AN ILLUSTRATION OF USING A SUITE OF RELIABILITY METRICS TO GET A GOOD PICTURE OF LOSS OF LOAD EVENTS*

Event Characteristic	Metric	California Aug 2020	Texas Feb 2021
Number of Events	LOLEv	2 events	1 event
Number of Days	LOLE	2 days	3 days
Number of Hours	LOLH	6 hours	71 hours
Unserved Energy	EUE	2,700 MWh	990,000 MWh
Max Shortfall	-	1,072 MW	20,000+ MW

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*Based on a paper submitted to the 2021 NERC Probabilistic Analysis Forum, *New Metrics for Resource Adequacy*, by Derek Stenclik of Telos Energy.

Estimates of Normalized Unserved Energy based on data from the Stenclik paper.

Event Characteristic	Metric	California Aug 2020	Texas Feb 2021
Unserved Energy	EUE	2,700 MWh	990,000 MWh
Normalized Unserved Energy	NEUE	0.00108%[1]	0.23192%[2]

I used the US Energy Administration's 2020 Total Electric Industry Sales[3] for annual California sales (250,174,672 MWh) & Texas sales (426,863,267 MWh). The normalized EUE estimates for the California & Texas outage events will be conservatively low in that they assume no other unserved energy events in other months in the years in question. Note that an Australian NEUE resource adequacy criterion is 0.002% and is the only NEUE criterion currently available. California would meet this criterion but Texas would not based on these NEUE estimates.

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[1] California NEUE = 2,700*100/250,174,672   = 0.00108% assuming no other 2020 unserved energy events.
[2] Texas   NEUE = 990,000*100/426,863,267 = 0.23192% assuming 2021 sales equal to 2020 sales and no other 2021 unserved energy events.
[3] 2020 Total Electric Industry Sales (MWh) https://www.eia.gov/electricity/sales_revenue_price/pdf/table2.pdf