Municipal Energy Agency of Nebraska

Clean Energy Plan

Submitted May 24, 2024

to

Colorado Department of Public Health and Environment Division of Administration

and

Colorado Public Utilities Commission

Plan Revised and Verified by Colorado Department of Public Health and Environment on March 19, 2025.

Introduction

The Municipal Energy Agency of Nebraska (MEAN) is filing this Clean Energy Plan (CEP) as a wholesale power marketer pursuant to § 25-7-105 1(e)(VIII.7)(B), C.R.S. MEAN is a political subdivision of the State of Nebraska supplying wholesale electric power to 61 participant communities in Nebraska, Colorado, Iowa, and Wyoming. Of MEAN's 61 wholesale power participants, 14 are in Colorado. Under the power supply agreements between MEAN and its participants, MEAN provides power and energy to serve the load requirements of each participant community in excess of each community's allocation(s) of firm power and energy from the Western Area Power Administration (WAPA), certain other community resources, and certain local end-use customer-owned renewable resources.

MEAN has a long history of reducing carbon emissions across its entire portfolio and shares Colorado's goal of reducing carbon emissions from electric generation. The 2002 MEAN Wind Project at Kimball was an early effort to increase carbon-free generation in MEAN's resource portfolio and represented the first of many efforts that have led to emissions reductions in MEAN's resource mix. In 2020, the MEAN Board of Directors voted to build on the success of MEAN's emission reduction efforts by establishing a 2050 carbon neutral vision for MEAN's entire resource portfolio. MEAN is committed to achieving its emissions reduction goals and sees the projections reflected in this CEP as an integral part of its emissions reduction strategy.

MEAN's Colorado participants have been at the forefront of MEAN's renewable generation efforts. The data contained in this CEP reflects the progress that has already been made in Colorado since 2005 in achieving MEAN's emission reduction goals. Two of MEAN's Colorado participants, Aspen and Glenwood Springs, were among the first communities in the United States to secure enough electric generation production from renewable resources to meet each City's annual electric usage. By 2030, MEAN expects an 80% reduction in the greenhouse gas emissions caused by MEAN's supply to its Colorado participants compared to 2005 in the aggregate.

2005 Resource Supply and Emissions

MEAN supplied most of its Colorado load utilizing long-term power purchase agreements, an allocation of firm electric service from WAPA-Loveland Area Projects in 2005, and an agreement with Lincoln Electric System (LES) under which MEAN received approximately 18.6MW of firm capacity and associated energy from Laramie River Station Units 2 and 3, supplemented by market transactions. Additionally, in 2005, MEAN owned the MEAN Wind Project at Kimball, which began providing clean wind-generated energy in 2002.

A detailed list of MEAN's resource portfolio and historical emissions in 2005 can be found in the Verification Workbook, appended to this CEP as Attachment 1.

2030 Load Forecast

MEAN utilizes a multi-variate linear regression model to plan for future increases and decreases in load. MEAN uses historical load trends, temperature data, projected population growth, and localized income data to generate a weather-normalized model of future energy consumption

among MEAN participants. Based on current projections, MEAN's load in Colorado is expected to grow from 612,898 MWh to 640,331 MWh by 2030.

2025-2030 Resource Outlook

MEAN currently maintains a partial ownership share in Wygen I and contracts with Black Hills Power, Inc. and Lincoln Electric System under which MEAN receives capacity and energy in the Western Interconnection. MEAN's ownership share in Wygen I is expected to continue, but a smaller proportion of MEAN's capacity from Wygen I will be committed to serving load in Colorado by 2030. A contract with Black Hills Power, Inc. for 15MW of unit contingent capacity from an emitting source is set to expire in 2028. MEAN also anticipates gradually decreasing the share of capacity and energy committed to serving Colorado load from the agreement with Lincoln Electric System (LES) described above.

