EVERGY MISSOURI WEST

RESOURCE ACQUISITION STRATEGY SELECTION

INTEGRATED RESOURCE PLAN

4 CSR 240-22.070

APRIL 2021

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VOLUME 7: RESOURCE ACQUISITION STRATEGY SELECTION

PURPOSE: This rule requires the utility to select a preferred resource plan, develop an implementation plan, and officially adopt a resource acquisition strategy. The rule also requires the utility to prepare contingency plans and evaluate the demand-side resources that are included in the resource acquisition strategy.

SECTION 1: PREFERRED RESOURCE PLAN

(1) The utility shall select a preferred resource plan from among the alternative resource plans that have been analyzed pursuant to the requirements of 4 CSR 240-22.060. The utility shall describe and document the process used to select the preferred resource plan, including the relative weights given to the various performance measures and the rationale used by utility decision-makers to judge the appropriate tradeoffs between competing planning objectives and between expected performance and risk. The utility shall provide the names, titles, and roles of the utility decision–makers in the preferred resource plan selection process. The preferred resource plan shall satisfy at least the following conditions:

(A) In the judgment of utility decision-makers, strike an appropriate balance between the various planning objectives specified in 4 CSR 240-22.010(2);

The Alternative Resource Plans (ARP) developed and analyzed under the requirements of 4 CSR 240-22.060 were designed to meet the objectives of 4 CSR 240-22.010(2). Demand-side resources - in conjunction with MEEIA - and growth of the renewable portfolio have been key components in the resource planning efforts of the company for over a decade.

(B) Invest in advanced transmission and distribution technologies unless, in the judgment of the utility decision-makers, investing in those technologies

to upgrade transmission and/or distribution networks is not in the public interest;

These planning elements are discussed in 4 CSR 240-22.045 and in special contemporary issues.

(C) Utilize demand-side resources to the maximum amount that comply with legal mandates and, in the judgment of the utility decision-makers, are consistent with the public interest and achieve state energy policies; and

As indicated in Section 1(A) above, demand-side resources are a key component of alternative resource plan development. Per 4 CSR 240-22.010(2)(A), demand-side resources, renewable energy, and supply-side resources are to be analyzed on an equivalent basis, subject to compliance with all legal mandates. Regarding demand-side resources, MEEIA provides the legal mandate structure that helps to translate the potential studies and other DSM tools into portfolios that are included in the alternative resource plans to be evaluated.

These planning elements are discussed in 4 CSR 240-22.050.

(D) In the judgment of the utility decision-makers, the preferred plan, in conjunction with the deployment of emergency demand response measures and access to short-term and emergency power supplies, has sufficient resources to serve load forecasted under extreme weather conditions pursuant to 4CSR 240-22.030(8)(B) for the implementation period. If the utility cannot affirm the sufficiency of resources, it shall consider an alternative resource plan or modifications to its preferred resource plan that can meet extreme weather conditions.

The Preferred Plan WDDBU has been selected for Evergy Missouri West is shown in Table 1 below:

Table 1: Evergy Missouri West Preferred Plan

Year	CT (MW)	Wind (MW)	Solar (MW)	DSM (MW)	Retire (MW)
2021	0			68	
2022	0			89	
2023	0			137	
2024	0		120	166	97
2025	0	80		191	
2026	0	80		215	
2027	0			237	
2028	0		80	257	
2029	0		80	278	
2030	0		80	296	58
2031	0		80	301	
2032	0		80	299	
2033	233			298	
2034	0			300	
2035	0			301	
2036	0			303	
2037	0			307	
2038	0			310	
2039	233			311	242
2040	233			310	

The Preferred Plan includes the following renewable additions: 120 MW of solar generation in year 2024, and 80 MW of solar generation in each of the years 2028 – 2032. Additionally, 80 MW of wind generation in years 2025 and 2026. DSM resources are based upon a RAP level which consists of a suite of seven residential and ten commercial programs five of which are demand response programs, three demand response programs, and nine are energy efficiency programs.

The Preferred Plan also includes retiring a 97 MW natural gas unit at Lake Road in 2024, Evergy Missouri West's 58 MW share of Jeffrey-3 in 2030, 58 MW share

of Jeffrey-1 and 2 in 2039, and Evergy Missouri West's 126 MW share of Iatan-1 in 2039. Key drivers that contribute to these retirement decisions are continued low long-term gas price forecasts, low long-term peak load forecasts, the expectation of a carbon tax and significant renewable additions in the SPP region have reduced the economic value of the units.

The Preferred Plan was the lowest cost plan from a Net Present Value of Revenue Requirement (NPVRR) perspective.

The Preferred Plan meets the fundamental planning objectives as required by Rule 22.010(2) to provide the public with energy services that are safe, reliable, and efficient, at just and reasonable rates, in compliance with all legal mandates, and in a manner that serves the public interest and is consistent with state energy and environmental policies.

The Plan was reviewed and approved by David Campbell, President and Chief Executive Officer and Kevin Noblet, Vice President – Safety and Operations Planning.

The Forecast of Capacity Balance worksheet associated with the Evergy Missouri West Preferred Plan is shown in Table 2 below.

