mathematics. My analysis of the MJM.13 spreadsheet is attached
197 as Schedule JJC-2.

198 **Q. What would be required in order to show any legitimate savings**
199 **attributable to the MJMEUC contract with Grain Belt?**

200 A. To legitimately show savings, it is necessary to determine the cost expected to
201 be incurred utilizing the MJMEUC contract with Grain Belt, and similarly determine the
202 cost expected to be incurred for all reasonable alternatives. A reasonable alternative may
203 not be viable due to technical, reliability, or legal constraints. Those reasonable

204 alternatives that are viable should be evaluated financially. The only way to show
205 legitimate savings attributable to the MJMEUC contract with Grain Belt is to compare it
206 to the otherwise most attractive viable alternative.

207 The cost expected utilizing the MJMEUC contract with Grain Belt should reflect
208 the phase-out of Production Tax Credits (discussed below), which has begun based on
209 Grain Belt’s current schedule, and will advance if there is any further delay. A legitimate
210 analysis would consider multiple Grain Belt completion dates and assign probabilities to
211 each.

212 The “do nothing alternative” should always be considered. In this case doing
213 nothing might mean relying on future market purchases instead of procuring 200 MW of
214 power well in advance of its delivery in 2021. MJMEUC can still exercise the “do
215 nothing alternative” by taking no capacity in their Notice of Decision, which will occur in
216 2021 under Grain Belt’s current schedule.

217 Procuring wind energy in Kansas and transporting it over the existing AC
218 transmission system is a reasonable viable alternative, as is procuring wind energy in
219 Missouri or MISO. If renewable generation is not a requirement, purchases from, or
220 construction of, fossil-fueled sources (including natural gas fueled sources) are also
221 reasonable viable alternatives.

222 Only by considering all these alternatives can any legitimate savings under the
223 MJMEUC/Grain Belt agreement be determined.

224 **Q. Turning to the third issue, please explain briefly what the Production Tax**
225 **Credit (PTC) is as it relates to wind generation.**

226 A. The PTC is a federal incentive intended to improve the economic viability of
 227 certain renewable electric generation technologies, including wind-generated electricity.
 228 It is an inflation-adjusted tax credit earned per kilowatt-hour generated by a renewable
 229 energy resource during its first ten years of operation. The tax credit was worth \$0.023
 230 per kWh in 2016. The inflation-adjusted 2017 value will be determined by April of 2017.
 231 The PTC is being phased out based on when a wind farm begins construction. Wind
 232 farms that started construction in 2016 are eligible for 100% of the credit. That
 233 percentage reduces by 20% in each of 2017, 2018 and 2019. The credit is phased out
 234 totally for wind farms starting construction in 2020 and thereafter.

235 **Q. What is the value of the PTC expected from the wind farms proposed to**
 236 **be connected to Grain Belt?**

237 A. Assuming that 4,600 MW of wind capacity will be connected to Grain Belt's
 238 Kansas Converter Station, achieve the 55% capacity factor assumed by Grain Belt
 239 (included in Schedule DAB-5 to Mr. Berry's testimony), and that the value of the credit
 240 escalates at 2.5% per year, the total value of the credits over their ten-year term is shown
 241 in the following table:

<u>Wind Farm Start-of Construction</u>	<u>PTC Phase-Out</u>	<u>Total Value of PTC</u>
2016	100%	\$6.3 Billion
2017	80%	\$5.2 Billion
2018	60%	\$4.0 Billion
2019	40%	\$2.7 Billion
2020 and thereafter	0%	\$0

242 Details of these calculations are attached as Schedule JJC-3.

243 Putting these values into perspective, based on Grain Belt’s assumptions used in
244 its economic model (included in Schedule DAB-5 to Mr. Berry’s testimony), 4,600 MW
245 of wind capacity has a construction cost of \$7.5 Billion. In other words, at 100% of the
246 PTC, the PTC equates to 84% of the construction cost of the wind farms.