MEAN has contracts with WAPA for approximately 77MW of generation from WAPA resources, a power purchase agreement with Kimball Wind, LLC under which MEAN purchases all of the output from a 30 MW wind project, a power purchase agreement under which MEAN purchases output associated with 7.6 MW of capacity from the Shavano Falls Hydro Project, and a power purchase agreement with Aspen, CO for 10,946 MWh annually of hydroelectric generation. These power purchase agreements are expected to continue into 2030 without major changes. MEAN expects to purchase more than 74,000 MWh of solar generation under a set of new power purchase agreements by 2030 and is currently exploring additional sources of non-emitting generation and/or reduced emitting generation to serve load in Colorado. MEAN anticipates a generation shortfall for its load in the Western Interconnection as reliance on emitting resources is reduced. The anticipated shortfall will be compensated with market purchases until plans to acquire new generation can be finalized.

A detailed list of MEAN's anticipated resource portfolio and emissions for 2030 can be found in the Verification Workbook, appended to this CEP as Attachment 1.



CEP Demonstration

No Data Entry on this tab. This tab displays the results of the evaluation

<u>Safe Harbor Evaluation</u>

No Data Entry on this tab. This tab displays the results of the evaluation

Owned Assets

Co-owned facilities and units: Report data based on percentage of each facility or unit that is owned by the utility filing the report. If ownership is not correlated to actual energy received and associated emissions, report actual energy and emissions for baseline year assigned to the company filing the CEP. During the verification of the form by the Air Pollution Control Worksion, ald data used to populate the form will be made available for review.

Plant: Report Plant or Unit Name of the asset

Pinary Generation Type: Use the pickinst to report the primary fuel or resource type for the asset.

Total fleat imput: Report the actual heat input consumed in minibul by the unit in 2005 for hea fired units. Report zero if asset does not combust fuel.

Sched imput: Cain Report the percentage of total heat input associated with combusting coal to the nearest tenth of a percent.

Sched imput: Cain Report the percentage of total heat input associated with combusting natural gas to the nearest tenth of a percent.

Heat imput Bismost: Report the percentage of total heat input associated with combusting indusing as to the nearest tenth of a percent.

Heat imput Bismost: Report the percentage of total heat input associated with combusting indusing as to the nearest tenth of a percent.

Heat imput Bismost: Report the percentage of total heat input associated with combusting indusing as to the nearest tenth of a percent.

Commission Methodolory: Use the input associated with no.205.

CO Emissions Methodolory: Use the them of determining COZ emissions from the asset. Use the most specific data source available.

sceneration: report me actual roles produced by me unit in set town in Judos.

OZ Emissions Methodology: Use the picklish to select the method of determining CO2 emissions from the asset. Use the most specific data source available Picklist is sorted in order of most specific to least specific, followed by area GHS.

OZ Total: Report actual CO2 emissions determined by the emission methodology for 2005.

Contract Purchases - Use FERC Form 1 or other relavent publically available data to report 2005 contract purchases.

Counter Party: Report the entity with which the contract is established.

Primary Generatory Type: Use the pickits to report the primary fuel or resource type for the asset.

Purchases: Report the actual quantity of energy purchased in Net MVM).

Emission Rate Source: Use the picklist to select the most specific CO2 emission rate source for the contract. Picklist is sorted in order of most specific to least specific, followed by zero GHG.

Market Transactions - Use FERC Form 1 or other relavent publically available data to report 2005 market transactions. During the verification of the form by the Air Pollution Control Division, all data used to populate the form will be made available for review.

Market Name: Report the name each market from which transactions occurred in 2005.

System, Subregion, or Region identification: Report the location of each market using the picklist. If sales are made into a market and the company system rate is used for emissions calculations, select Company System Brait.

Transactions: Report transactions conducted through each market with positive values indicating purchases and negative values indicating sales. Report separate lines for purchase and asles to each market if historical data is available. If separate purchase and sales that is not available, report net transactions through each market. Report energy in Net MWh.

Emission Rate Source: Use the picklist to select the most specific CO2 emission rate source for the contract. Picklist is sorted in order of most specific to least specific, followed by zero GHG.

Colorado Sales Information - Use FERC Form 1 or other relavent publically available data to report all retail electricity sales and all Colorado wholesale requirements contract sales that occurred in 2005. Report all contracts, including those that are excluded below from the baseline because they were no longer valid as of January 1, 2019 or because the extraoner intensit to file their own EC. Contract the Air Pollution Control Division with further questions. During the verification of the form by the Air Pollution Control Division, all data used to populate the form will be made available for review.

transmission and distribution assets.
For transmission and distribution systems that cover multiple states, report the quantity of SF6 emitted from Colorado portion of the system only

2005 Baseline Adjustment Details - Report all contracts that are excluded from the baseline because they were no longer valid as of January 1, 2019 or because the customer intends to file their own CEP.

