

# Overview of Grain Belt Express (GBE) Project

House Water Committee *and*  
House Energy, Utilities, and Telecommunications Committee

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# Agenda

1. Background of GBE Project, Commission Orders, and Relevant Statutory Standards
2. Benefits to Kansas from GBE Project
3. Recent Commission Docket on AC Collector Lines

# GBE Project 2011 Certificate Proceeding

- December 7, 2011: GBE was approved to become a public utility in Docket No. 11-GBEE-624-COC.
  - Pursuant to 66-131, GBE was required to become a public utility prior to operating a transmission line in Kansas.

**66-131. Permit to transact business required; exceptions; limitations on commission's authority and jurisdiction; time period for determination of application.** (a) No person or entity seeking to construct electric transmission lines as defined in K.S.A. 66-1,177, and amendments thereto, or common carrier or public utility, including that portion of any municipally owned utility defined as a public utility by K.S.A. 66-104, and amendments thereto, governed by the provisions of this act shall transact business in the state of Kansas until it shall have obtained a certificate from the corporation commission that public convenience and necessity will be promoted by the transaction of said business and permitting said applicants to transact the business of a common carrier or public utility in this state.

# GBE Project 2011 Certificate Proceeding

- Docket No. 11-GBEE-624-COC cont....
  - GBE was certificated as a 500 to 600 kV, HVDC transmission line capable of delivering 3500 MW of power from Kansas to other load centers (Initially Missouri, possibly Illinois and Indiana).
  - GBE Project also included AC Collector System and AC/DC Converter Station in SW Kansas.
  - Merchant business model meant Kansas ratepayers would not pay for this line.
  - The Commission found GBE benefitted the State of Kansas as follows (next two slides)
  - <https://estar.kcc.ks.gov/estar/ViewFile.aspx/20111207160045.pdf?Id=3a579188-df77-4d09-b079-3de798a414a5> (Active Link to Order)

# GBE Project 2011 Certificate Proceeding

- December 7, 2011, Order Granting Certificate cont....
  - “...there are significant and substantial economic benefits that the project will provide to Kansas....as noted, the significant and substantial economic benefits include royalties to landowners who contract with generators, new jobs associated with construction and operation of both the lines and wind generating facilities, and additional tax revenue....these economic benefits will provide a tremendous stimulus to the United States economy by facilitating a great deal of new investment in renewable energy projects that would not be possible if the Project did not occur.” Pg. 16
  - “Some of the economic benefits include: (1) creation of transmission facility jobs, including over 4,700 full-time equivalent (FTE) jobs in Kansas over a three-year construction period, and over 120 permanent jobs to operate and maintain the transmission facilities; (2) creation of wind generation facility jobs, including over 16,500 FTE jobs over a one-year construction period, and over 480 permanent jobs to operate and maintain the wind generation facilities; (3) royalties and other income related to the expansion of wind generation projects to Kansas landowners; (4) approximately \$7 billion in new renewable power generation in western Kansas; and (5) generation of tax revenues for state and local governments, estimated at over \$15 million in additional tax revenue from sales, property, and income tax during the three-year construction cycle.” Pg 17

# GBE Project 2011 Certificate Proceeding

- December 7, 2011, Order Granting Certificate Cont....
  - “The Commission considers the public convenience to be the primary concern in granting this certificate. The Commission finds no provision in the S&A is in violation of applicable laws. Currently, considering the planned capacity for alternative energy in the SPP system, only limited additional wind generation can be constructed in Kansas. Without the construction of the Grain Belt Express, as to the interests of public utility companies already serving the territory, the Commission finds that the service that Clean Line seeks to provide is not being provided by any other Kansas utility, as Clean Line only intends to export wind energy resources outside Kansas and the SPP footprint. The Commission has general authority over public utilities in the state, and finds that it is within the Commission's authority to acknowledge that the export of Kansas' abundant wind energy resources is in the public's interest.” Pg. 19
  - “The Commission finds that the need for long-distance, multi-state transmission projects such as the Grain Belt Express proposed by Clean Line in this proceeding will promote the development of wind generation facilities in Kansas, which will provide benefits to Kansas and other areas of the country. These benefits are certainly in the public's interest and Kansas' interest, especially since Clean Line's merchant model for cost recovery does not charge Kansas ratepayers to execute the proposed Project. Public comments indicate significant support for the approval of Clean Line's Application, to help connect Kansas' wind energy to larger markets farther east, to generate more jobs and greater revenues to local jurisdictions, and to strengthen Kansas' reputation as an attractive place to do business.” Pg. 21