247 **Q. Will the wind farms connected to Grain Belt be entitled to 100% of the**
248 **PTC available in 2016?**

249 A. No. Mr. Berry recognizes this on Page 32 of his testimony: “I have updated
250 [reduced] the value of the federal production tax credit to 80% of its full value, reflecting
251 the fact that construction of wind farms connected to the Project is unlikely to begin until
252 2017.” Mr. Berry states that wind farms will not have certainty until Grain Belt has
253 obtained further regulatory approvals, including in this matter before the Missouri PSC.

254 Additionally, to be entitled to the tax credits a wind farm must make continuous
255 progress towards completion once it starts construction. Under IRS rules, there is a
256 Continuity Safe Harbor if the wind farm is in service no more than four calendar years
257 after the year construction began. If it takes longer, the wind farm must demonstrate
258 continuous construction based on facts and circumstances. The rules excuse certain
259 interruptions in construction, including a delay in completion of construction of a new
260 transmission line, but not the expected duration of that construction.

261 In response to MLA’s DR G.21, Grain Belt stated the best estimate for the new
262 line’s in-service date is November 2021. To utilize the Continuity Safe Harbor, a wind
263 farm can start construction no earlier than 2017 to be in service in 2021.

264 **Q. Could wind farms connected to Grain Belt receive even less than 80% of**
265 **the full PTC value?**

266 A. Yes. If Grain Belt’s schedule slips just two months, it will enter service in
267 2022. To utilize the Continuity Safe Harbor, wind farms could start construction no
268 earlier than 2018 to be in service in 2022, four calendar years later. Those will receive
269 only 60% of the PTC’s full value. A wind farm that started construction in 2017 and
270 enters service in 2022 would not fall under the Continuity Safe Harbor, and would then
271 depend on the IRS’s favorable evaluation of facts and circumstances to be eligible for the
272 tax credits at all.

273 Grain Belt has consistently been optimistic about its project schedule.

- 274 • When Grain Belt applied to the Kansas Corporation Commission on
275 March 7, 2011, it had “a projected in-service date of 2016”.
- 276 • In a December 7, 2011 press release, available on its website, Clean Line
277 stated the line “could begin commercial operations as early as 2017.”
- 278 • In a May 22, 2013 press release, Clean Line stated the line “could begin
279 commercial operations as early as 2018.”
- 280 • In a January 21, 2015 press release, Clean Line stated the line “is expected
281 to be energized in 2019.”
- 282 • Grain Belt’s current best estimate for the in-service date is November
283 2021.

284 In the six years since Grain Belt applied to the Kansas Corporation Commission,
285 it’s completion schedule has slipped five years. A slippage of two additional months has
286 to be considered a possibility, if not a likelihood. Such a delay would reduce the total
287 Production Tax Credits by over a billion dollars, thus significantly diminishing the
288 economic viability of the wind farm generation.

289 **Q. Please discuss some of the potential delays in the Grain Belt Project.**

290 A. There are numerous potential sources of further delay. On Page 15 of his
291 testimony, Mr. Berry states: “We will obtain construction financing once we have
292 obtained the major regulatory approvals necessary to proceed with the Project, and we
293 have sold a majority of the capacity on the Project.” The only capacity “sold” to date is
294 the MJMEUC TSA, which as described above cannot be used to support the financing of
295 the project.

296 At this point no agreements have been identified between wind suppliers and load
297 serving entities.

█ ** █

█

300 █ **

301 Even though Grain Belt is not a party to these contracts, the wind farms and Grain
302 Belt depend on each other; therefore their development and financing schedules
303 intertwine. Each individual wind farm is also dependent on the success of the others
304 because a minimum volume of power must move over Grain Belt to justify its
305 construction. The wind farms must overcome their own development challenges to satisfy
306 Grain Belt’s financiers that they and their power purchasers will become reliable revenue
307 sources.