Owned Assets
Co-owned facilities and units: Report data based on percentage of each facility or unit that is owned by the utility filing the report and consistent with modeling results submitted for the CEP.
Plant: Report Plant or Unit Name of the asset
Plants Report Plant or Unit Name of the asset
Plants Report Plant or Unit Name of the asset
Plants Report Plant or Unit Name of the asset
Plants Report Plants (Report projected heat input for each asset from the CEP resource modeling. Report zero if asset does not combust fuel.

**Netal Input: Case: Report the percentage of total heat input associated with combusting cals to the nearest tenth of a percent.

**Netal Input: Rout of Report the percentage of total heat input associated with combusting fault or the nearest tenth of a percent.

**Netal Input: Bolimass: Report the percentage of total heat input associated with combusting fluid to the nearest tenth of a percent.

**Netal Input: Bolimass: Report the percentage of total heat input associated with combusting fluid to the nearest tenth of a percent.

**Netal Input: Bolimass: Report the percentage of total heat input associated with combusting fluid for the nearest tenth of a percent.

**Netal Input: Bolimass: Report the percentage of total heat input associated with combusting fluid for the nearest tenth of a percent.

**Netal Input: Bolimass: Report associated with combusting fluid for the nearest tenth of a percent.

**Netal Input: Bolimass: Report associated with combusting fluid for the nearest tenth of a percent.

**Netal Input: Bolimass: Report associated with combusting fluid for the nearest tenth of a percent.

**Control Report associated with combusting fluid for the CEP.

**COZ Emissions Nethodology: Use the picklist to select the method of determining COZ emissions from the asset. Use the most specific data source available.

**Policital Stanted Input: Bolimass and the selection of the CEP.

**COZ Total: Report actual COZ emissions determined by the emission methodology for 2030.

Contract Furchases - Report contracts that are included in the load forecast used for resoure plan modeling of the CEP.

Counter Party. Report the entity with which the contract is or will be established.

Primary Generation Type: Use the pickits to report the primary level or resource type for the asset.

Purchases: Report the projected quantity of energy purchased in Net MWN.

Emission Rate Source: Use the pickits to select the most specific CO2 emission rate source for the contract. Picklist is sorted in order of most specific to least

Market Transactions - Report market transactions that are included in the load forecast used for resoure plan modeling of the CEP.

Market Name: Report the name each market from which transactions are expected to occur in 2030 based on current or expected market participation systems, Subregion, or Report in destruction: Report the classion of each market using the picklist.

systems, subregion, or region inestitication: report the location of each manket using the picture.

Transactions: Report transactions projected through each market with positive values indicating purchases and negative values indicating sales. Report separate lines for purchases and sales to each market if modeling data is available. If separate purchase and sales data is not modeled, report net transactions modeled through each market. Report energy in the KT WM.

Emission Rate Source: Use the picklist to select the most specific CO2 emission rate source for the contract. Picklist is sorted in order of most specific to least specific, followed by parce GMG.

Sales Information - Report projected retail and Colorado wholesale contract sales included in the load forecast used in resource plan modeling for the CEP. Report all contracts, including those that the customer intends to file their own CEP.

System Losses and 5F6 Leakage - For Colorado system line losses, report anticipated losses and 5F6 emissions in the distribution row if data is not calculated separately for transmission and distribution assets:

For transmission and distribution systems that cover multiple states, report the quantity of 5F6 emitted from Colorado portion of the system only.

2030 Adjustment Details - Report all contracts that the customer intends to file their own CEP

This tab is not used for determining acceptability of a CEP, nor any compliance determination with AQCC regulations. It is submitted for information purposes only to inform GHG reduction planning activities.

Report Total Load, beneficial Electrification Program Load, Total GHG emissions, and Total CO2 emissions for each calendar year based on forecasts submitted with resource planning activities.