# GBE Project 2013 Line Siting Proceeding

- November 7, 2013: the HVDC portion (370-mile portion) of the GBE project was granted a siting permit in Docket No. 13-GBEE-803-MIS.
  - Pursuant to K.S.A. 66-1,177 through 66-1,180, GBE was required to obtain a siting permit prior to construction and operation of the line.

**66-1,178. Same; siting of electric transmission lines; permit required; application, contents; hearings.** (a) No electric utility may begin site preparation for or construction of an electric transmission line, or exercise the right of eminent domain to acquire any interest in land in connection with the site preparation for a construction of any such line without first acquiring a siting permit from the commission. Whenever any electric utility desires to obtain such a permit, the utility shall file an application with the commission setting forth therein that the utility proposes to construct an electric transmission line...

# GBE Project 2013 Line Siting Proceeding

- Pursuant to K.S.A. 66-1,177 through 66-1,180, GBE was required to obtain a siting permit prior to construction and operation of the line.

**66-1,180.** ...[t]he commission shall make its decision with respect to the necessity for and the reasonableness of the location of the proposed electric transmission line, taking into consideration the benefit to both consumers in Kansas and consumers outside the state and economic development benefits in Kansas. The commission shall issue or withhold the permit applied for and may condition such permit as the commission may deem just and reasonable and as may, in its judgment, best protect the rights of all interested parties and those of the general public.



# GBE Project 2013 Line Siting Proceeding

- Docket No. 13-GBEE-803-MIS Order Granting Siting Permit:
- GBE applied for a siting permit to cover a 600kV HVDC line, rated at approximately 3,756 MW, traversing from the Spearville 345 kV substation in Ford County to the Kansas line, ultimately terminating in Sullivan County, Indiana.
- The line would go through the following Kansas counties: Ford, Hodgeman, Edwards, Pawnee, Barton, Russell, Osborne, Mitchell, Cloud, Washington, Marshall, Nemaha, Brown, and Doniphan.
- The Commission held four public meetings in Kansas, in Seneca, Beloit, Russell, and Kinsley. More than 700 people attended these hearings, with 56 sworn statements provided at the hearings.
- In total the Commission received 2,600 public comments during the Docket.
- <https://estar.kcc.ks.gov/estar/ViewFile.aspx/20131107153823.pdf?Id=fd85011e-d733-41e5-b586-fc4ecaa044eb> (Active Link to Order) Kansas Corporation Commission

# GBE Project 2013 Line Siting Proceeding

- Docket No. 13-GBEE-803-MIS Order Granting Siting Permit:

## The Commission's Order found:

- “In Kansas, the proposed project is estimated to result in approximately 2,340 jobs annually during the three-year construction period, and an estimated 135 jobs to operate and maintain the project on an ongoing basis. Additionally, construction of the associated wind facilities in Kansas is estimated to generate between 15,542 and 19,656 Kansas jobs, while operating and maintaining the wind farms is expected to generate 528 Kansas jobs. Estimates are that during construction, the project would add \$131.5 million to salaries and wages spent in Kansas, \$371 million to Kansas's aggregate economic product, and \$6.76 million a year to state income and sales tax revenues.” Pg. 9
- “The construction of wind farms and manufacture of wind turbine components facilitated by this project are estimated to result in between \$779 million and \$1.026 billion of salaries and earnings for those employed in that industry in Kansas. The economic impact of those earnings in the Kansas economy is estimated to between \$2.284 billion and \$3.268 billion. The operations of these wind farms were estimated to generate 528 jobs, \$25 million in earnings and add \$73 million to the aggregate economy in Kansas. The project and new wind farms will also provide additional tax revenue for local and State government authorities.” Pg. 10

# GBE Project 2013 Line Siting Proceeding

The Commission's Order found cont....