308 Delay can reduce the available PTC. If the wind farm absorbs the cost, it becomes
309 less viable. If the cost is passed on to the power purchaser, the price is less attractive.
310 The wind farms’ financiers must also be confident Grain Belt will be in place to transport
311 the wind power. These power purchase agreements from the **█** wind farms must

312 include contingent provisions to deal with Grain Belt going forward or not, and pricing
313 adjustment mechanisms to deal with an uncertain level of PTC. All this means a lot of
314 back and forth amongst the numerous parties involved as final commitments are made.
315 The pioneering nature of Grain Belt's concept and the nature and timing of the PTC
316 phase-out means this has never been done before. Estimating the duration of the multiple
317 negotiations, in which Grain Belt will not be a direct party, cannot be precise.

318 With regard to interconnections, as described in Pages 19-30 of Mr. Galli's direct
319 testimony, Grain Belt does not yet have interconnection agreements for any of the three
320 places it will connect to the AC transmission system.

321 On Page 25 of his testimony, Mr. Galli says that AEP has to construct a new
322 765kV transmission line at a cost of \$500 million to accommodate Grain Belt's power at
323 the PJM connection. This is a major project in and of itself, and not under the direct
324 control of Grain Belt.

325 Per Exhibit 8.7 to Grain Belt's Illinois Application, Grain Belt still needs several
326 permits from the US Army Corps of Engineers, including permits to cross navigable
327 waters as defined in Section 10 of the 1899 Rivers and Harbors Act for the crossing of
328 the Missouri River, Mississippi River, Illinois River, and Wabash River. As shown in the
329 Project Schedule provided in response to Data Request MLA-G69, Grain Belt doesn't
330 anticipate receiving these permits until 2019.

331 Any delay in these activities, and there are many more potential delays, could
332 potentially add two months or more to Grain Belt's schedule.

333 **Q. What would be the impact of a delay in wind farm start of construction on**
334 **MJMEUC's \$10M savings?**

335 A. We do not yet have details of MJMEUC’s savings calculations. A July 12,
336 2016 memo from John Grotzinger to MPUA Utilities (MJM.7, Page 12) stated “Current
337 regulations surrounding the eligibility of production tax credits dictate new wind farm
338 construction to be initiated prior to the end of this year.” If MJMEUC assumed wind farm
339 construction would start in 2016, their savings calculations assumed the wind farms will
340 be entitled to 100% of the PTC.

341 If the wind farms in fact start construction in 2017, the earliest feasible year, the
342 PTC would only be worth 80% of full value. Based on the inflation rate of 2.5% used in
343 Grain Belt’s Financial Model, the full value of the PTC will be \$26.00 per MWh in 2021.
344 A twenty percent reduction would reduce the PTC by \$5.22 per MWh. That 20%
345 reduction in tax credits would be worth:

346
$$200MW \times 55\% \text{ cap factor} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{\$5.20}{MWH} = \$5.0M/\text{year}$$

347 If Grain Belt’s current schedule slips two months, wind farm construction would
348 start in 2018. There is a 40% reduction in tax credits that is worth \$10.0M/year. If
349 passed thru to MJMEUC’s members, that would totally negate the projected \$10M
350 savings.

351 Any meaningful analysis of the potential savings resulting from the MJMEUC
352 Transmission Service Agreement has to take into account the phased reduction in tax
353 credit value based on wind farm construction starting in both 2017 and 2018, and

potentially later. ** [REDACTED]
[REDACTED]
[REDACTED]
357 [REDACTED]

358 [REDACTED]**The phased
359 reduction in tax credit value linked to Grain Belt’s completion schedule impacts any
360 potential purchaser of wind power over Grain Belt.

361 **Q. Turning to the fourth issue, did you review the bids received in response**
362 **to MJMEUC’s Request for Proposals for wind energy issued on August 18, 2016?**

363 A. Yes. I reviewed ** [REDACTED] ** proposals provided by MJMEUC in response to
364 MLA’s Data Request MJM.10. It is my understanding that one proposal was withheld. I
365 prepared a bid tabulation listing the salient data from each bid provided by MJMEUC.