Lists and Lookus:

If Bomass feels are used, enter the appropriate emission factors based on fuel type.

For long term contract, transactions, enter contract specific emission rates based on all generation assets included under the contract.

For long term contract transactions, enter the appropriate emission factors for the electricity pool supplied by the company. During the verification of the form by the Air Pollution Control Division, all data used to populate the emission factors will be made available for review.

If additional lines are necessary for contract transactions, they must be added above the line titled "LEAVE BLANK" and data must be entered in alphabetical order in the first column in order for the vlookup function to work properly.

Demonstration for 80% CO2 reduction in Retail + Colorado Wholesale sales pursuant to SB19-236

Step 1: Calculate 2005 CO2 baseline

Baseline	2005
Electricity sales CO2 (short tons)	554,811

Step 2: Calculate 2030 CO2 forecast

Forecast	2030
Electricity sales CO2 (short tons)	108,365

Step 3: Calculate percent CO2 reductions

CO2 Reduction Demonstration	
2005 Baseline CO2	554,811
2030 Projected CO2	108,365
Percent Reduction	80%

Plans that achieve 80% reduction when filed meet the minimum requirement of the statute.

Demonstration of 75% reduction in GHGs from retail sales pursuant to HB19-1261

Step 1: Calculate retail only GHG 2005 baseline

Baseline	2005
Retail electricity sales CO2e (Metric Tons)	505,461

Step 2: Calculate 2030 retail only GHG forecast

Forecast	2030
Retail electricity sales CO2e (Metric Tons)	98,971

Step 3: Calculate percent GHG reductions for retail sales

GHG Reduction Demonstration	
2005 Retail Baseline CO2e	505,461
2030 Retail Forecast CO2e	98,971
Percent Reduction	80%

Plans that achieve 80% reduction when filed meet the minimum initial requirement of the statute.

Approved plan that achieves 75% reduction meets minimum final requirement of the statute to qualify for the safe harbor provisions.

RED FONT: DATA ENTRY
BLACK FONT: Calculated
2005 All Electricity: Historical Generation and Emissions Data for CEP Baseline

						Owned Assets			
Plant or Unit	Primary Generation Type	Total Heat Input (MMBtu)	% Heat Input Coal	% Heat Input Natural Gas	% Heat Input Fuel Oil	% Heat Input Biomass	Generation (Net MWh)	CO2 Emissions Methodology	CO2 Total (Short Tons)
Kimball Wind Project	Wind	0	0.0%	0.0%	0.0%	0.0%	13,858	Zero GHG	0
TOTAL HEAT IN	NPUT	0				NERATION	13,858	TOTAL Emissions	0
		•		Contracted A		•			
Counter Party	Primary Generation Type	Purchases (MWh)	Emission Rate Source	CO2 Intensity (Lb/MWh)	CO2 Total (Short Tons)	CO2 Total (Metric Tons)	CH4 Total (Metric Tons CO2e)	N2O Total (Metric Tons CO2e)	CO2e Total (Metric Tons)
Black Hills Power Inc. (Neil				1					
Simpson II)	Coal	111,100	CEMS	2,530	140,523	127,480	37	646	128,163
Black Hills Power Inc. (Wygen I)	Coal	164,762	CEMS	2,935	241,798	219,356	62	67	219,484
Lincoln Electric System (Laramie					,	.,		-	
River Station 2&3)	Coal	218,500	CEMS	2,320	253,429	229,907	64	1,152	231,124
Pinnacle West	Coal	73,900	Market Rate	1,033	38,174	34,631	19	150	34,800
WAPA Allocation	Water	36,138	Zero GHG	0	0	0	0	0	0
WAPA Displacement	Water	85,064	Zero GHG	0	0	0	0	0	0
Xcel Energy	Coal	224,800	System Rate	1,959	220,192	199,755	293	972	201,020
TOTAL CONTRACT P	URCHASES	914,265		TOTAL Emissions	894,116	811,128	475	2,987	814,590
			Market Trans	actions (Negative for S	ales, Positive for Purc	:hases)			
Market Name	System, Subregion, or Region Identification	Transactions (MWh)	Emission Rate Source	CO2 Intensity (Lb/MWh)	CO2 Total (Short Tons)	CO2 Total (Metric Tons)	CH4 Total (Metric Tons CO2e)	N2O Total (Metric Tons CO2e)	CO2e Total (Metric Tons)
WECC Purchases	WECC	21,193	Market Rate	1,033	10,947	9,931	5	42	9,979
WECC Sales	Company System Rate	(85,616)	System Rate	1,927	(82,491)	(74,835)	(44)	(278)	(75,156)
TOTAL MARKET ENERGY	TRANSACTIONS	(64,423)		TOTAL Emissions	(71,544)	(64,903)	(38)	(235)	(65,177)
				Customer Sales In	formation				
		Net MWh	CO2 Emissions (Metric Tons)	GHG Emissions (Metric Tons CO2e)					
Retail Sale	S	556,589	503,316	505,461					
Arkansas River Powe	r Authority	178,801	156,285	156,956					
City of Fount		99,104	86,624	86,996					
Total Sales	S	834,494	746,225	749,413					
			Si	ystem Losses and Leak	age Information				
				SF6 Emissions	age information				
				(Metric Tons CO2e)					
Colorado Distribution S	system Losses								
Colorado Transmission	System Losses	29,207				Generation t	o Sales/Losses Variance	Quick Check:	0.00%
				CEP Baseline Emission	ons Summary				
		Short Tons	Metric Tons						
	CO2 Total Emissions	554,811	503,316	l '	These now subtract t	otals from below to gi	ve adjusted 2005 baseli	ine	
	GHG Total Emissions		505,461	İ			adjusted 2005 baseling		
				i .					

