BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of the Application of Grain)
Belt Express Clean Line LLC for Certificate)
of Convenience and Necessity Authorizing it) Case No. EA-2016-0358
to Construct, Own, Operate, Control,)
Manage and Maintain a High Voltage,)
Direct Current Transmission Line and an)
Associated Converter Station Providing an)
Interconnection on the Maywood-)
Montgomery 345 kV transmission line.)

ADDENDUM TO APPLICATION

Grain Belt Express Clean Line LLC ("Grain Belt Express" or "Company"), pursuant to Section 393.170.1, ¹ 4 CSR 240-2.060 and 4 CSR 240-3.105(1)(B), submits this Addendum to its Application and to a schedule attached to the Direct Testimony of J. Neil Copeland:

- 1. In its Application filed on August 30, 2016, Grain Belt Express provided a list of electric and telephone lines of regulated and non-regulated utilities, as well as other entities that the proposed construction will cross, pursuant to 4 CSR 240-3.105(1)(B)1. See Ex. 3, Application. In light of additional information requested by Staff, Exhibit 3 has been amended.
- 2. The Company attaches Amended Exhibit 3 containing updated and corrected utility crossing information, which should be substituted for the Exhibit 3 to the Application.
- 3. The Company also attaches Amended Schedule JNC-2 which is a complete copy of the PROMOD Analysis that Grain Belt Express intended to attach as Schedule JNC-2 to the Direct Testimony of Mr. Copeland.

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¹ All statutory references are to the Missouri Revised Statues (2000), as amended, unless otherwise noted.

WHEREFORE, Grain Belt Express respectfully requests that the Commission substitute Amended Exhibit 3 for Exhibit 3 to the Application and substitute Amended Schedule JNC-2 for Schedule JNC-2 to the Direct Testimony of Mr. Copeland.

Respectfully submitted,

/s/ Karl Zobrist

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Attorneys for Grain Belt Express Clean Line LLC

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Application was served upon the parties listed below

by email or U.S. Mail, postage period, this 27th day of October 2016.

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Missouri Joint Municipal Electric Utility Commission

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Show Me Concerned Landowners

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Sierra Club

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The Wind Coalition

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Union Electric Company

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Wal-Mart Stores, Inc.

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Wind on the Wires

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/s/ Joshua Harden

Attorney for Grain Belt Express Clean Line LLC

Amended Exhibit 3

Buchanan County
Water
Buchanan Co. PWSD #1
DeKalb Co. PWSD #1
Missouri American Water
Electric
Kansas City Power & Light Co. (Greater Missouri Operations)
United Electric Cooperative, Inc. (Northwest Electric Power Cooperative)
Platte-Clay Electric Cooperative, Inc. (Northwest Electric Power Cooperative)
Telecom
AT&T Missouri
Southwestern Bell
Aerial Communications
Century Link (Spectra Communications Group)
Mercury Voice and Data LLC (Suddenlink Comm-MO)
United State Cellular Corp MO
New Cingular Wireless PCS, LLC - IL
Sprint Spectrum L.P.
Cellco Partnership (Verizon Wireless - MO)
Windstream Nuvox Missouri Inc MO
Brooks Fiber Communications - MO
Teleport Communications Group - St. Louis
Gas and Petroleum Pipelines
Rockies Express Pipeline
Southern Star Central Gas Pipeline, Inc.
Missouri Gas Energy
Spectra Energy - Platte Pipeline
TransCanada - Keystone Pipeline
ONEOK - North System HGL Pipeline
Transportation
Missouri Department of Transportation - Highway Crossing
BNSF Railway

Clinton County
Water
Clinton Co. PWSD #4 System I
Clinton Co. PWSD #4 System 2
Clinton Co. PWSD #3
DeKalb Co. PWSD #1
Electric
Kansas City Power & Light Co. (Greater Missouri Operations)
United Electric Cooperative, Inc. (Northwest Electric Power Cooperative)
Platte-Clay Electric Cooperative, Inc. (Northwest Electric Power Cooperative)
Union Electric Co (Ameren)
Telecom
Century Link (Spectra Communications Group)
Lathrop Telephone Company
Aerial Communications
Cellco Partnership (Verizon Wireless - MO)
New Cingular Wireless PCS, LLC - IL
Gas and Petroleum Pipelines
Rockies Express Pipeline
Municipal Distribution System (city of Plattsburg)
Missouri Gas Energy
Spectra Energy - Platte Pipeline
TransCanada - Keystone Pipeline
Buckeye Partners - Buckeye Petroleum Pipeline
Midstream Partners - Magellan (Petroleum)
ONEOK - North System HGL Pipeline
Transportation
Missouri Department of Transportation - Highway Crossing