Table 2: Evergy Missouri West Forecast of Capacity Balance - Preferred Plan

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
A. System Generating Capacity (Evergy Metro share)																				
Base Capacity																				
Iatan 1	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	
Iatan 2	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162
Jeffrey Energy Center 1	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 2	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Jeffrey Energy Center 3	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	
Total Base Capacity	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**462**	**162**
Intermediate Capacity																				
Total Intermediate Capacity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peaking Capacity																				
Greenwood 1	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 2	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Greenwood 3	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
Greenwood 4	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
Lake Road 1	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Lake Road 2	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Lake Road 3	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Lake Road 4	97	97	97	97																
Lake Road 5	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Lake Road 6	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Lake Road 7	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Ralph Green 3	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
Nevada	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
South Harper 1	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 2	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
South Harper 3	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
Cross Roads Unit 1	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 2	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Cross Roads Unit 3	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Cross Roads Unit 4	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Steam Reduction	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
New CT	-	-	-	-	-	-	-	-	-	-	-	-	233	233	233	233	233	233	466	699
Total Peaking Capacity	**1,166**	**1,166**	**1,166**	**1,166**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,069**	**1,302**	**1,302**	**1,302**	**1,302**	**1,302**	**1,302**	**1,535**	**1,768**
Intermittent Capacity (Nameplate)																				
SJLP Landfill Gas	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Greenwood Solar	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Intermittent Capacity	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**
Percent Accredited Intermittent Capacity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Accredited Intermittent Capacity	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wind Additions					8	16	16	16	16	16	16	16	16	16	16	16	40	40	40	40
Solar Additions				60	60	60	60	100	140	148	156	164	164	164	164	164	164	164	164	164
Total Intermittent Capacity with Additions	4	4	4	64	72	80	80	120	160	168	176	184	184	184	184	184	208	208	208	208
Total Generation Capacity (TGC)	**1,632**	**1,632**	**1,632**	**1,692**	**1,603**	**1,611**	**1,611**	**1,651**	**1,691**	**1,699**	**1,707**	**1,715**	**1,948**	**1,948**	**1,948**	**1,948**	**1,972**	**1,972**	**2,205**	**2,137**
B. Capacity Transactions																				
Purchases:																				
Evergy Metro	323	325	328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gray County	13	13	37	37	37	37	37	37	37	37	37	-	-	-	-	-	-	-	-	-
Ensign	42	42	32	32	32	32	32	32	32	32	32	32	-	-	-	-	-	-	-	-
Rock Creek	31	31	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	-	-	-
Osborn	13	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	-	-	-	-
Pratt	81	81	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	-	-
Prairie Queen	38	38	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	-
Cimarron Bend III	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	-	-	-	-	-
PPA Purchase	-	-	-	160	232	215	201	192	178	168	173	225	-	-	-	25	25	75	-	-
Total Capacity Purchases (P)	554	556	506	338	410	393	379	370	356	346	351	366	109	109	109	121	107	135	27	-
Sales:																				
PPA Sale	(85)	(97)	(92)	(5)	(13)	(21)	(21)	(61)	(100)	(100)	(59)	(67)	-	(20)	(7)	-	-	-	-	-
Total Capacity Sales (S)	(85)	(97)	(92)	(5)	(13)	(21)	(21)	(61)	(100)	(100)	(59)	(67)	-	(20)	(7)	-	-	-	-	-
Net Transactions (NT)	**469**	**459**	**414**	**333**	**397**	**372**	**358**	**309**	**256**	**246**	**292**	**299**	**109**	**89**	**102**	**121**	**107**	**135**	**27**	**0**
Total System Capacity (TSC)	**2,101**	**2,091**	**2,046**	**2,025**	**2,000**	**1,983**	**1,969**	**1,960**	**1,947**	**1,945**	**1,999**	**2,014**	**2,057**	**2,037**	**2,050**	**2,069**	**2,079**	**2,107**	**2,232**	**2,137**
C. System Peaks & Reserves																				
Peak Demands																				
Forecasted Peak	**1,944**	**1,956**	**1,963**	**1,974**	**1,976**	**1,985**	**1,995**	**2,007**	**2,016**	**2,024**	**2,034**	**2,046**	**2,055**	**2,067**	**2,080**	**2,094**	**2,106**	**2,120**	**2,134**	**2,147**
Less DSM:																				
Demand Response	-	-	86	97	107	116	125	131	136	141	144	148	149	150	151	151	152	152	153	153
Energy Efficiency	-	-	12	24	35	45	53	61	68	74	79	84	88	90	91	93	96	99	101	103
MEEIA	68	89	38	40	40	40	38	37	38	39	32	19	12	9	8	8	7	7	5	2
Demand-Side Rates			1	4	8	13	21	28	36	41	45	48	50	51	51	51	52	52	52	52
Peak Forecast less DSM (PF)	**1,876**	**1,867**	**1,826**	**1,808**	**1,785**	**1,770**	**1,758**	**1,750**	**1,738**	**1,728**	**1,733**	**1,747**	**1,757**	**1,767**	**1,779**	**1,791**	**1,799**	**1,810**	**1,823**	**1,837**
Capacity Reserves (CR)	**225**	**224**	**219**	**217**	**214**	**212**	**211**	**210**	**209**	**217**	**266**	**268**	**300**	**270**	**271**	**278**	**280**	**297**	**409**	**300**
D. Capacity Needs																				
% Reserve Margin	12%	12%	12%	12%	12%	12%	12%	12%	12%	13%	15%	15%	17%	15%	15%	16%	16%	16%	22%	16%
% Capacity Margin	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	13%	13%	15%	13%	13%	13%	13%	14%	18%	14%
Required Capacity (RC)	**2,101**	**2,091**	**2,046**	**2,025**	**2,000**	**1,983**	**1,969**	**1,960**	**1,946**	**1,936**	**1,941**	**1,956**	**1,967**	**1,979**	**1,992**	**2,006**	**2,015**	**2,027**	**2,042**	**2,058**
Capacity Balance	**-**	**-**	**-**	**-**	**(0)**	**(0)**	**(0)**	**(0)**	**0**	**9**	**58**	**58**	**89**	**58**	**58**	**63**	**64**	**80**	**190**	**79**

The Preferred Plan was tested under extreme weather conditions as defined by Rule 240-22.030(8)(B). There is no unserved energy under this extreme condition.

SECTION 2: RANGES OF CRITICAL UNCERTAIN FACTORS

The utility shall specify the ranges or combinations of outcomes for the critical uncertain factors that define the limits within which the preferred resource plan is judged to be appropriate and explain how these limits were determined. The utility shall also describe and document its assessment of whether, and under what circumstances, other uncertain factors associated with the preferred resource plan could materially affect the performance of the preferred resource plan relative to alternative resource plans.

The ranges of critical uncertain factors are calculated by finding the value at which the critical uncertain factor needs to change in order for the Preferred Resource Plan to no longer be the preferred. The values of the NPVRR for the Preferred Resource Plan and the lowest cost plan under extreme conditions are compared and by using linear interpolation a crossover point value is found and expressed as a percent of the range of the critical uncertain factor. These percentages are superimposed on the high, mid and low forecasts for each critical uncertain factor to develop the resulting ranges.

The Company has selected its Preferred Plan, WDDBU based on the results of the NPVRR (in $mm) rankings of Evergy Metro Alternative Resource Plans (ARPs).

All ARPs are ranked based upon the expected value of results from the twenty-seven scenario/endpoint decision tree represented in Figure 1 of Volume 6, “Integrated Resource Plan and Risk Analysis”. Those results are presented below.

Table 3: Alternative Resource Plan Rankings

Rank (L-H)	Plan	NPVRR ($mm)	Delta
1	WDDBU	$9,830	$0
2	WDDBT	$9,890	$60
3	WDDDU	$9,964	$134
4	WAABS	$9,995	$165
5	WDDBS	$9,999	$169
6	WAACS	$10,030	$200
7	WCCCS	$10,064	$234
8	WBBCS	$10,082	$252
9	WAACA	$10,084	$254
10	WAAAS	$10,156	$327

The ARPs are also ranked by their sub-sets of results, representing a known state of CO_2. The nine endpoints assuming no future CO_2 restrictions are represented on the left side of Table 4 below. The second set of NPVRR results represent a mid-priced CO_2 tax scenario and the third set of NPVRR results represent a high-priced CO_2 tax scenario.

Table 4: Alternative Resource Plan Ranking Based upon CO_2 Assumptions

No CO_2			Mid CO_2			High CO_2		
Plan	NPVRR ($mm)	Delta	Plan	NPVRR ($mm)	Delta	Plan	NPVRR ($mm)	Delta
WDDBT	$9,101	$0	**WDDBU**	$9,695	$0	**WDDBU**	$10,954	$0
WAABS	$9,103	$2	**WDDBT**	$9,741	$46	**WDDBT**	$11,127	$173
WDDBU	$9,109	$8	**WDDDU**	$9,821	$125	**WDDDU**	$11,147	$193
WDDBS	$9,116	$15	**WAABS**	$9,823	$128	**WDDBS**	$11,399	$445
WAACS	$9,120	$19	**WDDBS**	$9,826	$131	**WAABS**	$11,401	$447
WAACA	$9,144	$43	**WAACS**	$9,853	$157	**WAACS**	$11,469	$515
WCCCS	$9,191	$90	**WCCCS**	$9,882	$187	**WCCCS**	$11,482	$528
WBBCS	$9,202	$101	**WAACA**	$9,899	$204	**WAAAS**	$11,497	$543
WDDDU	$9,210	$109	**WBBCS**	$9,903	$207	**WBBCS**	$11,501	$547
WAAAS	$9,299	$198	**WAAAS**	$9,995	$300	**WAACA**	$11,577	$623

The lowest ranked plan based on NPVRR by scenario/endpoint is shown in Table 5 below.

Table 5: Lowest NPVRR Alternative Resource Plan By Endpoint

Endpoint	ARP	Load Growth	Natural Gas	CO2	Endpoint Probability
1	WDDBU	High	High	High	0.5%
2	WDDBU	High	High	Mid	1.4%
3	WDDBU	High	High	Low	0.5%
4	WDDBU	High	Mid	High	1.5%
5	WDDBU	High	Mid	Mid	4.5%
6	WDDBU	High	Mid	Low	1.5%
7	WDDBU	High	Low	High	1.1%
8	WDDBU	High	Low	Mid	3.2%
9	WAABS	High	Low	Low	1.1%
10	WDDBU	Mid	High	High	1.5%
11	WDDBU	Mid	High	Mid	4.5%
12	WDDBU	Mid	High	Low	1.5%
13	WDDBU	Mid	Mid	High	5.0%
14	WDDBU	Mid	Mid	Mid	15.0%
15	WDDBT	Mid	Mid	Low	5.0%
16	WDDBU	Mid	Low	High	3.5%
17	WDDBU	Mid	Low	Mid	10.5%
18	WAABS	Mid	Low	Low	3.5%
19	WDDBU	Low	High	High	1.1%
20	WDDBU	Low	High	Mid	3.2%
21	WDDBU	Low	High	Low	1.1%
22	WDDBU	Low	Mid	High	3.5%
23	WDDBU	Low	Mid	Mid	10.5%
24	WDDBT	Low	Mid	Low	3.5%
25	WDDBU	Low	Low	High	2.5%
26	WDDBU	Low	Low	Mid	7.4%
27	WAABS	Low	Low	Low	2.5%

In the rankings above, the majority of the low NPVRR ARPs all share the same retirement scenarios - retiring Lake Road 4/6 in 2024 and Evergy Missouri West's share of Jeffrey-3 in 2030. Additionally, Evergy Missouri West's share of Jeffrey-2 and Jeffrey-3 are expected to be retired in 2039 which coincides with the units book life.