CH4 Total N2O Total

0 0

(Metric

Tons

CO2e)

(Metric

Tons

CO2e)

CO2 Total

(Metric

Tons)

0

CO2e

Total

(Metric

Tons)

0

CO2

Intensity

(Lb/Net

MWh)

0

GHG Intensity

(Metric Ton /

Net MWh)

0.00

0.00

2005 Baseline Adjustment Details								
	Net MWh	CO2 Intensity	CO2 Total	CO2 Total	CH4 Total	N2O Total	CO2e Total	
	Net wwn	(Lb/MWh)	(Short Tons)	(Metric Tons)	(Metric Tons CO2e)	(Metric Tons CO2e)	(Metric Tons)	
Arkansas River Power Authority	178,801	1,927	172,275	156,285	91	580	156,956	
City of Fountain, CO	99,104	1,927	95,487	86,624	51	322	86,996	
Total Sales	277,905	Total Emissions	267,761	242,909	142	902	243,953	

RED FONT: DATA ENTRY
BLACK FONT: Calculated
2030 All Electricity: Projected Generation and Emissions Data for CEP Compliance Year

						Owned Assets			
Plant or Unit	Primary Generation Type	Total Heat Input (MMBtu)	% Heat Input Coal	% Heat Input Natural Gas	% Heat Input Fuel Oil	% Heat Input Biomass	Generation (Net MWh)	CO2 Emissions Methodology	CO2 Total (Short Tons)
Wygen I	Coal	88,788	100.0%	0.0%	0.0%	0.0%	6,992	Generator Rate	9,317
TOTAL HEA	AT INPUT	88,788			TOTAL GE	NERATION	6,992	TOTAL Emissions	9,317
				Contracted	Assets				
		Purchases	Emission Rate	CO2 Intensity	CO2 Total	CO2 Total	CH4 Total	N2O Total	CO2e Total
Counter Party	Primary Generation Type	(MWh)	Source	(Lb/MWh)	(Short Tons)	(Metric Tons)	(Metric Tons CO2e)	(Metric Tons CO2e)	(Metric Tons)
Aspen, CO	Water	10,946	Zero GHG	0	0	0	0	0	0
Delta Montrose Electric									
Association	Water	30.332	Zero GHG	0	0	0	0	0	0
DG Solar	Solar	74,032	Zero GHG	0	0	0	0	0	0
Kimball Wind LLC	Wind	118,087	Zero GHG	0	0	0	0	0	0
Lincoln Electric System				-	-	-	•	-	-
(Laramie River Station 2&3)	Coal	49.398	Generator Rate	2,557	63,155	57,294	141	247	57,682
WAPA Allocation	Water	35.501	Zero GHG	0	0	0	0	0	0
WAPA Displacement	Water	180,000	Zero GHG	0	0	0	0	0	0
TOTAL CONTRAC		498,296	ZCIO GIIG	TOTAL Emissions	63,155	57,294	141	247	57,682
TOTAL CONTINA	ETT ORCHASES	430,230	Market Tra	nsactions (Negative for			1 171		37,002
	System, Subregion, or	Transactions	Emission Rate	CO2 Intensity	CO2 Total	CO2 Total	CH4 Total	N2O Total	CO2e Total
Market Name									
CDD Durashasas	Region Identification SPP	(MWh) 12,447	Source	(Lb/MWh) 525	(Short Tons) 3,267	(Metric Tons) 2,964	(Metric Tons CO2e) 10	(Metric Tons CO2e) 16	(Metric Tons) 2,990