Caldwell Co. PWSD #1 Caldwell Co. PWSD #3 Clinton Co. PWSD #4 System I Ray Co. PWSD #3 Electric Union Electric Co (Ameren) Farmers' Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Platte-Clay Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Transource Missouri, LLC Telecom Century Link (Spectra Communications Group) Green Hills Telephone Corp. (Green Hills Telecom Service) Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation Missouri Department of Transportation - Highway Crossing	[aa
Caldwell Co. PWSD #1 Caldwell Co. PWSD #3 Clinton Co. PWSD #4 System I Ray Co. PWSD #3 Electric Union Electric Co (Ameren) Farmers' Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Platte-Clay Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Transource Missouri, LLC Telecom Century Link (Spectra Communications Group) Green Hills Telephone Corp. (Green Hills Telecom Service) Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Caldwell County
Caldwell Co. PWSD #3 Clinton Co. PWSD #4 System I Ray Co. PWSD #3 Electric Union Electric Co (Ameren) Farmers' Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Platte-Clay Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Transource Missouri, LLC Telecom Century Link (Spectra Communications Group) Green Hills Telephone Corp. (Green Hills Telecom Service) Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Water
Clinton Co. PWSD #4 System I Ray Co. PWSD #3 Electric Union Electric Co (Ameren) Farmers' Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Platte-Clay Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Transource Missouri, LLC Telecom Century Link (Spectra Communications Group) Green Hills Telephone Corp. (Green Hills Telecom Service) Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Caldwell Co. PWSD #1
Electric Union Electric Co (Ameren) Farmers' Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Platte-Clay Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Transource Missouri, LLC Telecom Century Link (Spectra Communications Group) Green Hills Telephone Corp. (Green Hills Telecom Service) Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Caldwell Co. PWSD #3
Electric Union Electric Co (Ameren) Farmers' Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Platte-Clay Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Transource Missouri, LLC Telecom Century Link (Spectra Communications Group) Green Hills Telephone Corp. (Green Hills Telecom Service) Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Clinton Co. PWSD #4 System I
Union Electric Co (Ameren) Farmers' Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Platte-Clay Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Transource Missouri, LLC Telecom Century Link (Spectra Communications Group) Green Hills Telephone Corp. (Green Hills Telecom Service) Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Ray Co. PWSD #3
Farmers' Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Platte-Clay Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Transource Missouri, LLC Telecom Century Link (Spectra Communications Group) Green Hills Telephone Corp. (Green Hills Telecom Service) Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Electric
Platte-Clay Electric Cooperative, Inc. (Northwest Electric Power Cooperative) Transource Missouri, LLC Telecom Century Link (Spectra Communications Group) Green Hills Telephone Corp. (Green Hills Telecom Service) Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Union Electric Co (Ameren)
Transource Missouri, LLC Telecom Century Link (Spectra Communications Group) Green Hills Telephone Corp. (Green Hills Telecom Service) Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Farmers' Electric Cooperative, Inc. (Northwest Electric Power Cooperative)
Telecom Century Link (Spectra Communications Group) Green Hills Telephone Corp. (Green Hills Telecom Service) Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Platte-Clay Electric Cooperative, Inc. (Northwest Electric Power Cooperative)
Century Link (Spectra Communications Group) Green Hills Telephone Corp. (Green Hills Telecom Service) Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Transource Missouri, LLC
Green Hills Telephone Corp. (Green Hills Telecom Service) Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Telecom
Lathrop Telephone Co. Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Century Link (Spectra Communications Group)
Aerial Communications Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Green Hills Telephone Corp. (Green Hills Telecom Service)
Cellco Partnership (Verizon Wireless - MO) New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Lathrop Telephone Co.
New Cingular Wireless PCS, LLC - IL Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Aerial Communications
Gas and Petroleum Pipelines Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Cellco Partnership (Verizon Wireless - MO)
Rockies Express Pipeline Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	New Cingular Wireless PCS, LLC - IL
Summit Natural Gas of MO Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Gas and Petroleum Pipelines
Spectra Energy - Platte Pipeline TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Rockies Express Pipeline
TransCanada - Keystone Pipeline Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Summit Natural Gas of MO
Buckeye Partners - Buckeye Petroleum Pipeline Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	Spectra Energy - Platte Pipeline
Enterprise Products - East Leg-East Loop HGL Pipeline Transportation	TransCanada - Keystone Pipeline
Transportation	Buckeye Partners - Buckeye Petroleum Pipeline
	Enterprise Products - East Leg-East Loop HGL Pipeline
Missouri Department of Transportation - Highway Crossing	Transportation
	Missouri Department of Transportation - Highway Crossing