The tables following here represent the sensitivities for the uncertain factors by scenario/endpoint.

Table 6: Uncertain Factors Sensitivities – High Load Growth Vs. Natural Gas and CO_2

	With CO2		MID CO2		LOW CO2	
HIGH GAS	Endpoint	1	Endpoint	2	Endpoint	3
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
	WDDBU	12,347	WDDBU	10,504	WDDBU	9,717
	WDDBT	12,560	WDDBT	10,576	WDDBT	9,734
	WDDDU	12,576	WDDDU	10,659	WAABS	9,758
	WAABS	12,880	WAABS	10,685	WDDBS	9,781
	WDDBS	12,880	WDDBS	10,695	WAACS	9,784
	WAAAS	12,949	WAACS	10,726	WAACA	9,822
	WAACS	12,963	WAACA	10,787	WDDDU	9,839
	WCCCS	12,994	WCCCS	10,795	WBBCS	9,904
	WBBCS	13,012	WBBCS	10,815	WCCCS	9,908
	WAACA	13,091	WAAAS	10,835	WAAAS	9,934

	HIGH CO2		MID CO2		LOW CO2	
MID GAS	Endpoint	4	Endpoint	5	Endpoint	6
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
	WDDBU	12,013	WDDBU	10,330	WDDBT	9,531
	WDDBT	12,200	WDDBT	10,384	WDDBU	9,531
	WDDDU	12,217	WDDDU	10,471	WAABS	9,538
	WDDBS	12,487	WAABS	10,477	WDDBS	9,554
	WAABS	12,489	WDDBS	10,483	WAACS	9,558
	WAACS	12,562	WAACS	10,512	WAACA	9,584
	WAAAS	12,576	WCCCS	10,551	WDDDU	9,638
	WCCCS	12,576	WAACA	10,563	WCCCS	9,641
	WBBCS	12,595	WBBCS	10,571	WBBCS	9,650
	WAACA	12,676	WAAAS	10,639	WAAAS	9,728

	HIGH CO2		MID CO2		LOW CO2	
LOW GAS	Endpoint	7	Endpoint	8	Endpoint	9
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
	WDDBU	11,520	WDDBU	9,993	WAABS	9,250
	WDDBT	11,670	WDDBT	10,021	WDDBS	9,255
	WDDDU	11,692	WDDBS	10,072	WAACS	9,261
	WDDBS	11,908	WAABS	10,078	WDDBT	9,265
	WAABS	11,912	WDDDU	10,084	WAACA	9,274
	WAACS	11,972	WCCCS	10,093	WDDBU	9,289
	WCCCS	11,976	WAACS	10,094	WCCCS	9,292
	WBBCS	11,994	WBBCS	10,115	WBBCS	9,313
	WAAAS	12,022	WAACA	10,128	WDDDU	9,375
	WAACA	12,068	WAAAS	10,270	WAAAS	9,458

Table 7: Uncertain Factors Sensitivities – Low Load Growth Vs. Natural Gas and CO_2

	HIGH CO2		MID CO2		LOW CO2	
HIGH GAS	Endpoint	19	Endpoint	20	Endpoint	21
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
	WDDBU	10,826	WDDBU	9,607	WDDBU	9,069
	WDDBT	11,029	WDDBT	9,674	WDDBT	9,084
	WDDDU	11,050	WDDDU	9,760	WAABS	9,107
	WAABS	11,346	WAABS	9,782	WDDBS	9,130
	WDDBS	11,346	WDDBS	9,793	WAACS	9,133
	WAAAS	11,421	WAACS	9,823	WAACA	9,170
	WAACS	11,425	WAACA	9,884	WDDDU	9,191
	WCCCS	11,457	WCCCS	9,892	WBBCS	9,252
	WBBCS	11,474	WBBCS	9,912	WCCCS	9,255
	WAACA	11,551	WAAAS	9,936	WAAAS	9,287

	HIGH CO2		MID CO2		LOW CO2	
MID GAS	Endpoint	22	Endpoint	23	Endpoint	24
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
	WDDBU	10,609	WDDBU	9,509	WDDBT	8,964
	WDDBT	10,787	WDDBT	9,559	WDDBU	8,967
	WDDDU	10,807	WDDDU	9,649	WAABS	8,970
	WDDBS	11,070	WAABS	9,652	WDDBS	8,986
	WAABS	11,072	WDDBS	9,658	WAACS	8,990
	WAACS	11,142	WAACS	9,687	WAACA	9,016
	WCCCS	11,157	WCCCS	9,725	WCCCS	9,072
	WAAAS	11,163	WAACA	9,737	WDDDU	9,073
	WBBCS	11,176	WBBCS	9,745	WBBCS	9,082
	WAACA	11,254	WAAAS	9,816	WAAAS	9,163

	HIGH CO2		MID CO2		LOW CO2	
LOW GAS	Endpoint	25	Endpoint	26	Endpoint	27
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
	WDDBU	10,286	WDDBU	9,290	WAABS	8,797
	WDDBT	10,429	WDDBT	9,315	WDDBS	8,802
	WDDDU	10,453	WDDBS	9,366	WAACS	8,808
	WDDBS	10,664	WAABS	9,372	WDDBT	8,812
	WAABS	10,667	WDDDU	9,381	WAACA	8,821
	WAACS	10,726	WCCCS	9,387	WDDBU	8,839
	WCCCS	10,730	WAACS	9,388	WCCCS	8,839
	WBBCS	10,748	WBBCS	9,409	WBBCS	8,860
	WAAAS	10,781	WAACA	9,422	WDDDU	8,924
	WAACA	10,820	WAAAS	9,564	WAAAS	9,007

Table 8: Uncertain Factors Sensitivities – High Natural Gas Vs. Load and CO_2

	HIGH CO2		MID CO2		LOW CO2			HIGH CO2		MID CO2		LOW CO2			HIGH CO2		MID CO2		LOW CO2	
	Endpoint	1	Endpoint	2	Endpoint	3		Endpoint	10	Endpoint	11	Endpoint	12		Endpoint	19	Endpoint	20	Endpoint	21
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR		PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR		PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
HIGH LOAD	WDDBU	12,347	WDDBU	10,504	WDDBU	9,717	MID LOAD	WDDBU	11,318	WDDBU	9,901	WDDBU	9,287	LOW LOAD	WDDBU	10,826	WDDBU	9,607	WDDBU	9,069
	WDDBT	12,560	WDDBT	10,576	WDDBT	9,734		WDDBT	11,525	WDDBT	9,971	WDDBT	9,303		WDDBT	11,029	WDDBT	9,674	WDDBT	9,084
	WDDDU	12,576	WDDDU	10,659	WAABS	9,758		WDDDU	11,543	WDDDU	10,055	WAABS	9,326		WDDDU	11,050	WDDDU	9,760	WAABS	9,107
	WAABS	12,880	WAABS	10,685	WDDBS	9,781		WAABS	11,843	WAABS	10,079	WDDBS	9,349		WAABS	11,346	WAABS	9,782	WDDBS	9,130
	WDDBS	12,880	WDDBS	10,695	WAACS	9,784		WDDBS	11,843	WDDBS	10,090	WAACS	9,352		WDDBS	11,346	WDDBS	9,793	WAACS	9,133
	WAAAS	12,949	WAACS	10,726	WAACA	9,822		WAAAS	11,917	WAACS	10,120	WAACA	9,390		WAAAS	11,421	WAACS	9,823	WAACA	9,170
	WAACS	12,963	WAACA	10,787	WDDDU	9,839		WAACS	11,923	WAACA	10,181	WDDDU	9,409		WAACS	11,425	WAACA	9,884	WDDDU	9,191
	WCCCS	12,994	WCCCS	10,795	WBBCS	9,904		WCCCS	11,954	WCCCS	10,189	WBBCS	9,472		WCCCS	11,457	WCCCS	9,892	WBBCS	9,252
	WBBCS	13,012	WBBCS	10,815	WCCCS	9,908		WBBCS	11,972	WBBCS	10,209	WCCCS	9,475		WBBCS	11,474	WBBCS	9,912	WCCCS	9,255
	WAACA	13,091	WAAAS	10,835	WAAAS	9,934		WAACA	12,048	WAAAS	10,231	WAAAS	9,506		WAACA	11,551	WAAAS	9,936	WAAAS	9,287