[REDACTED] The tabulation is included as Schedule JJC-4. ** [REDACTED]

367 [REDACTED]**

368 Even though Page 1 of MJMEUC’s RFP expressly requested “power supply in the
369 form of wind energy directly associated with Clean Line Energy’s Grain Belt Express
[REDACTED] transmission line project”, ** [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

378 [REDACTED]**

379 **Q. Is wind energy generated in Kansas and transmitted over Grain Belt to**
380 **Missouri less expensive than wind energy generated in Missouri?**

A. Not based on these bids. **

396 [REDACTED] **Further, that analysis is
397 based on a 2017 construction start for the Kansas wind farm. There is significant risk
398 wind farm construction would start in 2018 with a further \$5.20 reduction in the PTC.
399 This would make the cost of Kansas wind energy delivered to Missouri significantly
400 more expensive than Missouri wind energy.

401 **Q. Does this concludes your testimony?**

402 A. Yes it does.

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)

Affidavit of Joseph J. Jaskulski

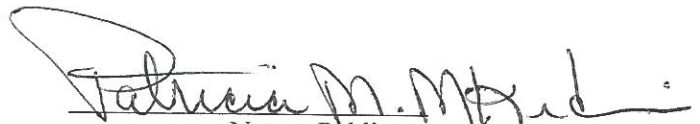
STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

Joseph J. Jaskulski, being first duly sworn on oath states:

1. My name is Joseph J Jaskulski
2. Attached hereto and made a part hereof for all purposes is my testimony submitted to the Missouri Public Service Commission.
3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein asked are true and accurate to the best of my knowledge, information and belief.


Joseph J. Jaskulski

Subscribed and sworn before me this 18 day of January, 2017.


Notary Public



JOSEPH JASKULSKI, P.E.

2906 Central Street – Suite 118
Evanston, IL 60201
847/323-0282

jjaskulski@ppg-global.com

PROFESSIONAL PROFILE

Senior executive with a strong record of leadership and thorough knowledge of the construction and energy industries.

Large Scale/High Profile Construction Experience Largest project: \$2.2 billion capital program. Responsible for over \$6 billion in construction work, including the Adaptive Reuse of Soldier Field. Numerous power plant construction projects.

Energy Industry Experienced in all aspects of the energy industry: development, financing, construction, operations, maintenance, asset management, facility acquisition/divestiture, and efficiency improvement. Numerous evaluations and audits of generating portfolios, including review of business processes and identifying/quantifying improvement opportunities/potential threats. Green energy experience, including, wind energy construction, smart grid implementation, building energy conservation measures.

Entrepreneur Four new ventures: Indeck Energy Services, Indeck Operations, Insight Energy, and Project Performance Group.

Large Scale/High Profile Project Experience Largest project: \$2.2 billion capital program. Responsible for over \$4 billion in construction work, including the Adaptive Reuse of Soldier Field.

International Experience Canada, United Kingdom, Australia, Guatemala, and Guyana.

CAREER ACHIEVEMENTS

Founded and managed the Project Performance Group to provide technical, economic and management services to the competitive electric power industry.

- Performance Engineering
- Power Plant Commissioning
- Construction Management
- Insurance Claim Management
- Expert Testimony
- Acquisition Due Diligence
- Project Development
- Contract Dispute Resolution

Founded and managed Indeck Operations, Inc, an independent power plant operating company. Indeck Operations grew to safely and profitably operate over 950 MW of electric capacity in the United States, England, Guatemala, and Guyana.