Canadian Pacific Railway (formerly known as Iowa, Chicagao, and Eastern Railroad)

Union Pacific Railroad

Carroll County
Water
Carroll C. PWSD #1
Livingston Co. PWSD #3 - East
Electric
Union Electric Co (Ameren)
Kansas City Power & Light Co. (Greater Missouri Operations)
Farmers' Electric Cooperative, Inc. (Northwest Electric Power Cooperative)
Telecom
Green Hills Telephone Corp. (Green Hills Telecom Service)
Chariton Valley Telephone Co.
AT&T Missouri
Century Link (Spectra Communications Group)
Gas and Petroleum Pipelines
Rockies Express Pipeline
Missouri Gas Energy
Southern Star Central Gas Pipeline, Inc.
Spectra Energy - Platte Pipeline
TransCanada - Keystone Pipeline
BP Pipeline - Cushing to Whiting
Enterprise Products - West Leg HGL Pipeline
Transportation
Missouri Department of Transportation - Highway Crossing
BNSF Railway

Chariton County
Water
Chariton Co. PWSD #2
Chariton-Linn Co. PWSD #3
Thomas Hill PWSD #1
Missouri-American Water Co.
Electric
Kansas City Power & Light Co.
Farmers' Electric Cooperative, Inc. (Northwest Electric Power Cooperative)
Macon Electric Cooperative, Inc. (Northeast Electric Power Cooperative)
Salisbury Municipal Electric
Telecom
Century Link (Spectra Communications Group)
Chariton Valley Telephone Co.
Socket Telecom, LLC - MO
MCC Telephony of Missouri LLC - MO
Gas and Petroleum Pipelines
Rockies Express Pipeline
Empire District Gas Co
Spectra Energy - Platte Pipeline
TransCanada - Keystone Pipeline
BP Pipeline - Cushing to Whiting
Enbridge - Spearhead
Enterprise Products - West Leg HGL Pipeline
Transportation
Missouri Department of Transportation - Highway Crossing
Missouri North Central Railroad
Norfolk Southern Railway

Randolph County
Water
Thomas Hill PWSD #I
Electric
Boone Electric Cooperative (Central Electric Power Cooperative)
Howard Electric Cooperative (Central Electric Power Cooperative)
Macon Electric Cooperative, Inc. (Northeast Electric Power Cooperative)
Union Electric Co (Ameren)
Telecom
Chariton Valley Telephone Co.
Southwestern Bell
United States Cellular Corp Missouri
Sprint Spectrum L.P.
Chariton Valley Cellular
Level 3 Communications, LLC - MO
New Cingular Wireless PCS, LLC - IL
Gas and Petroleum Pipelines
Rockies Express Pipeline
Ameren Missouri
Panhandle Eastern Pipe Line Company
Spectra Energy - Platte Pipeline
TransCanada - Keystone Pipeline
Enbridge - Spearhead
Enterprise Products - West Leg HGL Pipeline
Municipal Distribution System (city of Renick)
Transportation
Missouri Department of Transportation - Highway Crossing
Norfolk Southern Railway

Monroe County	
Water	
Monroe Co. PWSD #2	
Missouri-American Water Co.	
Electric	
Union Electric Co (Ameren)	
Consolidated Electric Cooperative Inc. (Central Electric Power Cooperative Inc.)	ive)
Telecom	
Century Link (Spectra Communications Group)	
AT&T Missouri	
Socket Telecom, LLC - MO	
Windstream Missouri, Inc.	