Table 9: Uncertain Factors Sensitivities – Low Natural Gas Vs. Load and CO_2

	HIGH CO2		MID CO2		LOW CO2			HIGH CO2		MID CO2		LOW CO2			HIGH CO2		MID CO2		LOW CO2	
	Endpoint	7	Endpoint	8	Endpoint	9		Endpoint	16	Endpoint	17	Endpoint	18		Endpoint	25	Endpoint	26	Endpoint	27
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR		PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR		PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
HIGH LOAD	WDDBU	11,520	WDDBU	9,993	WAABS	9,250	MID LOAD	WDDBU	10,688	WDDBU	9,522	WAABS	8,952	LOW LOAD	WDDBU	10,286	WDDBU	9,290	WAABS	8,797
	WDDBT	11,670	WDDBT	10,021	WDDBS	9,255		WDDBT	10,834	WDDBT	9,548	WDDBS	8,957		WDDBT	10,429	WDDBT	9,315	WDDBS	8,802
	WDDDU	11,692	WDDBS	10,072	WAACS	9,261		WDDDU	10,857	WDDBS	9,599	WAACS	8,963		WDDDU	10,453	WDDBS	9,366	WAACS	8,808
	WDDBS	11,908	WAABS	10,078	WDDBT	9,265		WDDBS	11,070	WAABS	9,605	WDDBT	8,967		WDDBS	10,664	WAABS	9,372	WDDBT	8,812
	WAABS	11,912	WDDDU	10,084	WAACA	9,274		WAABS	11,074	WDDDU	9,612	WAACA	8,976		WAABS	10,667	WDDDU	9,381	WAACA	8,821
	WAACS	11,972	WCCCS	10,093	WDDBU	9,289		WAACS	11,132	WCCCS	9,620	WDDBU	8,992		WAACS	10,726	WCCCS	9,387	WDDBU	8,839
	WCCCS	11,976	WAACS	10,094	WCCCS	9,292		WCCCS	11,136	WAACS	9,621	WCCCS	8,994		WCCCS	10,730	WAACS	9,388	WCCCS	8,839
	WBBCS	11,994	WBBCS	10,115	WBBCS	9,313		WBBCS	11,154	WBBCS	9,642	WBBCS	9,015		WBBCS	10,748	WBBCS	9,409	WBBCS	8,860
	WAAAS	12,022	WAACA	10,128	WDDDU	9,375		WAAAS	11,187	WAACA	9,655	WDDDU	9,078		WAAAS	10,781	WAACA	9,422	WDDDU	8,924
	WAACA	12,068	WAAAS	10,270	WAAAS	9,458		WAACA	11,227	WAAAS	9,798	WAAAS	9,161		WAACA	10,820	WAAAS	9,564	WAAAS	9,007

Table 10: Uncertain Factors Sensitivities – High CO_2 Vs. Load and Natural Gas

	HIGH GAS		MID GAS		LOW GAS	
HIGH LOAD	Endpoint	1	Endpoint	4	Endpoint	7
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
	WDDBU	12,347	WDDBU	12,013	WDDBU	11,520
	WDDBT	12,560	WDDBT	12,200	WDDBT	11,670
	WDDDU	12,576	WDDDU	12,217	WDDDU	11,692
	WAABS	12,880	WDDBS	12,487	WDDBS	11,908
	WDDBS	12,880	WAABS	12,489	WAABS	11,912
	WAAAS	12,949	WAACS	12,562	WAACS	11,972
	WAACS	12,963	WAAAS	12,576	WCCCS	11,976
	WCCCS	12,994	WCCCS	12,576	WBBCS	11,994
	WBBCS	13,012	WBBCS	12,595	WAAAS	12,022
	WAACA	13,091	WAACA	12,676	WAACA	12,068

	HIGH GAS		MID GAS		LOW GAS	
MID LOAD	Endpoint	10	Endpoint	13	Endpoint	16
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
	WDDBU	11,318	WDDBU	11,064	WDDBU	10,688
	WDDBT	11,525	WDDBT	11,246	WDDBT	10,834
	WDDDU	11,543	WDDDU	11,264	WDDDU	10,857
	WAABS	11,843	WDDBS	11,530	WDDBS	11,070
	WDDBS	11,843	WAABS	11,532	WAABS	11,074
	WAAAS	11,917	WAACS	11,602	WAACS	11,132
	WAACS	11,923	WCCCS	11,617	WCCCS	11,136
	WCCCS	11,954	WAAAS	11,623	WBBCS	11,154
	WBBCS	11,972	WBBCS	11,636	WAAAS	11,187
	WAACA	12,048	WAACA	11,714	WAACA	11,227

	HIGH GAS		MID GAS		LOW GAS	
LOW LOAD	Endpoint	19	Endpoint	22	Endpoint	25
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
	WDDBU	10,826	WDDBU	10,609	WDDBU	10,286
	WDDBT	11,029	WDDBT	10,787	WDDBT	10,429
	WDDDU	11,050	WDDDU	10,807	WDDDU	10,453
	WAABS	11,346	WDDBS	11,070	WDDBS	10,664
	WDDBS	11,346	WAABS	11,072	WAABS	10,667
	WAAAS	11,421	WAACS	11,142	WAACS	10,726
	WAACS	11,425	WCCCS	11,157	WCCCS	10,730
	WCCCS	11,457	WAAAS	11,163	WBBCS	10,748
	WBBCS	11,474	WBBCS	11,176	WAAAS	10,781
	WAACA	11,551	WAACA	11,254	WAACA	10,820

Table 11: Uncertain Factors Sensitivities – Low CO_2 Vs. Load and Natural Gas

	HIGH GAS		MID GAS		LOW GAS	
HIGH LOAD	Endpoint	3	Endpoint	6	Endpoint	9
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
	WDDBU	9,717	WDDBT	9,531	WAABS	9,250
	WDDBT	9,734	WDDBU	9,531	WDDBS	9,255
	WAABS	9,758	WAABS	9,538	WAACS	9,261
	WDDBS	9,781	WDDBS	9,554	WDDBT	9,265
	WAACS	9,784	WAACS	9,558	WAACA	9,274
	WAACA	9,822	WAACA	9,584	WDDBU	9,289
	WDDDU	9,839	WDDDU	9,638	WCCCS	9,292
	WBBCS	9,904	WCCCS	9,641	WBBCS	9,313
	WCCCS	9,908	WBBCS	9,650	WDDDU	9,375
	WAAAS	9,934	WAAAS	9,728	WAAAS	9,458

	HIGH GAS		MID GAS		LOW GAS	
MID LOAD	Endpoint	12	Endpoint	15	Endpoint	18
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
	WDDBU	9,287	WDDBT	9,155	WAABS	8,952
	WDDBT	9,303	WDDBU	9,157	WDDBS	8,957
	WAABS	9,326	WAABS	9,162	WAACS	8,963
	WDDBS	9,349	WDDBS	9,178	WDDBT	8,967
	WAACS	9,352	WAACS	9,181	WAACA	8,976
	WAACA	9,390	WAACA	9,208	WDDBU	8,992
	WDDDU	9,409	WDDDU	9,263	WCCCS	8,994
	WBBCS	9,472	WCCCS	9,264	WBBCS	9,015
	WCCCS	9,475	WBBCS	9,273	WDDDU	9,078
	WAAAS	9,506	WAAAS	9,354	WAAAS	9,161