SPP Purchases			Market Rate						
WECC Purchases TOTAL MARKET ENER	WECC	145,000	Market Rate	450 TOTAL Emissions	32,625	29,597	74	110 126	29,781
TOTAL MARKET ENER	GY TRANSACTIONS	157,447		TOTAL EMISSIONS	35,892	32,561	84	126	32,771
				Sales Inform					
		1			nation				
		Net MWh	CO2 Emissions	GHG Emissions					
			(Metric Tons)	(Metric Tons CO2e)					
Retail !		640,331	98,307	98,971					
Total S	Sales	640,331	98,307	98,971					
				System Losses and Lea	ikage Information				
				SF6 Emissions					
				(Metric Tons CO2e)					
Colorado Distributi				(Metric Tons CO2e)					
Colorado Distributi Colorado Transmiss		22,412		(Metric Tons CO2e)		Generation	o Sales/Losses Variance	Quick Check:	0.0
		22,412		, , , , , , , , , , , , , , , , , , , ,		Generation	to Sales/Losses Variance	Quick Check:	0.0
				Emissions Su	ımmary	Generation	to Sales/Losses Variance	Quick Check:	0.0
		22,412 Short Tons	Metric Tons CO2e	, , , , , , , , , , , , , , , , , , , ,	·	-	·		
			Metric Tons CO2e 98,307 98,971	, , , , , , , , , , , , , , , , , , , ,	These now subtract to	otal from below to give	co Sales/Losses Variance adjusted 2030 emission	s based on customers w	vho file CEP

GHG

Intensity

(Metric

Ton CO2e

/ Net MWh)

1.22

CO2

Intensity

(Lb/Net

MWh)

CO2e

Total

Tons)

(Metric

42 8,519 2,665

42 8,519 2,665 1.22

CH4 Total N2O Total

(Metric

Tons

CO2e)

(Metric

Tons

CO2e)

24

24

CO2 Total

(Metric

Tons)

8,452

8,452

2030 Adjustment Details							
	NI-+ NAVA/I-	CO2 Intensity	CO2 Total	CO2 Total	CH4 Total	N2O Total	CO2e Total
	Net MWh	(Lb/MWh)	(Short Tons)	(Metric Tons)	(Metric Tons CO2e)	(Metric Tons CO2e)	(Metric Tons)
Excluded Wholesale Contract #1		228	0	0	0	0	0
Total Sales	0	Total Emissions	0	0	0	0	0

Year	CO2 (Short Tons)	Total GHG (Metric Tons CO2e)	Load (Net MWh)	Beneficial Electrification Program Load (Net MWhr)	CO2 Intensity (Lb/Net MWhr)	GHG Intensity (Metric Ton CO2e / Net MWh)
2021					#DIV/0!	#DIV/0!
2022					#DIV/0!	#DIV/0!
2023					#DIV/0!	#DIV/0!
2024					#DIV/0!	#DIV/0!
2025	325,325	296,824	640,042	0	1017	0.46
2026	306,530	279,648	642,696	0	954	0.44
2027	301,136	274,698	647,798	0	930	0.42
2028	230,123	210,046	652,536	0	705	0.32
2029	143,304	130,903	660,146	0	434	0.20

	Emission Rate Picklist	
CEMS		
Generator Rate		
Contract Rate		
System Rate		
Market Rate		
Regional Factor		
Zero GHG		