Gas and Petroleum Pipelines

Koch Pipeline - Minncan Pipeline System

Municipal Distribution System (cities of Paris, Madison, Shelbina, and Clarence)

Transportation

Missouri Department of Transportation - Highway Crossing

Ralls County Water Cannon PWSD #1 Ralls Co. PWSD #1 Electric Union Electric Co (Ameren) Ralls County Electric Cooperative (Northeast Electric Power Cooperative) Perry Municipal Electric Telecom AT&T Missouri
Cannon PWSD #1 Ralls Co. PWSD #1 Electric Union Electric Co (Ameren) Ralls County Electric Cooperative (Northeast Electric Power Cooperative) Perry Municipal Electric Telecom
Ralls Co. PWSD #1 Electric Union Electric Co (Ameren) Ralls County Electric Cooperative (Northeast Electric Power Cooperative) Perry Municipal Electric Telecom
Electric Union Electric Co (Ameren) Ralls County Electric Cooperative (Northeast Electric Power Cooperative) Perry Municipal Electric Telecom
Union Electric Co (Ameren) Ralls County Electric Cooperative (Northeast Electric Power Cooperative) Perry Municipal Electric Telecom
Ralls County Electric Cooperative (Northeast Electric Power Cooperative) Perry Municipal Electric Telecom
Perry Municipal Electric Telecom
Telecom
Century Link (Spectra Communications Group)
New London Telephone Co.
Southwestern Bell
United States Cellular Corp Missouri
New Cingular Wireless PCS, LLC - IL
Charter Fiberlink, LLC - MO
Sprint Spectrum L.P.
Level 3 Communications, LLC - MO
Socket Telecom LLC - MO
Gas and Petroleum Pipelines
Ameren Missouri
Panhandle Eastern Pipe Line Company
Rockies Express Pipeline
Municipal Distribution System (cities of Perry and Monroe City)
Midstream Partners - Magellan (Petroleum)
Transportation
Missouri Department of Transportation - Highway Crossing
BNSF Railway

Missouri Adjusted Production Cost (\$mm)

in 2022

	Business As Usual	Limited Growth	High Growth	Generation Shift	Public Policy
Without Grain Belt	1,951	1,469	2,432	2,499	5,274
With Grain Belt	1,911	1,453	2,369	2,424	5,051
Savings	40	16	63	76	223
Wind Volatility Sensitivity					
	Business As Usual	Savings			
Without Grain Belt	1,951				
High Wind Volatility	1,911	40			
Med Wind Volatility	1,911	40			
Low Wind Volatility	1,911	40			

Missouri Demand Cost (\$mm)

in 2022

	Business As Usual	Limited Growth	High Growth	Generation Shift	Public Policy
Without Grain Belt	3,333	2,649	5,593	4,295	7,516
With Grain Belt	3,321	2,614	5,596	4,250	7,513
Savings	12	35	(3)	45	2
Wind Volatility Sensitivity					
	Business As Usual	Savings			
Without Grain Belt	3,333				
High Wind Volatility	3,320	13			
Med Wind Volatility	3,321	12			
Low Wind Volatility	3,320	14			

Missouri Average LMPs (\$/MWh)