	HIGH GAS		MID GAS		LOW GAS	
LOW LOAD	Endpoint	21	Endpoint	24	Endpoint	27
	PLAN	NPVRR	PLAN	NPVRR	PLAN	NPVRR
	WDDBU	9,069	WDDBT	8,964	WAABS	8,797
	WDDBT	9,084	WDDBU	8,967	WDDBS	8,802
	WAABS	9,107	WAABS	8,970	WAACS	8,808
	WDDBS	9,130	WDDBS	8,986	WDDBT	8,812
	WAACS	9,133	WAACS	8,990	WAACA	8,821
	WAACA	9,170	WAACA	9,016	WDDBU	8,839
	WDDDU	9,191	WCCCS	9,072	WCCCS	8,839
	WBBCS	9,252	WDDDU	9,073	WBBCS	8,860
	WCCCS	9,255	WBBCS	9,082	WDDDU	8,924
	WAAAS	9,287	WAAAS	9,163	WAAAS	9,007

Natural Gas Uncertainty Ranges

Under the Low CO_2 scenarios, the contingency plans WDDBT and WDDBS become lower cost than the Preferred Plan depending on the natural gas price assumption.

Using the NPVRR results shown in the Tables below, linear interpolation was used to determine the change in gas prices necessary for the NPVRR for WDDBT or WDDBS to become lower than the Preferred Plan WDDBU. As natural gas prices decline towards the mid forecast, WDDBT becomes the lowest cost plan. With further price declines, WDDBS becomes the lowest cost contingency plan.

From these results, as natural gas prices move 88.9% of the distance from the High scenario towards the Mid scenario, WDDBT becomes the lower cost plan. With further gas price declines, WDDBS becomes the lower cost plan. This occurs at 69.7% from the Mid gas forecast.

Gas and Low CO_2		
Plan	**High**	**Mid**
WDDBU	$ 9,287	$ 9,157
WDDBT	$ 9,303	$ 9,155
Percent	from Mid	
Upper %	88.9%	

Gas and Low CO_2		
Plan	**High**	**Mid**
WDDBT	$ 9,155	$ 8,967
WDDBS	$ 9,178	$ 8,957
Percent	from Mid	
Upper %	69.7%	

CO_2 Cost Uncertainty Range

Under the Mid Gas, Mid Load scenarios, the contingency plan WDDBT becomes a lower cost plan than the Preferred Plan as CO_2 costs move towards the Low scenario.

Using the NPVRR results shown in the Table below, linear interpolation was used to determine the change in CO_2 costs necessary for WDDBT to become a lower cost plan than the Preferred Plan WDDBU. As CO_2 costs decline towards the Low scenario, WDDBT becomes the lower cost plan.

From these results, as CO_2 costs move 96.3% of the distance from the Mid CO_2 cost scenario towards the Low CO_2 cost scenario, WDDBT becomes the lower cost plan.

CO_2 and Mid Gas		
Plan	**High**	**Mid**
WDDBU	$ 9,778	$ 9,157
WDDBT	$ 9,830	$ 9,155
Percent	from Mid	
Upper %	96.3%	

Load Forecast Uncertainty Range

Given that the load forecast did not materially change plan rankings, the limits within which the Preferred Plan remains appropriate was not evaluated.

SECTION 3: BETTER INFORMATION

The utility shall describe and document its quantification of the expected value of better information concerning at least the critical uncertain factors that affect the performance of the preferred resource plan, as measured by the present value of utility revenue requirements. The utility shall provide a tabulation of the key quantitative results of that analysis and a discussion of how those findings will be incorporated in ongoing research activities.

The Company calculated the value of better information for the critical uncertain factors identified in the preliminary sensitivity test that affect the performance of the Preferred Plan. For each uncertainty, the Preferred Plan NPVRR for the specific uncertainty scenarios (or endpoints) was compared to the better plan under each extreme uncertainty condition. Baye's Theorem was applied to the endpoint probabilities to develop conditional probabilities for the calculation scenarios. The difference between the expected value of the Preferred Plan and the expected value of the plan with better information results is the expected value of better information.

These values represent the maximum amount the company should be willing to spend to study each of these uncertainties. It must be noted that should a Preferred Plan out-perform all alternatives across the range of a critical risk, the calculation for better information will yield a value of zero.

For Evergy Missouri West, under certain gas price scenarios, Low CO_2 costs would cause plan WDDBT or WDDBS to become a lower cost plan than the Preferred Plan in six of the Low CO_2 scenarios modeled. Table 12 below represents the value of better information when evaluating these plans having that knowledge.

Table 12: Better information - Gas Prices Given Low CO_2 Costs

Preferred Plan	Scenario	Plan	NPVRR	Probability	Cond. Prob.	Expected Value
High Load/Low CO2/Mid Gas	6	WDDBU	$ 9,531	1.50%	8.82%	$ 9,079
Mid Load/Low CO2/Mid Gas	15	WDDBU	$ 9,157	5.00%	29.41%	
Low Load/Low CO2/Mid Gas	24	WDDBU	$ 8,967	3.50%	20.59%	
High Load/Low CO2/Low Gas	9	WDDBU	$ 9,289	1.05%	6.18%	
Mid Load/Low CO2/Low Gas	18	WDDBU	$ 8,992	3.50%	20.59%	
Low Load/Low CO2/Low Gas	27	WDDBU	$ 8,839	2.45%	14.41%	
Better Information	**Scenario**	**Plan**	**NPVRR**	**Probability**	**Cond. Prob.**	**Expected Value**
High Load/Low CO2/Mid Gas	6	WDDBT	$ 9,531	1.50%	8.82%	$ 9,063
Mid Load/Low CO2/Mid Gas	15	WDDBT	$ 9,155	5.00%	29.41%	
Low Load/Low CO2/Mid Gas	24	WDDBT	$ 8,964	3.50%	20.59%	
High Load/Low CO2/Low Gas	9	WDDBS	$ 9,255	1.05%	6.18%	
Mid Load/Low CO2/Low Gas	18	WDDBS	$ 8,957	3.50%	20.59%	
Low Load/Low CO2/Low Gas	27	WDDBS	$ 8,802	2.45%	14.41%	
Expected Value of Better Information:			$ 15.8	Million		

SECTION 4: CONTINGENCY RESOURCE PLANS

The utility shall describe and document its contingency resource plans in preparation for the possibility that the preferred resource plan should cease to be appropriate, whether due to the limits identified pursuant to 4 CSR240-22.070(2) being exceeded or for any other reason.

(A) The utility shall identify as contingency resource plans those alternative resource plans that become preferred if the critical uncertain factors exceed the limits developed pursuant to section (2).

Evergy Missouri West has identified two contingency plans under conditions where certain critical uncertain factors deviate significantly from the mid-case expectations. The contingency resource plans are shown in Table 13 below:

Table 13: Contingency Resource Plans

Plan Name	DSM Level	Retire	Renewable Additions	Generation Additions
WDDBT	RAP + DSR	Lake Road 4/6: Dec 31, 2024 J-3: Dec 31, 2030 J-1 & J-2: Dec 31, 2039 Iatan-1: Dec 31, 2039	120 MW Solar (2024) 80 MW Solar (2028, 2029, 2030, 2031, 2032)	PPA 1 CT (233 MW) in 2033 1 CT (233 MW) in 2039 1 CT (233 MW) in 2040
WDDBS	RAP + DSR	Lake Road 4/6: Dec 31, 2024 J-3: Dec 31, 2030 J-1 & J-2: Dec 31, 2039 Iatan-1: Dec 31, 2039	120 MW Solar (2024)	PPA 2 CT (466 MW) in 2033 1 CT (233 MW) in 2040

These contingency plans were identified through evaluation of the relative cost performance of each alternative resource plan under different combinations of the critical uncertain factors. The combination of critical uncertain factors under which the contingency plans are projected to be lower cost than the Preferred Plan are as follows:

Low CO_2 Costs, Mid Natural Gas Prices

Under this combination of critical uncertain factors, Alternative Resource Plan WDDBT is expected to have a lower 20-year NPVRR than the Preferred Plan.