- "...[L]andowners would receive the market value of their land over which the lines pass while continuing to use the land so long as the use did not interfere with the lines." Pg. 11
- "Grain Belt committed to pay local governments a one-time Construction Mitigation Payment fee of \$7,500 per mile prior to the commencement of construction. Since the Kansas portion of the project is about 370 miles long, this commitment amounts to \$2.8 million in payments to local governments in Kansas." Pg. 11
- "Staff witnesses testified the project is necessary to further wind development in Kansas, would promote current and past Kansas Governors' initiatives which support wind development in Kansas, furthers the Kansas Electric Transmission Authority's (KETA) mission to build electric transmission facilities in Kansas for the exportation of wind energy into other states, and addresses an SPP goal to develop transmission systems to export wind energy." Pg. 12
- "As described above and contained in the Economic Development Study, testimony indicated the construction and operation of the wind farms and manufacture of wind turbine components in Kansas would add between \$2.3 and \$3.3 billion to the Kansas economy." Pg. 13

# GBE Project 2013 Line Siting Proceeding

The Commission's Order found cont....

- “After reviewing the record, the Commission finds substantial evidence in the record as a whole to support a finding of necessity to build Grain Belt Express's proposed 600 kV transmission line. The Commission finds that the evidence in the record establishes the need for this line to address wind energy development in Kansas. Without this project, hundreds of millions of economic development dollars would not be spent in Kansas, and the potential for large scale wind farm development would be lost. The Commission finds that this project will have significant short- and long-term economic development benefits for the state of Kansas.” Pg. 14
- “The Commission finds and concludes that the proposed transmission line provides benefits to electric customers both inside and outside of Kansas and economic development benefits in Kansas. The Kansas economy will benefit from construction activities which will require food, fuel, lodging and other local supplies and services. In addition, the proposed line and associated economic activity will have the long-term lasting impact of added Kansas jobs and will achieve the transmission and wind development goals of SPP, KETA, and current and past Kansas Governors.” Pg. 14
- “The Commission finds the Grain Belt Express line will make possible the utilization of heretofore undeveloped wind energy potential in Kansas and will have significant short- and long-term economic development benefits for Kansas and the SPP region. Therefore, based upon a review of the record as a whole, the Commission concludes the proposed electric transmission line is necessary and the proposed route is reasonable.” Pg. 21

# GBE Project 2019 Merger Proceeding

- June 18, 2009: Invenergy was approved to acquire GBE project in Docket No. 19-GBEE-253-ACQ.
  - Pursuant to 66-136, Invenergy was required to get Commission approval prior to acquiring the GBE Project.
  - The Commission used its Merger Standards to review the Application, as follows:
    - (a) The effect of the transaction on consumers, including:
      - (i) The effect of the proposed transaction on the financial condition of the newly created entity as compared to the financial condition of the standalone entities if the transaction did not occur;
      - (ii) Reasonableness of the purchase price, including whether the purchase price was reasonable in light of the savings that can be demonstrated from the merger and whether the purchase price is within a reasonable range;
      - (iii) Whether ratepayer benefits resulting from the transaction can be quantified;

# GBE Project 2019 Merger Proceeding

- Docket No. 19-GBEE-253-ACQ merger standards cont....
  - (iv) Whether there are operational synergies that justify payment of a premium in excess of book value;
  - (v) The effect of the proposed transaction on the existing competition.
  - (b) The effect of the transaction on the environment.
  - (c) Whether the proposed transaction will be beneficial on an overall basis to state and local economies and to communities in the area served by the resulting public utility operations in the state. Whether the proposed transaction will likely create labor dislocations that may be particularly harmful to local communities, or the state generally, and whether measures can be taken to mitigate the harm.
  - (d) Whether the proposed transaction will preserve the jurisdiction of the KCC and the capacity of the KCC to effectively regulate and audit public utility regulations in the state.
  - (e) The effect of the transaction on affected public utility shareholders.
  - (f) Whether the transaction maximizes the use of Kansas energy resources.
  - (g) Whether the transaction will reduce the possibility of economic waste.
  - (h) What impact, if any, the transaction has on the public safety.

