

DATA REQUEST RESPONSE
Bear Valley Electric Service (BVES)

Request Date: Tuesday August 15, 2023

Response Provided by: Paul Marconi
Title: President, Treasurer & Secretary
Response Date: Friday August 18, 2023

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Data Request No: OEIS-P-WMP_2023-BVES-005

Subject: Q01. Regarding Fast Trip Settings

DATA REQUEST

1. Regarding Fast Trip Settings:
 - a. On page 162 of its 2023 WMP, BVES states that “BVES’s protective curve settings are always set to the fast trip settings” and that “for over 20 years, it is BVES’s policy to use the fast trip curve setting on all devices due to BVES’s location within high fire risk areas.”
 - i. When did BVES begin using fast trip curve settings?
 - ii. Are all of BVES’s protective devices capable of using fast trip settings? If not, provide the percentage of such devices broken down by equipment type.
 - iii. Are fast trip curve settings always enabled on such devices? If not, provide BVES’s procedures and thresholds for when it uses fast trip curve settings.
 - iv. Has BVES changed or modified its fast trip curve settings at all in the past 20 years? If so, describe how, including a timeline for when such changes were implemented.
 - v. Is BVES planning on modifying its use of fast trip settings in the future? If so, describe how, what BVES is evaluating, and BVES’s intended timeline for exploration and implementation.
 - b. On page 162 of its 2023 WMP, BVES states that “Comparison of BVES’s outage data to other California and US utilities for the last 10 years does not indicate this policy resulted in increased outages.”
 - i. Describe what analysis BVES performed to come to this conclusion.
 - ii. Provide the number of outages that have occurred from devices with fast trip curve settings enabled in the past 20 years, broken down annually.

Response a):

- i. In 1994, BVES implemented industry standard recommendation for traditional recloser fast trip curve settings.
- ii. Yes, BVES's aerial reclosers and substation circuit breakers have microprocessor-based controllers that have the ability to implement industry standard traditional recloser fast trip curve settings.
- iii. Yes, BVES keeps fast trip curve settings always enabled on aerial recloser and substation circuit breakers.
- iv. No changes were made.
- v. Currently, BVES does not have plans to modify its protective equipment and device settings (PEDS). BVES is evaluating other IOU strategies as to how they are modifying their PEDS and the results of such changes. BVES is considering engaging an expert consultant to provide further technical advice on adjusting fast curve settings. There are concerns when adjusting fast curve settings beyond the manufacturer's recommended settings that need to be considered. For example:
 - When operating equipment beyond the manufacturer's recommended trip settings, there are equipment performance and reliability issues to need to be understood. Additionally, there are liability issues to resolve or accept.
 - Should trip relay performance and testing regimes be changed (e.g., perform more frequently)?
 - Assurance and verification that the correct settings have been entered in the device equipment.
 - Backup architecture: if the device trip relay fails to trip, is there another protective device further on the circuit to provide backup protective de-energization?

Therefore, BVES is proceeding cautiously in its PEDS, which are already set to the manufacturers' fast trip settings. BVES will likely engage a technical expert to provide technical advice in this area and couple that information with the results of other IOU's experiences in this area.

Response b):

- i. Refer to "DR-005 Utility Outage Data" which compares BVES outages with other utilities for the last 10 years utilizing SAIDI, SAIFI and MAIFI. BVES outage data is comparable to other utilities.
- ii. Refer to "DR-005 Device Trips" for outages from devices with fast trip curve settings in the past 22 years.

END OF REQUEST

Year	Device Trips	Cause Unknown	% Cause Unknown
2001	3	0	0.0%
2002	5	1	20.0%
2003	7	0	0.0%
2004	15	2	13.3%
2005	6	0	0.0%
2006	2	1	50.0%
2007	5	0	0.0%
2008	5	0	0.0%
2009	4	2	50.0%
2010	8	0	0.0%
2011	7	1	14.3%
2012	11	5	45.5%
2013	13	9	69.2%
2014	6	1	16.7%
2015	10	1	10.0%
2016	8	0	0.0%
2017	4	0	0.0%
2018	8	1	12.5%
2019	9	1	11.1%
2020	12	2	16.7%
2021	16	4	25.0%
2022	21	5	23.8%
Average	8.4	1.6	17.2%

Last Ten Years of Reliability metrics by Utility

		MED Excluded					
		BVES	PGE	SCE	SDGE	Liberty	Pacificorp
2013	SAIDI	63.1	84.8	92.52	54.53	119.11	123.1
	SAIFI	1.6	0.804	0.85	0.45	1.23	0.705
	MAIFI	0.4	1.266	1.15	0.206	2.08	4.171
2014	SAIDI	47.6	85.2	91.62	63.52	352.37	160.8
	SAIFI	1.3	0.78	0.84	0.584	2.4	0.84
	MAIFI	0	1.125	1.17	0.237	2.15	2.64
2015	SAIDI	48.4	72.5	98.34	57.71	357.53	100
	SAIFI	0.8	0.689	0.83	0.521	2.01	0.674
	MAIFI	0.3	1.391	1.24	0.323	1.15	4.33
2016	SAIDI	72.4	83.1	106.29	70.67	213.63	96.2
	SAIFI	0.8	0.819	0.95	0.59	1.47	0.719
	MAIFI	0	1.304	1.33	0.38	1.08	2.554
2017	SAIDI	34.7	90	89.99	62.66	772.83	75.5
	SAIFI	0.6	0.792	0.84	0.504	2.86	0.607
	MAIFI	0.1	1.275	1.37	0.304	1.37	4.422
2018	SAIDI	46.7	90.7	70.81	77.05	287.99	72
	SAIFI	0.4	0.842	0.71	0.622	2.18	0.688
	MAIFI	0.1	1.154	1.23	0.314	0.52	2.478
2019	SAIDI	85	103.1	89.33	67.4	416.51	70.2
	SAIFI	0.7	0.877	0.85	0.563	2.96	0.473
	MAIFI	0	1.101	1.18	0.289	0.31	0.721
2020	SAIDI	55.3	111.2	89.42	64.26	181.64	87.5
	SAIFI	0.6	0.933	0.85	0.568	1.57	0.61
	MAIFI	0	1.146	1.19	0.265	0.313	0.556
2021	SAIDI	93.1	160	102.15	70.03	916.28	78.4
	SAIFI	1.5	1.033	0.93	0.65	4.6	0.814
	MAIFI	0	1.172	1.38	0.418	0.548	1.639
2022	SAIDI	119	184.5	100.29	69.48	470.75	96.7
	SAIFI	3.8	1.282	0.96	0.578	3.471	1.027
	MAIFI	0.1	1.184	1.2	0.285	0.113	0.129
10-Year Average	SAIDI	66.53	106.51	93.076	65.731	408.864	96.04
	SAIFI	1.21	0.8851	0.861	0.563	2.4751	0.7157
	MAIFI	0.1	1.2118	1.244	0.3021	0.9634	2.364

Source: CPUC 2022 Annual Electric Reliability Reports at <https://www.cpuc.ca.gov/industr>