

Arizona Corporation Commission

2010 Biennial Transmission Assessment Workshop

Reliability Must Run Studies



Tucson Electric Power Company
UNS Electric, Inc.

Overview of Reliability Must Run

- TEP
 - TEP can serve load reliably under SIL, MLSC and RMR conditions
 - TEP can survive loss of parallel lines in Springerville – Vail corridor in 2010
 - TEP can survive loss of all transformers in any given EHV substation
 - New transmission required by mid-decade

TEP SIL, MLSC & RMR (2010, 2013 & 2019)

Year	Peak (MW)	Metric	Total Condition Value (MW)	Local Gen (MW)	Annual RMR Cost Estimate	RMR Mitigation Cost Estimate
2010	2384	SIL	2239	N/A	N/A	N/A
		MLSC	2641	546	N/A	N/A
2013	2527	SIL	1948	N/A	N/A	N/A
		MLSC	2638	546	N/A	N/A
		RMR	2592	430	\$625 Thousand	\$157 to \$197 Million
2019	2792	SIL	2442	N/A	N/A	N/A
		MLSC	3104	546	N/A	N/A
		RMR	2883	30	\$260 Thousand	\$1.5 to \$3.4 Million

Overview of Reliability Must Run

- UNS Electric Mohave County
 - WAPA's DSW transmission network is reliable and capable of serving customers in Mohave County
 - New transmission required mid-decade
- UNS Electric Santa Cruz County
 - Valencia generation is required in 2010 for Santa Cruz loads greater than 49 MW
 - Santa Cruz County can be reliably served through the combination of transmission and Valencia generation

Mohave County SIL, MLSC & RMR (2010, 2013 & 2019)

Year	Peak (MW)	Study Load (MW)	Metric	Total Condition Value (MW)	RMR & MLSC Generation	
					Station	Dispatch (MW)
2013	826	800	SIL	816	N/A	0
		1050	MLSC	1050	All in Area	1591
		826	RMR	10	Davis Unit No. 1	10
2018	935	875	SIL	889	N/A	0
		1200	MLSC	1200	All in Area	1591
		935	RMR	40	Davis Units No. 1-4	40

Davis and Parker will run on-peak at greater than RMR values

Santa Cruz County SIL, MLSC & RMR (2010, 2013 & 2019)

Year	Peak (MW)	Study Load (MW)	Metric	Metric Value (MW)	RMR & MLSC Generation	
					Station	Dispatch (MW)
2010	85	49	SIL	51	N/A	0
		130	MLSC	130	Valencia CT 1, 2, 3 & 4	62
2013	95	120	SIL	127	N/A	0
		190	MLSC	190	Valencia CT 1, 2, 3 & 4	62
		100	RMR	0	N/A	0
2019	112	120	SIL	127	N/A	0
		190	MLSC	190	Valencia CT 1, 2, 3 & 4	62
		117	RMR	0	N/A	0