# GBE Project 2019 Merger Proceeding

- Docket No. 19-GBEE-253-ACQ cont....
- In its review of the Application for Invenergy to acquire the GBE project, the Commission found:
  - “With respect to Merger Standard (c) (the effect of the Transaction on state and local economies), the Commission reaffirms its earlier findings that the GBE Project will be beneficial to state and local economies. The Commission previously found "associated economic activity will have the long-term lasting impact of added Kansas jobs and will achieve the transmission and wind development goals of SPP, KETA, and current and past Kansas Governors." By allowing Kansas wind generation to be exported, the GBE Project should alleviate some of the excess wind capacity issues in SPP. The Commission further noted on prior occasion that "it is physically necessary to build a transmission facility that runs between southwest Kansas to eastern Kansas if one wishes to sell wind energy from southwestern Kansas to markets east of Kansas," finding that, without this project, "hundreds of millions of economic development dollars would not be spent in Kansas, and the potential for large scale wind farm development would be lost. " The Commission finds that Merger Standard ( c) has been met.” Pg. 8

# GBE Project 2019 Merger Proceeding

- Docket No. 19-GBEE-253-ACQ cont....
- In its review of the Application for Invenergy to acquire the GBE project, the Commission found:
  - “The [Acquisition] is in the public interest because Invenergy’s acquisition of GBE increases the likelihood that the GBE Project will be constructed, and the Commission has previously found that the GBE Project is in the public interest. Invenergy’s acquisition of GBE does not significantly alter the GBE Project, and therefore, the benefits identified in the Commission’s prior orders have not significantly changed. These benefits include the merchant model cost-recovery plan, billions of dollars of economic development in Kansas, and the development of environmentally friendly sources of energy.” Pg. 13
  - <https://estar.kcc.ks.gov/estar/ViewFile.aspx/20190618103642.pdf?Id=e8020a07-aead-41ef-bcc6-5c343faa08ea> (Active link to Order)



# Invenergy 2023 Certificate Revision

- June 13, 2023: The Commission approved an amendment to Invenergy's Certificate to allow staging of the project to two phases, and an upsizing to 5,000 MW of capacity.
  - “Due to increased demand in the MISO and PJM markets for electricity supplied by renewable resources, GBE updated the Project design -- primarily in Missouri, including: (1) increasing the Missouri converter station size (from 500 to 2500 MW) and modifying its location (from Ralls to Monroe County); (2) increasing the overall capacity of the transmission line from 4,000 MW to 5,000 MW; and (3) increasing the length of the HVDC transmission line by about 20 miles to accommodate landowners' requested changes to the path of the line.” Pg. 4
  - “Staff agrees with GBE that the proposed amendment will not reduce: (1) existing protections provided to landowners, investors, or the public by the original agreement, and (2) the Project's benefits to Kansas. Staff believes it is likely that constructing the Project in two phases will bring those benefits to Kansas sooner than constructing the entire Project in one phase.” Pg. 4