LICENSES

Licensed Professional Engineer, Illinois
LEED Accredited Professional
Chief Engineer, National Institute for the Uniform Licensing of Power Engineers

EXPERIENCE

2009-present Project Performance Group, LLC, Evanston, IL

President. Provide technical, economic and management services to the electric power industry, including primary energy source selection, fuel switching, insulation issues, steam trap and steam leak management, condensate recovery, boiler/turbine cogeneration systems, gas turbine and reciprocating engine cogeneration systems, waste heat utilization, steam turbine improvements, and waste heat utilization. Provide due diligence services to support the evaluation and acquisition of generating assets and portfolios. Prepare projections of future revenues and expenses expected from new, acquired, or modified power generating facilities. Expert witness in all aspects of the electric industry.

2005-2009 Kenny Construction Company, Northbrook, IL

Division Manager. Led the Construction Management and Energy Solutions divisions of Kenny Construction Company, a \$550 million, privately-held national construction manager and general contractor. The Construction Management Group represents owners undertaking large construction projects (Largest project: 5-year, \$2.2 billion capital program for Chicago Transit Authority. Highest profile project: The Adaptive Reuse of Chicago's Soldier Field. Other projects included new terminals at Chicago's Midway Airport and repurposing of US Steel's 600 acre South Works site). The Energy Solutions Group designed and built renewable energy projects and energy conserving improvements, including providing a Global Building Management System for the City of Chicago 300 city buildings.

2000-2005 Project Performance Group, Inc., Winnetka, IL

President. Founded and managed the Project Performance Group to provide technical, economic and management services to the electric power industry.

2003 Insight Energy, Chicago, IL

Vice President. One of a team that formed Insight Energy, raising \$100 million in venture capital commitment to finance the acquisition of power generating assets. Responsible for due diligence during the acquisition process and operations, maintenance, and asset management after acquisition.

1998 - 2000 General Physics Corporation, Columbia, MD

Executive Director. Managed GP's Chicago office. Led GP's efforts to provide services to the independent, non-utility, power generation sector.

1993 - 1998 Indeck Operations, Inc., Buffalo Grove, IL

President, Owner. President when it was spun off as a separate corporation. Negotiated with lenders and partners to transfer operating and maintenance (O&M) agreements for existing facilities to Indeck Operations. Developed and executed O&M Agreements for new projects. Indeck Operations provided operating services under long term agreements at thirteen facilities on three continents. Total capacity 1000 MW burning coal, natural gas, heavy fuel oil and wood.

Responsible for the turnover from contractor, performance guarantee, and performance testing sections of Indeck Energy Services' Engineer, Procure, Construction Agreements.

Indeck Operations provided consulting services to select clients including primary energy resource selection, facility energy assessments, power market evaluations, performance improvement recommendations, cogeneration feasibility studies, primary energy source selection, fuel switching, insulation issues, steam trap and steam leak management, condensate recovery, boiler/turbine cogeneration systems, gas turbine and reciprocating engine cogeneration systems, waste heat utilization, steam turbine improvements, and waste heat utilization. Indeck Operations also performed heavy maintenance (including gas and steam turbine overhauls and upgrades), vibration monitoring services, and environmental air quality tests.

1988 - 1993 Indeck Energy Services, Inc., Buffalo Grove, IL

1991-1993, Vice President, Operations. Established Indeck's operating division. Developed operating and administrative (benefits, payroll, purchasing, accounting, etc.) procedures. Set up accounts receivable function including invoicing for power and steam. Hired plant and home office personnel to support start-up, turnover, and initial operation of new facilities and on-going operations thereafter.

1988-1995, Project Manager, Indeck Turners-Falls Energy Center (20 MW Coal Fueled Cogeneration Plant, Turners Falls, Massachusetts). Assumed project management responsibility as Indeck's first facility neared initial operation. Managed turnkey contract through facility initial operation and performance testing. Identified performance shortfall and negotiated replacement of the steam turbine by the manufacturer. Represented the owner through successful arbitration of construction delay and performance short fall issues with the turnkey contractor

1988, Project Manager, Indeck-Yerkes Energy Center (53 MW Gas Turbine Combined Cycle Cogeneration Plant, Tonawanda, New York). Responsible for all aspects of this project, Indeck's first gas turbine facility combined cycle cogeneration facility, in its initial stages.