Low CO_2 Costs, Low Natural Gas Prices

Under this combination of critical uncertain factors, Alternative Resource Plan WDDBS is expected to have a lower 20-year NPVRR than the Preferred Plan.

(B) The utility shall develop a process to pick among alternative resource plans, or to revise the alternative resource plans as necessary, to help ensure reliable and low cost service should the preferred resource plan no longer be appropriate for any reason. The utility may also use this process to confirm the viability of contingency resource plans identified pursuant to subsection (4)(A).

The process used to select the contingency plans was derived from the analysis of risks imposed on the EMW portfolio in that they are generally the topped rank plans across all 27 scenarios.

(C) Each contingency resource plan shall satisfy the fundamental objective in 4 CSR240-22.010(2) and the specific requirements pursuant to 4 CSR 240-22.070(1).

The Contingency Plans meet the considerations of Rule 240.22.010(2) as they are Alternative Resource Plans developed and conformed in the response to Rule 240-22.060(3) in Volume 6 of this filing.

As for concurrence with Rule 240.070(1), the plans conform by meeting Rule 240.010(2), utilizes DSM that conforms to legal mandates and demonstrates adequate access to emergency short-term power supply in that each of the Evergy Missouri West plans modeled indicated no unserved energy.

SECTION 5: LOAD –BUILDING PROGRAMS

Analysis of Load-Building Programs. If the utility intends to continue existing load building programs or implement new ones, it shall analyze these programs in the context of one (1) or more of the alternative resource plans developed pursuant to 4 CSR 240- 22.060(3) of this rule, including the preferred resource plan selected pursuant to 4 CSR240-22.070(1). This analysis shall use the same modeling procedure and assumptions described in 4 CSR 240-22.060(4). The utility shall describe and document—

(A) Its analysis of load building programs, including the following elements:

1. Estimation of the impact of load building programs on the electric utility's summer and winter peak demands and energy usage;

2. A comparison of annual average rates in each year of the planning horizon for the resource plan(s) with and without the load building program;

3. A comparison of the probable environmental costs of the resource plan(s) in each year of the planning horizon with and without the proposed load-building program;

4. A calculation of the performance measures and risk by year; and

5. An assessment of any other aspects of the proposed load-building programs that affect the public interest; and

(B) All current and proposed load-building programs, a discussion of why these programs are judged to be in the public interest, and, for all resource plans that include these programs, plots of the following over the planning horizon:

1. Annual average rates with and without the load-building programs; and

2. Annual utility costs and probable environmental costs with and without the load-building programs.

Evergy Missouri West does not currently have or plan to propose any load-building programs.

SECTION 6: IMPLEMENTATION PLAN

The utility shall develop an implementation plan that specifies the major tasks, schedules, and milestones necessary to implement the preferred resource plan over the implementation period. The utility shall describe and document its implementation plan, which shall contain—

6.1 LOAD ANALYSIS - SCHEDULE AND DESCRIPTION

(A) A schedule and description of ongoing and planned research activities to update and improve the quality of data used in load analysis and forecasting;

Evergy plans to conduct its next Residential Appliance Saturation Survey during the next implementation period. The last survey was completed in 2019. The results were used to calculate appliance saturations and these saturations were used to calibrate DOE forecasts of appliance saturations for use in Evergy's load forecasting models. Evergy also plans to match the responses with the customers' billing records and to conduct a conditional demand study to measure the unit energy consumption (UEC) for each major appliance.

Evergy plans to look at conducting a price elasticity study during the implementation period.

Evergy will continue to develop and improve its framework of incorporating photovoltaic (PV) and electric vehicle (EV) impacts into the energy forecast to capture PV and EV energy impacts.

Evergy plans to look at developing a new industrial model that will allow the utility to create an industrial intensity index which would be calibrated to the Evergy service areas C&I survey data.

6.2 DEMAND-SIDE PROGRAMS – SCHEDULE AND DESCRIPTION

(B) A schedule and description of ongoing and planned demand-side programs and demand-side rates, evaluations, and research activities to improve the quality of demand-side resources;

The current schedules for ongoing and planned DSM programs are shown in Table 14 and Table 15 below:

Table 14: DSM Program Schedule – Existing Programs

Program Name	Program Type	Segment	Program Implemented	Annual Report	Program Duration	EM&V Completed and draft report available
Energy Saving Products	Energy Efficiency	Residential	Jan., 2020	90-days following Plan Year	3-Years	1-Yr following Plan Year
Online Home Energy Audit	Educational	Residential	Jan., 2020	90-days following Plan Year	3-Years	1-Yr following Plan Year
Heating, Cooling & Home Comfort	Energy Efficiency	Residential	Jan., 2020	90-days following Plan Year	3-Years	1-Yr following Plan Year
Income-Eligible Multi-Family	Energy Efficiency	Residential	Jan., 2020	90-days following Plan Year	6-Years	1-Yr following Plan Year
Home Energy Report	Energy Efficiency	Residential	Jan., 2020	90-days following Plan Year	3-Years	1-Yr following Plan Year
Residential Demand Response	Demand Response	Residential	Jan., 2020	90-days following Plan Year	3-Years	1-Yr following Plan Year
Business Standard	Energy Efficiency	C&I	Jan., 2020	90-days following Plan Year	3-Years	1-Yr following Plan Year
Business Custom	Energy Efficiency	C&I	Jan., 2020	90-days following Plan Year	3-Years	1-Yr following Plan Year
Business Process Efficiency	Energy Efficiency	C&I	Jan., 2020	90-days following Plan Year	3-Years	1-Yr following Plan Year
Online Business Energy Audit	Educational	C&I	Jan., 2020	90-days following Plan Year	3-Years	1-Yr following Plan Year
Business Smart Thermostat	Demand Response	C&I	Jan., 2020	90-days following Plan Year	3-Years	1-Yr following Plan Year
Business Demand Response	Demand Response	C&I	Jan., 2020	90-days following Plan Year	3-Years	1-Yr following Plan Year

Table 15: DSM Program Schedule – Planned Programs

Program Name	Program Type	Segment	Projected Tariff Filing Date	Projected Approval Date	Projected Implementation Date	Annual Report
Home Energy Report	Energy Efficiency	Residential	February,2023	July, 2022	January, 2023	90-days following Plan Year
Home Lighting Rebate	Energy Efficiency	Residential	February,2023	July, 2022	January, 2023	90-days following Plan Year
Income-Eligible Multi-Family	Energy Efficiency	Residential	February,2023	July, 2022	January, 2023	90-days following Plan Year
Whole House Efficiency	Energy Efficiency	Residential	February,2023	July, 2022	January, 2023	90-days following Plan Year
Direct Load Control	Demand Response	Residential	February,2023	July, 2022	January, 2023	90-days following Plan Year
Smart Thermostat	Demand Response	Residential	February,2023	July, 2022	January, 2023	90-days following Plan Year
Time of Use	Demand Response Rates	Residential	February,2023	July, 2022	January, 2023	90-days following Plan Year
Block Bidding	Energy Efficiency	C&I	February,2023	July, 2022	January, 2023	90-days following Plan Year
Business EER - Custom	Energy Efficiency	C&I	February,2023	July, 2022	January, 2023	90-days following Plan Year
Business EER - Standard	Energy Efficiency	C&I	February,2023	July, 2022	January, 2023	90-days following Plan Year
Small Business Lighting	Energy Efficiency	C&I	February,2023	July, 2022	January, 2023	90-days following Plan Year
Strategic Energy Management	Energy Efficiency	C&I	February,2023	July, 2022	January, 2023	90-days following Plan Year
Smart Thermostat	Demand Response	C&I	February,2023	July, 2022	January, 2023	90-days following Plan Year
Thermal Storage	Demand Response	C&I	February,2023	July, 2022	January, 2023	90-days following Plan Year
Business Demand Response	Demand Response	C&I	February,2023	July, 2022	January, 2023	90-days following Plan Year
Direct Load Control	Demand Response	C&I	February,2023	July, 2022	January, 2023	90-days following Plan Year
Time of Use	Demand Response Rates	C&I	February,2023	July, 2022	January, 2023	90-days following Plan Year
Real Time Pricing	Demand Response Rates	C&I	February,2023	July, 2022	January, 2023	90-days following Plan Year

Additional detail regarding the implementation plan for the DSM Preferred Plan can be found in Volume 5. It includes the descriptions of the programs, the implementation strategy, a discussion of risk management, the incentive levels used for planning purposes, energy and peak demand savings goals, and budget estimates.

