

EVERGY MISSOURI WEST

**RESOURCE ACQUISITION
STRATEGY SELECTION**

INTEGRATED RESOURCE PLAN

4 CSR 240-22.070

APRIL 2021



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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

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	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	58
Jeffrey Energy Center 2	58	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	58
Total Base Capacity	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462	462
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	97	97	97	97	97	97	97	97	97	97	97	97	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
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	1,302	1,535
Intermittent Capacity (Nameplate)																				
SJLP Lantill 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	16	40	40	40
Solar Additions	-	-	-	80	80	80	80	100	140	148	156	164	164	164	164	164	164	164	164	164
Total Intermittent Capacity with Additions	4	4	4	84	92	90	80	120	160	168	176	184	184	184	184	184	208	208	208	208
Total Generation Capacity (TGC)	1,832	1,832	1,832	1,892	1,803	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:																				
Energy Metro	323	325	328	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gray County	13	13	37	37	37	37	37	37	37	37	37	37	-	-	-	-	-	-	-	-
Ensign	42	42	32	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	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	27
Cimarron Bend III	13	13	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	109	121	107	135	27
Sales:																				
PPA Sale	(85)	(87)	(82)	(5)	(13)	(21)	(21)	(81)	(100)	(100)	(59)	(67)	-	(20)	(7)	-	-	-	-	-
Total Capacity Sales (S)	(85)	(87)	(82)	(5)	(13)	(21)	(21)	(81)	(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
- MEEA	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)																				
Capacity Reserves (CR)	225	224	219</																	