1977-1988 Commonwealth Edison Company, Chicago, IL

Operating, maintenance, engineering, construction, and environmental management positions involved with ComEd's coal-fueled generating stations. Experience with boiler combustion management, conventional feedwater economizer, condensing economizers, boiler blowdown thermal heat recovery, cogeneration projects, and insulation projects.

EDUCATION

Currently Adjunct Professor, Northwestern University: "Financial Issues for Engineers" and "Managerial Finance"

Master of Management - Kellogg Graduate School, Northwestern University

Master of Science - Mechanical and Aerospace Engineering, Illinois Institute of Technology

Bachelor of Science - Mechanical Engineering, Valparaiso University

PROFESSIONAL AFFILIATIONS

Member, American Society of Mechanical Engineers

Member, Midwest Cogeneration Association

Former Member, Frame 6 Users Group

Former Member, ASME Power Test Code Committee for Overall Plant Performance (PTC-46)

Former Member, Evanston Energy Commission

Former Member, Illinois Infrastructure Council

Analysis of MJM.13 - HIGHLY CONFIDENTIAL

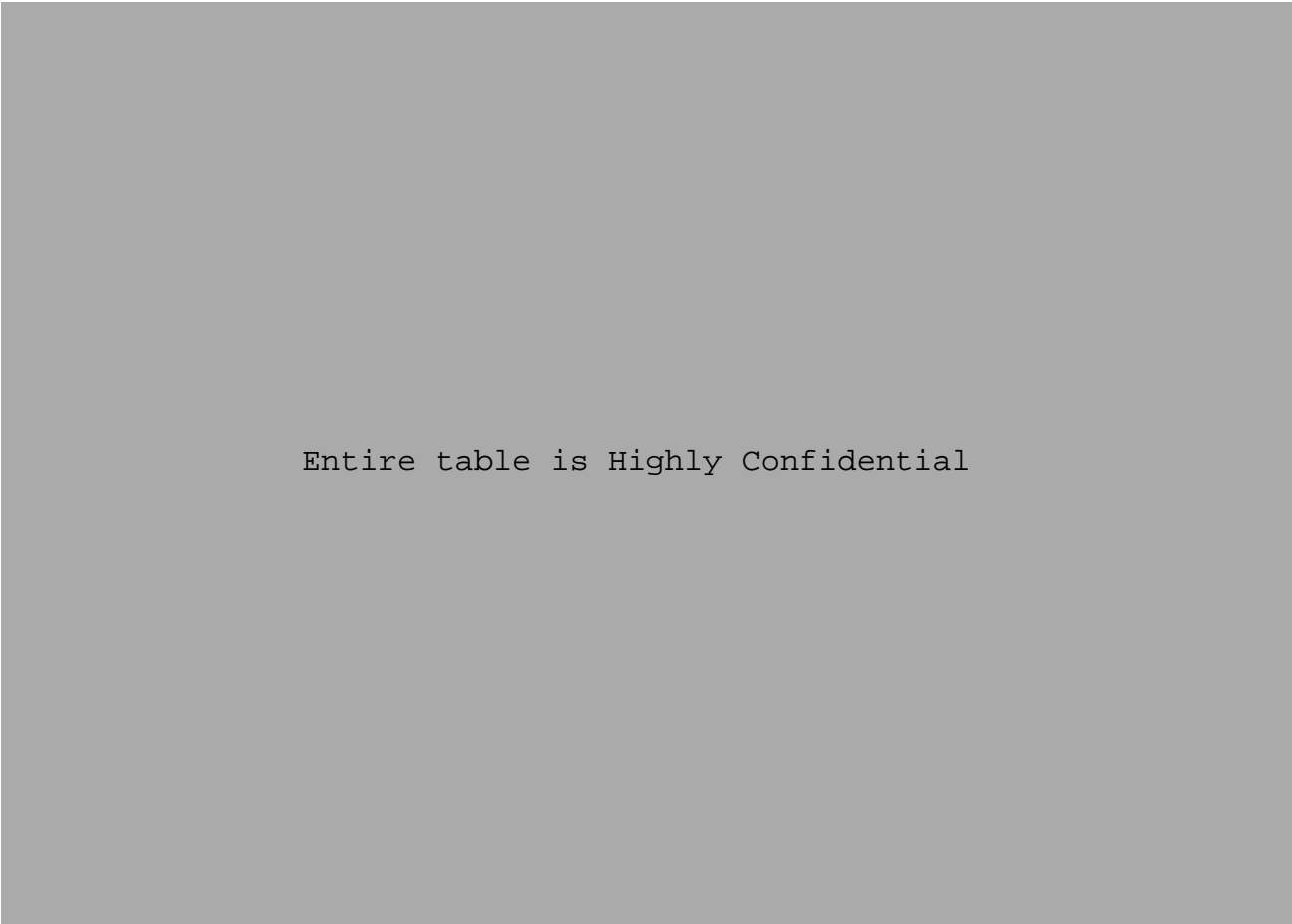
Entire table is Highly Confidential

Value of Production Tax Credits

Wind farm capacity	4600	MW						
Capacity factor	55%							
		BGE/wind farm COD	2020	2021	2022	2023	2024	
	PTC - \$/KWh	Wind farm start	2016	2017	2018	2019	2020	
Inflation adjustment	2.50%	PTC credit	100%	80.00%	60%	40%	0%	