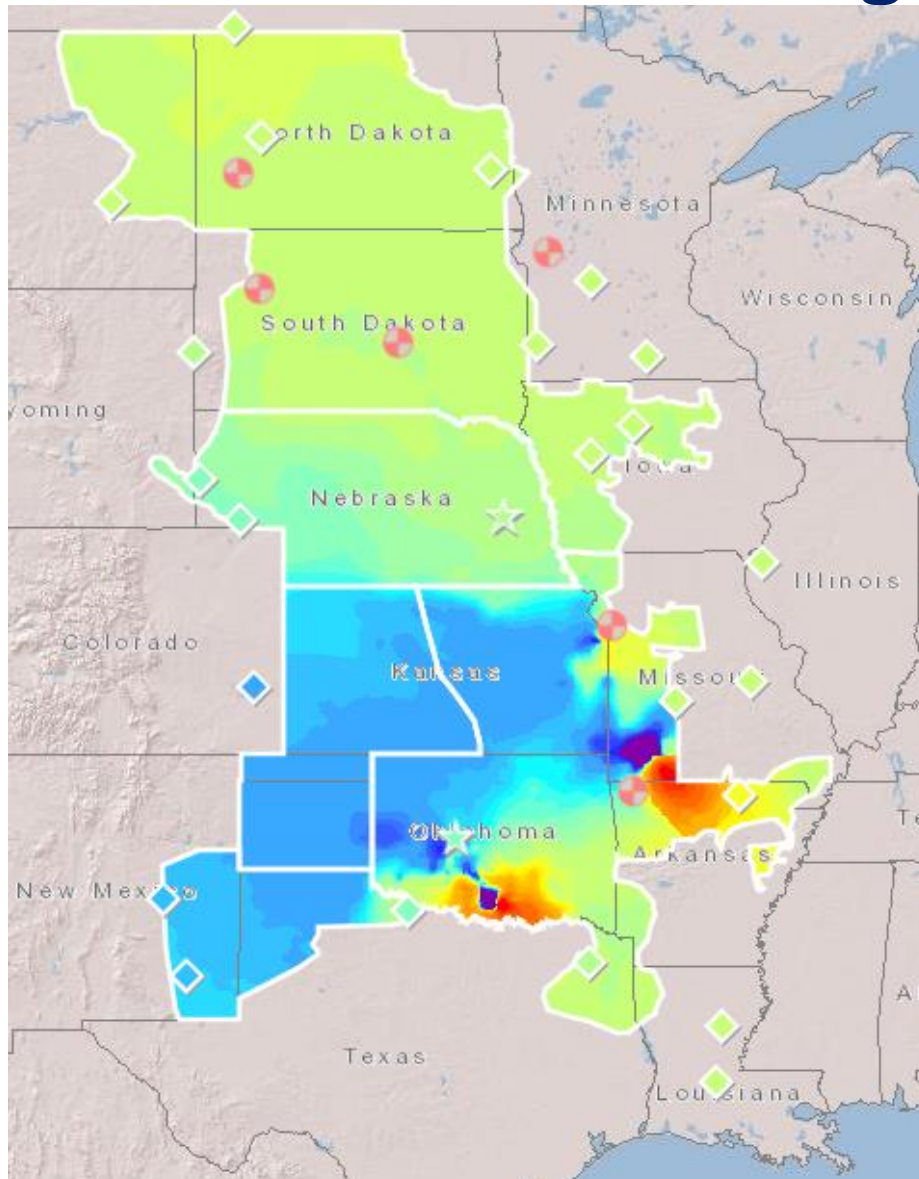
# Invenergy 2023 Certificate Revision

- June 13, 2023 Commission Order cont....
  - “There are no material changes to the Kansas portion of the Project that would cause the Commission to revisit its earlier approval of GBE's Certificate or Siting Authority. Phase 1 is economically viable absent Phase 2. Even if Phase 2 never materializes, Phase 1 will be operational and capable of moving wind from Western Kansas east, on a merchant line paid for by subscribers, not Kansas ratepayers. Approving the proposed revision to the Settlement Agreement does not remove or alter any of the protections for Kansas landowners that were including in the original Settlement Agreement.” Pg. 5
  - “The Commission finds that amending Paragraph 9.a of the Unanimous Settlement is in the public interest. Both GBE and Staff agree that the proposed amendment to the Unanimous Settlement Agreement is in the public interest and should be approved by the Commission. Both GBE and Staff explain that allowing the Project to be built in two phases will allow the benefits to accrue to Kansas much earlier than if not broken into two phases.” Pg. 6
  - “The proposed amendment to the Unanimous Settlement Agreement is in the public interest because it expedites the benefits of the Project to Kansas, while maintaining all of the safeguards contained in the Unanimous Settlement Agreement, including requiring GBE to confirm its financial ability to construct and operate a useful project before installing transmission facilities on easement property.” Pg. 6

# Invenergy 2023 Certificate Revision

- June 13, 2023 Commission Order cont....
  - “The proposed amendment to the Unanimous Settlement Agreement is in the public interest because it expedites the benefits of the Project to Kansas, while maintaining all of the safeguards contained in the Unanimous Settlement Agreement, including requiring GBE to confirm its financial ability to construct and operate a useful project before installing transmission facilities on easement property.” Pg. 6
  - <https://estar.kcc.ks.gov/estar/ViewFile.aspx/20230613103715.pdf?Id=9ac1ec54-c643-43de-b952-8fb04fb2df23> (Active link to Order)

# Real Time Congestion in SPP



- Real snapshot of SPP Congestion, as of 7:25 AM on 1/14/25
- There is persistent congestion along the seams between SPP and MISO.
- The transmission grid is interconnected and does not recognize the existence of state lines.