6.3 SUPPLY-SIDE – SCHEDULES AND DESCRIPTIONS

(C) A schedule and description of all supply-side resource research, engineering, retirement, acquisition, and construction activities, including research to meet expected environmental regulations;

The Preferred Plan also includes acquiring approximately 350 MW of company-owned solar generation reaching commercial operation by December 31, 2024. The 350 MW project would be allocated to both Evergy Metro and Evergy Missouri West, assigning 120 MW to Evergy Missouri West and 230 MW to Evergy Metro. If the solar project ultimately selected is larger or smaller than 350 MW, the allocations to the two utilities will be adjusted accordingly. It is expected that the project selected for 2024 commercial operation would be selected from the Request for Proposal (RFP) issued in February 2021 with updated pricing solicited from developers prior to contract execution. A draft schedule of major milestones expected to be undertaken for the construction of a large-scale solar project is provided in Table 16 below:

Table 16: Solar Acquisition Milestones

Milestone Description	Expected Completion
Site Control Complete	October 2022
Environmental and Land Permitting Complete	December 2022
Development Complete	March, 2023
Design and Engineering	April 2023
EPC Agreement Execution	September 2023
Equipment Acquisition and Delivery	February 2024
Construction Complete	October 2024
Testing and Commissioning	October 2024
Commercial Operation	December 2024

There are also environmental retrofit projects continuing or expected to be continued or initiated during the three-year implementation period. Table 17 below provides estimated dates for major projects currently expected.

Table 17: Environmental Retrofit Project Schedule

Milestone Description	Date Range
Iatan 1 - Landfill Phase 1B Cover	2021 - 2022
Iatan 1 - Landfill Phase 2 Cover	2022 - 2023
Iatan 1 - Ash Pond Closure	2021
Iatan 1 - Intake Modification	2021 - 2023
Iatan 2 - Landfill Phase 1B Cover	2021 - 2022
Iatan 2 - Landfill Phase 2 Cover	2022 - 2023
Jeffrey 1 - Fly Ash Landfill Area 1 Permit Modification	2021 - 2024
Jeffrey 1 - Fly Ash Landfill Area 1 Cover	2021 - 2024
Jeffrey 1 - Fly Ash Landfill Area 2 Cover	2021 - 2024
Jeffrey 1 - FGD Landfill Leachate Pond	2021
Jeffrey 1 - FGD Landfill Cell 1C Cover	2021 - 2022
Jeffrey 1 - Bottom Ash Settling Area Closure	2021 - 2024
Jeffrey 1 - Bottom Ash Landfill Closure	2021 - 2024
Jeffrey 1 - Bottom Ash Conversion	2021
Jeffrey 1 - Effluent Guidelines FGD Wastewater	2021 - 2023
Jeffrey 2 - Fly Ash Landfill Area 1 Permit Modification	2021 - 2024
Jeffrey 2 - Fly Ash Landfill Area 1 Cover	2021 - 2024
Jeffrey 2 - Fly Ash Landfill Area 2 Cover	2021 - 2024
Jeffrey 2 - FGD Landfill Leachate Pond	2021
Jeffrey 2 - FGD Landfill Cell 1C Cover	2021 - 2022
Jeffrey 2 - Bottom Ash Settling Area Closure	2021 - 2024
Jeffrey 2 - Bottom Ash Landfill Closure	2021 - 2024
Jeffrey 2 - Bottom Ash Conversion	2021
Jeffrey 2 - Effluent Guidelines FGD Wastewater	2021 - 2023
Jeffrey 3 - Fly Ash Landfill Area 1 Permit Modification	2021 - 2024
Jeffrey 3 - Fly Ash Landfill Area 1 Cover	2021 - 2024
Jeffrey 3 - Fly Ash Landfill Area 2 Cover	2021 - 2024
Jeffrey 3 - FGD Landfill Leachate Pond	2021
Jeffrey 3 - FGD Landfill Cell 1C Cover	2021 - 2022
Jeffrey 3 - Bottom Ash Settling Area Closure	2021 - 2024
Jeffrey 3 - Bottom Ash Landfill Closure	2021 - 2024
Jeffrey 3 - Bottom Ash Conversion	2021
Jeffrey 3 - Effluent Guidelines FGD Wastewater	2021 - 2023
Lake Road 4/6 - 316(b) Study	2021 - 2024
Sibley 1 - Fly Ash Impoundment Closure	2021
Sibley 2 - Fly Ash Impoundment Closure	2021
Sibley 3 - Fly Ash Impoundment Closure	2021

6.4 MILESTONES AND CRITICAL PATHS

(D) Identification of critical paths and major milestones for implementation of each demand-side resource and each supply-side resource, including decision points for committing to major expenditures;

Demand-side critical paths and milestones are provided in Section 6.2 above. Supply-side resource expenditures include environmental projects listed in Table 17 above and are required to meet environmental regulations. Therefore, commitments are in place to ensure project completion.

6.5 COMPETITIVE PROCUREMENT POLICIES

(E) A description of adequate competitive procurement policies to be used in the acquisition and development of supply-side resources;

As referred to above, Evergy issued a RFP in February 2021. The RFP document is attached as Appendix 7A. Evergy retained 1898 & Co. to oversee distribution of the RFP and to collect and analyze respondent submittals.

6.6 MONITORING CRITICAL UNCERTAIN FACTORS

(F) A process for monitoring the critical uncertain factors on a continuous basis and reporting significant changes in a timely fashion to those managers or officers who have the authority to direct the implementation of contingency resource plans when the specified limits for uncertain factors are exceeded; and

Each critical uncertain factor is reviewed on an individual basis due to the varied nature of the information sources used in its review. This IRP analysis will be updated on an annual basis reflecting any changes to these critical uncertain factors. Results will be distributed to the Vice President, Safety and Operations Planning.

Critical Uncertain Factor: CO_2

CO_2 credit prices are reviewed on a continual basis. The data sources used are third party views predicting the price of the credits. Most of these third party studies are sparked by proposed legislation or are updated up to a quarterly basis. This review and update is conducted by the Fuels department with a full review conducted on an annual basis.

Critical Uncertain Factor: Load

Load forecasts are updated on an annual basis as part of the company's annual budgeting process.

Critical Uncertain Factor: Natural Gas

Natural Gas forecasts are updated weekly with executive updates provided on a monthly basis.

6.7 MONITORING PREFERRED RESOURCE PLAN

(G) A process for monitoring the progress made implementing the preferred resource plan in accordance with the schedules and milestones set out in the implementation plan and for reporting significant deviations in a timely fashion to those managers or officers who have the authority to initiate corrective actions to ensure the resources are implemented as scheduled.

6.7.1 DSM INITIATIVES

Evergy Missouri West has processes in place to monitor its Demand-Side Management programs and track and report their performance compared to the planned implementation schedule.

6.7.2 SOLAR INITIATIVES

Solar development is actively monitored by an internal team on an ongoing basis and will be receiving monthly progress reports from the solar developer(s) ultimately selected to develop ~350 MW of solar generation.

SECTION 7: RESOURCE ACQUISITION STRATEGY

The utility shall develop, describe and document, officially adopt, and implement a resource acquisition strategy. This means that the utility's resource acquisition strategy shall be formally approved by an officer of the utility who has been duly delegated the authority to commit the utility to the course of action described in the resource acquisition strategy.