2016	\$0.023							
2017	\$0.024							
2018	\$0.024							
2019	\$0.025							
2020	\$0.025		\$ 554,070,000					
2021	\$0.026		\$ 576,232,800	\$ 460,986,240				
2022	\$0.027		\$ 598,395,600	\$ 478,716,480	\$ 359,037,360			
2023	\$0.027		\$ 598,395,600	\$ 478,716,480	\$ 359,037,360	\$ 239,358,240		
2024	\$0.028		\$ 620,558,400	\$ 496,446,720	\$ 372,335,040	\$ 248,223,360	\$ -	
2025	\$0.029		\$ 642,721,200	\$ 514,176,960	\$ 385,632,720	\$ 257,088,480	\$ -	
2026	\$0.029		\$ 642,721,200	\$ 514,176,960	\$ 385,632,720	\$ 257,088,480	\$ -	
2027	\$0.030		\$ 664,884,000	\$ 531,907,200	\$ 398,930,400	\$ 265,953,600	\$ -	
2028	\$0.031		\$ 687,046,800	\$ 549,637,440	\$ 412,228,080	\$ 274,818,720	\$ -	
2029	\$0.032		\$ 709,209,600	\$ 567,367,680	\$ 425,525,760	\$ 283,683,840	\$ -	
2030	\$0.032			\$ 567,367,680	\$ 425,525,760	\$ 283,683,840	\$ -	
2031	\$0.033				\$ 438,823,440	\$ 292,548,960	\$ -	
2032	\$0.034					\$ 301,414,080	\$ -	
2033	\$0.035						\$ -	
2034	\$0.036						\$ -	
TOTAL			\$ 6,294,235,200	\$ 5,159,499,840	\$ 3,962,708,640	\$ 2,703,861,600	\$ -	
<i>Annual value is Wind farm capacity X Capacity factor X PTC X 8760 hours/year X 1000 kW/MW X PTC credit</i> <i>Inflation adjustment of 2.5% per year from "Assumptions for levelized cost analysis" Schedule DAB-5</i>								

MJMEUC Wind Bid Tabulation – HIGHLY CONFIDENTIAL

Entire table is Highly Confidential



Entire table is Highly Confidential