Emission Rate Picklist is in order from most specific to least specific from carbon emitting sources

20	05 GHG Emission Rat	e Lookup Table		
	OWNED GENER	ATION		l
Fuel	CO2 (kg/mmbtu)	CH4 (kg/mmbtu)	N2O (kg/mmbtu)	1
Biomass				Editab
Coal	-	0.0110	0.0016	Locke
Fuel Oil		0.0030	0.0006	Locke
Natural Gas	-	0.0010	0.0001	Locke
	PURCHASED GEN	ERATION		
Energy Source	CO2 (lb/MWh)	CH4 (lb/MWh)	N2O (lb/MWh)	1
Black Hills Power Inc. (Neil Sin	2529.66	0.029	0.043	Editab
Black Hills Power Inc. (Wygen	2935.11	0.033	0.003	Editab
Lincoln Electric System (Laran	2319.72	0.026	0.039	Editab
Pinnacle West	1033.12	0.023	0.015	Editab
WAPA Allocation	0	0.000	0.000	Editab
WAPA Displacement	0	0.000	0.000	Editab
Xcel Energy	1959	0.115	0.032	Editab
	LEAVE BLANK			
AZNM	1311.05	0.017	0.018	Locke
CAMX	724.12	0.030	0.008	Locke
Company System Rate	1927	0.045	0.024	Editab
ERCT	1324.35	0.019	0.015	Locke
MRO	1823.69	0.028	0.031	Locke
MROW	1821.84	0.028	0.031	Locke
NWPP	902.24	0.019	0.015	Locke
RMPA	1883.08	0.023	0.029	Locke
SPNO	1960.94	0.024	0.032	Locke
SPP	1751.37	0.025	0.026	Locke
SPSO	1658.14	0.025	0.023	Locke
TRE	1324.35	0.019	0.015	Locke
WECC	1033.12	0.023	0.015	Locke

Primary Resource Type		
Coal		
Natural Gas		
Fuel Oil		
Biomass		
Wind		
Water		
Solar		

Cons		
Global Warming Potential,	Sources	
Methane (CH4)	25	GHG Protocol
Nitrous Oxide (N2O)	298	EPA Discussion
Sulfur Hexafluoride (SF6)	22,800	
kg/ton	0.00110231	

	2030 GHG Emission			_
	OWNED GE			
Fuel	CO2 (kg/mmbtu)	CH4 (kg/mmbtu)	N2O (kg/mmbtu)	
Biomass				Edita
Coal		0.0110	0.0016	Locke
Fuel Oil		0.0030	0.0006	Locke
Natural Gas		0.0010	0.0001	Lock
	PURCHASED G	ENERATION		
Energy Source	CO2 (lb/MWh)	CH4 (lb/MWh)	N2O (lb/MWh)	
Aspen, CO	0	0.000	0.000	Edita
Delta Montrose Electric Assoc	0	0.000	0.000	Edita
DG Solar	0	0.000	0.000	Edita
Kimball Wind LLC	0	0.000	0.000	Edita
Lincoln Electric System (Laram	2557	0.252	0.037	Edita
WAPA Allocation	0	0.000	0.000	Edita
WAPA Displacement	0	0.000	0.000	Edita
	LEAVE BLANK			
Company System Rate	228.034	0.327	0.048	Edita
MRO	675	0.060	0.0103	Lock
SPP	525	0.069	0.0096	Locke
TRE	540	0.048	0.0058	Locke
WECC	450	0.045	0.0056	Lock

table Company enters appropriate factor based on solid, liquid or gasous fuel type

table Company enters contract specific values here table Company enters contract specific values here table Company enters contract specific values here table Company enters contract specific values here table Company enters contract specific values here table Company enters contract specific values here table Company enters contract specific values here

OUTPUT EMISSIONS RATE - eGRID			
lb/GWh	Lb/GWh		
CH4	N20		
22.62	14.77		
18.65	15.11		
24.98	22.61		
24.62	25.52		
23.82	32.09		
22.88	28.75		
19.13	14.90		
28.00	30.71		
27.94	30.66		
18.65	15.11		
30.24	8.08		
17.45	17.94		

2005