RTBM Interval: 1/14/2025, 07:25 AM

# How Does Improving Congestion in SPP Benefit Kansas Customers?

- There is an over abundance of renewable energy, primarily wind powered, in Western Kansas today. Kansas Wind is curtailed nearly every day due to a lack of transmission.
- This excess energy, while great for reducing wholesale energy prices, which can benefit Kansas customers, can also cause congestion and reliability issues on the transmission system.
- If SPP designs transmission projects to solve those congestion/reliability issues with transmission projects, those projects are paid for by Kansas ratepayers.
- The GBE project was originally designed to prevent this congestion. Relieving this congestion (or preventing it from getting worse) will benefit Kansas electricity customers through wholesale energy savings and improved reliability.

# Grain Belt Express AC Collector Line Siting Docket No. 24-790

House Water Committee *and*  
House Energy, Utilities, and Telecommunications Committee

January 16, 2025

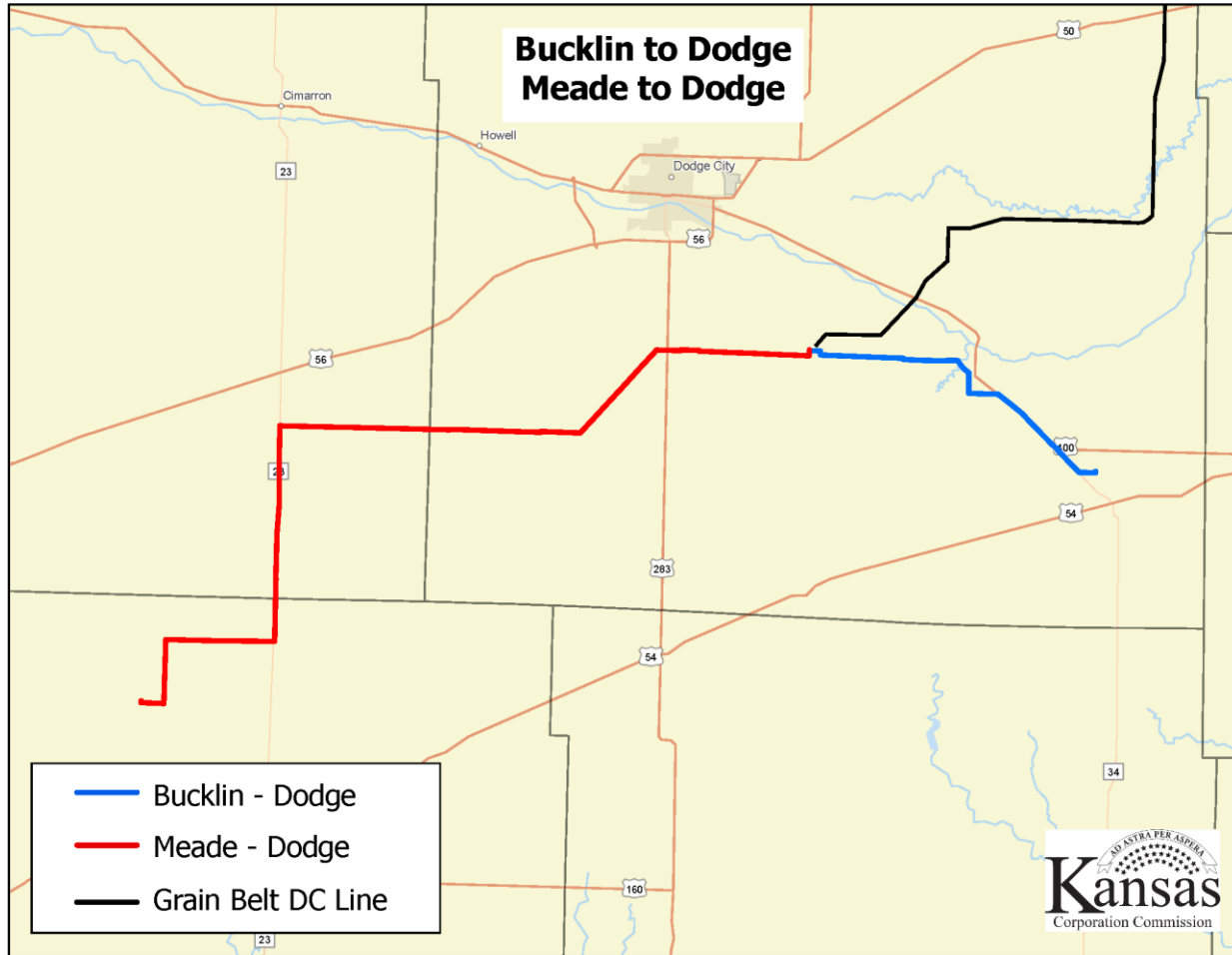
Justin Grady—*Deputy Director of Utilities Division*  
Paul Owings —*Chief Engineer*