in 2022

MO Generation Hub LMP		Business As Usual	Limited Growth	High Growth	Generation Shift	Public Policy
Without Grain Belt	On Peak Average	39.70	34.46	63.54	52.18	89.55
Without Grain Belt	Off Peak Average	32.92	27.21	49.19	42.86	80.27
Without Grain Belt	All Hours Average	36.16	30.66	56.03	47.30	84.69
With Grain Belt	On Peak Average	39.59	33.87	63.64	51.50	89.56
With Grain Belt	Off Peak Average	32.72	26.80	48.91	42.49	79.93
With Grain Belt	All Hours Average	36.00	30.16	55.92	46.79	84.51
With Grain Beit	7111 Hours 71verage	30.00	30.10	33.72	40.77	04.51
Change in LMP	On Peak Average	-0.11	-0.60	0.10	-0.68	0.01
Change in LMP	Off Peak Average	-0.20	-0.41	-0.29	-0.37	-0.35
Change in LMP	All Hours Average	-0.16	-0.50	-0.11	-0.51	-0.18
MO Load Hub LMP		Business As Usual	Limited Growth	High Growth	Generation Shift	Public Policy
Without Grain Belt	On Peak Average	41.18	35.83	66.18	54.10	92.41
Without Grain Belt	Off Peak Average	34.06	28.21	51.31	44.33	82.53
Without Grain Belt	All Hours Average	37.46	31.84	58.39	48.99	87.23
With Grain Belt	On Peak Average	41.10	35.35	66.47	53.41	92.57
With Grain Belt	Off Peak Average	33.86	27.85	51.10	43.92	82.25
With Grain Belt	_	37.31	31.42	58.42	48.44	87.16
Change in LMP	On Peak Average	-0.07	-0.48	0.30	-0.69	0.15
Change in LMP	Off Peak Average	-0.21	-0.36	-0.21	-0.41	-0.28
Change in LMP	All Hours Average	-0.14	-0.42	0.03	-0.55	-0.07
Change in 2211	1111 110 til 5 117 er tage	0.17	0.72	0.02	0.55	0.07
Wind Volatility Sensitivity						
MO Generation Hub LMP		Business As Usual	Change in LMP			
Without Grain Belt	All Hours Average	36.16				
High Wind Volatility	All Hours Average	35.98	-0.17			
Med Wind Volatility	All Hours Average	36.00	-0.16			
Low Wind Volatility	All Hours Average	35.99	-0.17			
MO Load Hub LMP		Business As Usual	Change in LMP			
Without Grain Belt	All Hours Average	37.46	-			
High Wind Volatility	All Hours Average	37.30	-0.16			
Med Wind Volatility	All Hours Average	37.31	-0.14			
Low Wind Volatility	All Hours Average	37.30	-0.16			

Systemwide emissions (short tons)

in 2022

		Business As Usual	Limited Growth	High Growth	Generation Shift	Public Policy
Without Grain Belt	CO_2	1,601,540,578	1,498,806,074	1,717,063,291	1,561,815,245	1,295,415,276
Without Grain Belt	NO_X	1,680,673	1,599,984	1,781,492	1,619,695	1,175,250
Without Grain Belt	SO_2	1,905,495	1,842,896	1,978,100	1,818,555	1,179,587
With Grain Belt	CO_2	1,588,558,950	1,486,083,410	1,704,904,268	1,549,463,441	1,275,936,800
With Grain Belt	NO_X	1,668,381	1,586,930	1,772,294	1,609,392	1,153,275
With Grain Belt	SO_2	1,895,357	1,832,559	1,968,639	1,808,532	1,154,281
Emissions reduction	CO_2	12,981,628	12,722,664	12,159,022	12,351,804	19,478,476
Emissions reduction	NO_X	12,292	13,054	9,198	10,304	21,975
Emissions reduction	SO_2	10,138	10,337	9,461	10,023	25,306
Wind Volatility Sensitivity						
		Business As Usual	Emissions reduction			
Without Grain Belt	CO_2	1,601,540,578				
High Wind Volatility	CO_2	1,588,546,756	1,588,546,715			
Med Wind Volatility	CO_2	1,588,558,950	1,588,558,909			
Low Wind Volatility	CO_2	1,588,579,146	1,588,579,105			
		Business As Usual	Emissions reduction			
Without Grain Belt	NO_X	1,680,673				
High Wind Volatility	NO_X	1,668,032	1,667,991			
Med Wind Volatility	NO_X	1,668,381	1,668,340			
Low Wind Volatility	NO_X	1,668,319	1,668,278			
		Business As Usual	Emissions reduction			
Without Grain Belt	SO_2	1,905,495				
High Wind Volatility	SO_2	1,895,350	1,895,309			
Med Wind Volatility	SO_2	1,895,357	1,895,316			
Low Wind Volatility	SO_2	1,895,350	1,895,309			