7.1 RESOURCE ACQUISITION STRATEGY APPROVAL

The following statement is the formal approval by officers of Evergy Missouri West committing Evergy Missouri West to the course of action described in the resource acquisition strategy.

EVERGY MISSOURI WEST, INC.

INTEGRATED RESOURCE PLAN – 2021 TRIENNIAL FILING

CORPORATE APPROVAL AND STATEMENT OF COMMITMENT FOR

RESOURCE ACQUISITION STRATEGY

In accordance with Missouri Public Service Commission rules found in 4 CSR 240-22 and 4 CSR 240-22.080(3), Evergy Missouri West now officially adopts for implementation the resource acquisition strategy contained in this Triennial filing.

With the objective of providing the public with energy services that are safe, reliable, and efficient at just and reasonable rates, Evergy Missouri West is committed to the full implementation of the Resource Acquisition Strategy contained herein.

Kevin Noblet

Vice President Safety and Operations Planning

David Campbell

President and Chief Executive Officer

The officially adopted resource acquisition strategy shall consist of the following components:

7.2 PREFERRED RESOURCE PLAN

(A) A preferred resource plan selected pursuant to the requirements of section (1) of this rule;

The Preferred Resource Plan is outlined in Section 1 above per Rule 240-22.070(1).

7.3 IMPLEMENTATION PLAN

(B) An implementation plan developed pursuant to the requirements of section (6) of this rule; and

The Implementation Plan is outlined in Section 6 above per Rule 240-22.070(6).

7.4 CONTINGENCY RESOURCE PLANS

(C) A set of contingency resource plans developed pursuant to the requirements of section (4) of this rule and identification of the point at which the critical uncertain factors would trigger the utility to move to each contingency resource plan as the preferred resource plan.

The Contingency Resource Plans are outlined in Section 4 above per Rule 240-22.070(4).

SECTION 8: EVALUATION OF DEMAND-SIDE PROGRAMS AND DEMAND-SIDE RATES

(8) The utility shall describe and document its evaluation plans for all demand-side programs and demand-side rates that are included in the preferred resource plan selected pursuant to 20 CSR 4240-22.070(1). Evaluation plans required by this section are for planning purposes and are separate and distinct from the evaluation, measurement, and verification reports required by 20 CSR 4240-3.163(7) and 20 CSR 4240-20.093(7); nonetheless, the evaluation plan should, in addition to the requirements of this section, include the proposed evaluation schedule and the proposed approach to achieving the evaluation goals pursuant to 20 CSR 4240-3.163(7) and 20 CSR 4240-20.093(7). The evaluation plans for each program and rate shall be developed before the program or rate is implemented and shall be filed when the utility files for approval of demand-side programs or demand-side program plans with the tariff application for the program or rate as described in 20 CSR 4240-20.094(3). The purpose of these evaluations shall be to develop the information necessary to evaluate the cost-effectiveness and improve the design of existing and future demand-side programs and demand-side rates, to improve the forecasts of customer energy consumption and responsiveness to demand-side programs and demand-side rates, and to gather data on the implementation costs and load impacts of demand-side programs and demand-side rates for use in future cost-effectiveness screening and integrated resource analysis.

Evergy Missouri West will engage an EM&V contractor(s) to conduct process and impact evaluations of the DSM programs and demand-side rates that are approved by the Commission. The EM&V Contractor will meet with Evergy program staff to discuss evaluation objectives, establish a schedule of deliverables and set up a communications protocol. The EM&V Contractor will develop a high-level timeline of evaluation activities and reporting.

<u>EM&V Process Evaluation</u>

The scope of work will require that the Vendor conduct a process evaluation pursuant to requirements of 20 CSR 4240-22.070 (8) (A) and require the Vendor to provide answers to questions 1 through 5 of this rule sections in the EM&V final report ("Report").

EM&V Impact Evaluation

The scope of work will require that the Vendor conduct the impact evaluation pursuant to requirements of 20 CSR 4240-22.070 (8) (B) and require the Vendor to provide answers to questions 1 and 2 of this rule section in the Report.

EM&V Data Collection

The scope of work will require that the Vendor collect EM&V participation rate data, utility cost data, participant cost data and total cost data pursuant to requirements of 20 CSR 4240-22.070 (8) (C).

EM&V Reporting Requirements

The scope of work will also require that the Vendor perform, and report EM&V of each commission-approved demand-side program in accordance with 20 CSR 4240-3.163 (7).

Evergy Missouri West will provide the Missouri Public Service Commission ("Commission") Staff and other stakeholders with an opportunity to review and comment on the EM&V scope of work.

An EM&V for all demand-side programs and demand-side rates that are included in Evergy Missouri West's Preferred Plan will begin after the completion of each program year.

The EM&V scope of work will require the vendor to evaluate and prepare an annual program performance report. Preliminary EM&V reports will be available 90 days following the program year. Commission Staff and stakeholders will be provided with an opportunity to review, and comment on the preliminary report. The final

EM&V report will be available 180 days following the completion of each program year.

EM&V Schedule and Budget

The EM&V budget shall not exceed five percent (5%) of the total budget for all approved demand-side program costs. A tentative EM&V schedule is shown in Table 18 below. This schedule will be updated if/as needed for each program year under MEEIA 3.

Table 18: Evaluation Schedule[i]

1st Annual EM&V Begins	Day 1 of PY 1
1st Annual Draft Report	90 days after the end of PY 1
1st Annual Program Report	180 days after the end of PY 1
2nd Annual EM&V Begins	Day 1 of PY 2
2nd Annual Draft Report	90 days after the end of PY 2
2nd Annual Program Report	180 days after the end of PY 2
3rd Annual EM&V Begins	Day 1 of PY 3
3rd Annual Draft Report	90 days after the end of PY 3
3rd Annual Program Report	180 days after the end of PY 3

8.1 PROCESS EVALUATION

(A) Each demand-side program and demand-side rate that is part of the utility's preferred resource plan shall be subjected to an ongoing evaluation process which addresses at least the following questions about program design.

1. What are the primary market imperfections that are common to the target market segment?

See the response to Section 8, above.

2. Is the target market segment appropriately defined, or should it be further subdivided or merged with other market segments?

See the response to Section 8, above.

3. Does the mix of end-use measures included in the program appropriately reflect the diversity of end-use energy service needs and existing end-use technologies within the target market segment?

See the response to Section 8, above.

4. Are the communication channels and delivery mechanisms appropriate for the target market segment?

See the response to Section 8, above.

5. What can be done to more effectively overcome the identified market imperfections and to increase the rate of customer acceptance and implementation of each enduse measure included in the program?

See the response to Section 8, above.

8.2 IMPACT EVALUATION

(B) The utility shall develop methods of estimating the actual load impacts of each demand-side program and demand-side rate included in the utility's preferred resource plan to a reasonable degree of accuracy.

1. Impact evaluation methods. At a minimum, comparisons of one (1) or both of the following types shall be used to measure program and rate impacts in a manner that is based on sound statistical principles:

A. Comparisons of pre-adoption and post-adoption loads of program or demand-side rate participants, corrected for the effects of weather and other intertemporal differences; and

See the response to Section 8, above.

B. Comparisons between program and demand-side rate participants' loads and those of an appropriate control group over the same time period.

See the response to Section 8, above.

2. The utility shall develop load-impact measurement protocols that are designed to make the most cost-effective use of the following types of measurements, either individually or in combination:

A. Monthly billing data, hourly load data, load research data, end-use load metered data, building and equipment simulation models, and survey responses; or

See the response to Section 8, above.

B. Audit and survey data on appliance and equipment type, size and efficiency levels, household or business characteristics, or energy-related building characteristics.

See the response to Section 8, above.

8.3 DATA COLLECTION PROTOCOLS

(C) The utility shall develop protocols to collect data regarding demand-side program and demand-side rate market potential, participation rates, utility costs, participant costs, and total costs.

See the response to Section 8, above.

[i] Dates are estimated based on a December 2019 Commission approval of MEEIA 3 programs, and the approval of updated EM&V Plans in February 2021.