# Agenda

1. Scope of the application.
2. Procedural overview.
3. Determination of necessity.
4. Determination of reasonableness.
5. Order conditions.

# GBE AC Collector Lines





# Grain Belt AC Collector Line Scope

- Purpose: aggregate power from wind farms and transfer to the DC Transmission Line.
- Voltage: 345 kV.
- Meade-Dodge Line:
  - Approximately 46-miles in length.
  - Counties: Gray, Meade, and Ford.
  - 1,200+ MW Capacity

# Grain Belt AC Collector Line Scope Cont.

- Bucklin-Dodge Line:
  - Approximately 16-miles in length.
  - Counties: Ford.
  - 600+ MW Capacity.
- DC Line Capacity:
  - 5,000 MW Capacity.
  - Total capacity from the Meade and Bucklin lines is ~1,800 MW, therefore additional AC Collector Lines will be necessary in the future.

# Partial Procedural Schedule

**May 31:** Application Submitted.

**June 20:** Deadline for notice of Local Hearing.

**July 3:** Staff and Intervenor Testimony Due.

**July 10:** Public Hearing.

**July 15:** Public Comment Period Ends.

**August 7:** Staff & Intervenor Response to Public Comments.

**August 26-28:** Evidentiary Hearing.

**September 30:** Commission Order due.

\*Some procedural items are not shown for brevity.

# Determination of Necessity

- No parties challenged the necessity of the lines.
- Benefits to Consumers in Kansas:
  - Bidirectional flow: per GBE: “Grain Belt Express will have the physical equipment necessary to facilitate bidirectional flow. The operational procedures to implement power flow reversals are not currently available and will require coordination with the Regional Transmission Organizations.”
- Economic Development Benefits in Kansas:
  - Same as the GBE project as a whole.

# Determination of Reasonableness

- The proposed route was challenged and an alternative route was proposed by property owners.
- The alternative route impacted new property owners.
- There was inadequate time in proceeding to consider the alternative route.
- The landowner and GBE proposed a settlement agreement to consider the alternative alignment in a separate docket.
- The remainder of the route(s) was uncontested.

# Conditions of Approval

- AC Collector System master plan.
- Limit future AC Collector Lines to a specific geographic area.
- Analyze double circuiting the Bucklin line.
- File various SPP studies with the Commission.
- Prohibition on installation of facilities until an interconnect agreement has been executed with generators.

# Conditions of Approval Cont.

- If GBE does not secure interconnect agreements within five year, involuntary easements will be returned to the landowners. (Voluntary easements had a sunset clause as well)
- GBE will measure EMF at the edge of ROW upon request.
- GBE will accommodate for large agricultural equipment.
- GBE will analyze the alternative route proposed by the intervening property owner.

# Conditions of Approval Cont.

- Oil and gas protocols.
- While not a condition, the following emerged from the docket:
  - Landowner Protocols.
  - Code of Conduct.
  - Agricultural Mitigation Protocols.



# Contact Information and Questions

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