

Southern California Edison
A.23-03-005 – Cal City PTC

DATA REQUEST SET E D - S C E - 0 0 2

To: Energy Division
Prepared by: Sheridan Mascarenhas
Job Title: Senior Advisor
Received Date: 7/25/2023

Response Date: 8/11/2023

Question 01:

Section II, Background, Footnote 1: Provide SCE’s 2022-2031 Distribution Substation Plan forecast values that became available 1st Quarter 2023

Response to Question 01:

Please see the data below, which provides SCE’s forecast loading values for Cal City Substation for the years 2022-2031.

Projected: Capacity versus Peak Demand	2022	2023	2024	2025	2026
Maximum Operating Limit (MVA)*	29.0	32.4	32.4	32.4	32.4
Peak Demand: 1-in-10 Year Heat Storm (MVA)	62.8	95.7	120.2	142.5	166.8
Surplus/Deficit (MVA) <i>before</i> Temporary Mitigation (MVA)	-33.8	-63.3	-87.8	-110.1	-134.4
Additional Peak Demand Served by Temporary Mitigation (MVA)*	3.9	29.9	59.9	62.3	62.3
Surplus/Deficit (MVA) <i>after</i> Temporary Mitigation (MVA)	-29.9	-33.4	-27.9	-47.8	-72.1

Projected: Capacity versus Peak Demand	2027	2028	2029	2030	2031
Maximum Operating Limit (MVA)*	32.4	32.4	32.4	32.4	32.4
Peak Demand: 1-in-10 Year Heat Storm (MVA)	166.8	166.8	166.8	166.8	166.8
Surplus/Deficit (MVA) <i>before</i> Temporary Mitigation (MVA)	-134.4	-134.4	-134.4	-134.4	-134.4
Additional Peak Demand Served by Temporary Mitigation (MVA)*	62.3	62.3	62.3	62.3	62.3
Surplus/Deficit (MVA) <i>after</i> Temporary Mitigation (MVA)	-72.1	-72.1	-72.1	-72.1	-72.1

*As described in greater detail in Section 2.1.2.3 of SCE's PEA, SCE is implementing several mitigation projects that would provide additional temporary capacity to minimize the amount of load that would otherwise go unserved until the Proposed Project was constructed. The "Maximum Operating Limit" includes mitigation projects that would increase the capacity of the existing Cal City Substation while the term "Temporary Mitigation" refers to the installation of temporary distribution pad mount substations along the 33 kV source lines which, in addition to the substation capacity improvements, increases the total capacity in the ENA.

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To: Energy Division
Prepared by: Louie Arredondo
Job Title: Engineer – Northern Distribution System Planning
Received Date: 7/25/2023

Response Date: 8/11/2023

Question 08:

Chpt. 2 Intro. Section 2.1.1.3.1 Distribution System Need, regarding Table 2-2, Note 1: Please provide the actual/historical metered load data for Cal City Substation for 2021 and 2022.

Response to Question 08:

Please see the attachments titled “A2303005-ED-SCE-002-Q8_2021.xlsx” and “A2303005-ED-SCE-002-Q8_2022.xlsx” which provide the actual/historical load data recorded at Cal City Substation for 2021 and 2022 on an hourly basis. Note that Cal City 33/12 kV Substation is operated as a split bus substation (e.g., Cal City A and Cal City B) and thus the attachments provide values for each bus section. SCE also notes that this is “raw” recorded data from its SCADA system and may include values reflective of various abnormal conditions not typically used for planning purposes such as temporary abnormal system configurations, contingency conditions, data capture issues, etc. Lastly, sources of generation connected to the 12 kV distribution circuitry result in negative net load, as measured at the substation bus, when the generation produced exceeds the demand of the customers.

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Question 10:

Chpt.2 Intro. Section 2.1.1.2Project Need: This section references recent load growth at Edwards Substation. Please provide annual peak megawatt values for both historical and forecast load growth at Edwards Substation for the period from 2019 through 2032.

Response to Question 10:

Please see the table below which provides the annual peak loading values for both historical and forecast demand at Edwards Substation from 2019 through 2031. Forecast data is provided through 2031 only, as the 10-year forecast covering the years 2023-2032 is not yet finalized.

Cal City Substation Upgrade Project (A. 23-03-005)						
Data Request ED-SCE-002, Question 10						
Edwards 115/33 kV Substation Total Load: Historical						
	Year			2019	2020	2021
Maximum Operating Limit (MVA)				56.7	56.7	56.7
Peak Demand: Normal Weather (MVA)				16.6	16.7	22.8
Peak Demand: 1-in-10 Year Heat Storm (MVA)				17.5	17.6	24.0
Surplus/Deficit (MVA)				39.2	39.1	32.7
Edwards 115/33 kV Substation Total Load: Projected						
	Year	2022	2023	2024	2025	2026
Maximum Operating Limit (MVA)		93.9	93.9	93.9	93.9	93.9
Peak Demand: Normal Weather (MVA)		48.7	72.1	72.1	72.2	72.3
Peak Demand: 1-in-10 Year Heat Storm (MVA)		51.6	76.5	76.5	76.5	76.6
Surplus/Deficit (MVA)		42.3	17.4	17.4	17.4	17.3
	Year	2027	2028	2029	2030	2031
Maximum Operating Limit (MVA)		93.9	93.9	93.9	93.9	93.9
Peak Demand: Normal Weather (MVA)		72.3	72.3	72.3	72.4	72.4
Peak Demand: 1-in-10 Year Heat Storm (MVA)		76.6	76.6	76.7	76.7	76.8
Surplus/Deficit (MVA)		17.3	17.3	17.2	17.2	17.1

Note 1: For this response, unity power factor is assumed and thus MVA=MW

Note 2: Data is from SCE's forecast covering the years 2022-2031

Note 3: In 2022 the capacity was increased with the replacement of one of the two 115/33 kV transformers

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Question 14:

Distribution System Need: Regarding the statement in the 3rd paragraph: “SCE identified several distribution system improvements, including reconductoring an existing 33 kV line, installing a new 33 kV line, ...,” please verify there are currently two 33 kV lines. Would the new 33 kV line be a third?

Response to Question 14:

There are two 33 kV source lines to the existing Cal City 33/12 kV Substation [one each from Edwards Substation (Castle Butte 33 kV) and Randsburg Substation (Heavy 33 kV)]. The new Balchen 33 kV line does not connect to the Cal City Substation and thus is not a third source line. The Balchen 33 kV line originates at Edwards Substation and is designed to serve customers within the ENA via direct 33 kV service to customer 33 kV switchgear or via 33/12 kV temporary pad mount distribution substations (located along the route of the 33 kV line) through appropriate transformation from 12 kV to standard service voltages.