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**COMMENTS OF THE PUBLIC ADVOCATES OFFICE ON THE CALIFORNIA
INDEPENDENT SYSTEM OPERATOR'S 2020-2021 TRANSMISSION PLANNING
PROCESS – SEPTEMBER 23-24, 2020 PRESENTATIONS AND STAKEHOLDER
MEETINGS**

Introduction

The Public Advocates Office at the California Public Utilities Commission (Cal Advocates) is California's independent consumer advocate with a mandate to obtain the lowest possible rates for utility services consistent with safe and reliable service levels, and the state's environmental goals.¹ Cal Advocates submits these comments and recommendations on the following topics presented in the California Independent System Operator's (CAISO) 2020-2021 Transmission Planning Process (TPP) stakeholder meeting on September 23-24, 2020: 1) the participating transmission owners' request window,² 2) the 2030 draft local capacity requirement (LCR) study results - overall summary,³ 3) the 2030 draft local capacity requirement (LCR) study results for the Los Angeles basin,⁴ and 4) the wildfire impact assessment.⁵

¹ Cal. Pub. Util. Code § 309.5.

² PG&E 2020 Request Window Proposals, CAISO 2020-2021 Transmission Planning Process, September 24, 2020, p. 25, and SDG&E 2020 Request Window Proposals, CAISO 2020-2021 Transmission Planning Process, September 24, 2020, p. 2.

³ 2030 Draft LCR Study Results-Overall Summary, CAISO 2020-2021 Transmission Planning Process Stakeholder Meeting, September 23-24, 2020, p. 8.

⁴ 2030 Draft LCR Study Results for the LA Basin and Overall San Diego-Imperial Valley Areas, 2020-2021 Transmission Planning Process Stakeholder Meeting, September 23-24, 2020, p. 143.

⁵ Wildfire Impact Assessment-Preliminary Results, 2020-2021 Transmission Planning Process Stakeholder Meeting, September 24, 2020. Presentation slides are not currently publicly available. <http://www.caiso.com/Documents/Presentation-2020-2021TransmissionPlanningProcess-Sep242020.pdf>.

Discussion and Recommendations

1. Participating Transmission Owners' Request Window

During the September 24, 2020 stakeholders meeting, Pacific Gas and Electric Company (PG&E) and San Diego Gas and Electric Company (SDG&E) identified project needs based on contingency overloads. Cal Advocates provides the following comments on PG&E's proposed Santa Teresa 115 kilovolt (kV) substation project and SDG&E's proposed Bay Blvd - Silvergate transmission line.

a. PG&E's Proposed Santa Teresa 115 kV Substation Project (Load Interconnection Driven):⁶

PG&E proposed the Santa Teresa 115 kV substation project on its property at Edenvale Service Center in San Jose.⁷ PG&E's stated purpose for the proposed project is to provide distribution capacity to serve the existing distribution data center and three new distribution data centers to meet customers' load, as well as to improve service reliability and operating flexibility in the south San Jose area.⁸ PG&E estimates the transmission cost to be between \$6 and \$9 million.⁹ According to the CAISO's Business Practice Manual for the Transmission Planning Process, solutions addressing grid reliability should set forth a sufficient description of the costs of those solutions.¹⁰ This information is necessary for the CAISO to determine if a proposed solution meets the identified reliability need in a more efficient or cost-effective manner.¹¹ However, PG&E did not provide a sufficiently detailed description of the estimated costs of the proposed Santa Teresa 115 kV project to determine if the project is the most efficient and cost-effective solution

Cal Advocates recommends the CAISO provide an itemized list of the capital costs for the transmission portion of the project by project component, and the methodologies PG&E used to develop those capital cost estimates in order for stakeholders to provide input.

⁶ PG&E 2020 Request Window Proposals, CAISO 2020-2021 Transmission Planning Process, September 24, 2020, p. 25.

⁷ PG&E 2020 Request Window Proposals, CAISO 2020-2021 Transmission Planning Process, September 24, 2020, p. 29.

⁸ PG&E 2020 Request Window Proposals, CAISO 2020-2021 Transmission Planning Process, September 24, 2020, p. 28.

⁹ PG&E 2020 Request Window Proposals, CAISO 2020-2021 Transmission Planning Process, September 24, 2020, p. 29.

¹⁰ See Business Practice Manual for Transmission Planning Process (June 30, 2020), p. 32.

¹¹ See Business Practice Manual for Transmission Planning Process (June 30, 2020), p. 41.

b. SDG&E's Proposed Bay Blvd-Silvergate Transmission Line:¹²

SDG&E proposed adding a second 230 kV line from Bay Blvd to Silvergate to eliminate a P1¹³ overload.¹⁴ SDG&E estimates the costs of the proposed project, which is identified under its metro region reliability and economic project, to be \$170 million.¹⁵

Cal Advocates observes that SDG&E is showing overloads using the normal rating of the transmission line under contingency conditions, which is not the standard practice.¹⁶ The standard practice would be for SDG&E to use the emergency ratings for reliability assessments.¹⁷ The CAISO also suggested SDG&E could use the 2-hour short term emergency ratings and operation procedure.¹⁸ This allows the market and operators to eliminate the overloads by reducing generation output in the Otay Mesa area.¹⁹ If SDG&E does not revise its practice using the standard emergency ratings, Cal Advocates recommends that the CAISO not approve the project based on a reliability need.

If there are economic benefits for this project, Cal Advocates recommends the CAISO identify them as part of its economic assessment. The Business Practice Manual dictates that the CAISO assess whether transmission solutions will provide either additional reliability or economic benefits to the CAISO grid.²⁰ If SDG&E does not demonstrate overload using the standard practice and the CAISO has not identified any economic benefits, the CAISO may not determine that the Proposed Bay Blvd - Silvergate transmission line is needed.

¹² SDG&E 2020 Request Window Proposals, CAISO 2020-2021 Transmission Planning Process, September 24, 2020, p. 2.

¹³ P1 is a single line outage.

¹⁴ SDG&E 2020 Request Window Proposals, CAISO 2020-2021 Transmission Planning Process, September 24, 2020, p. 2.

¹⁵ SDG&E 2020 Request Window Proposals, CAISO 2020-2021 Transmission Planning Process, September 24, 2020, p. 2.

¹⁶ CAISO 2020-2021 Transmission Planning Process: Unified Planning Assumptions and Study Plan, February 21, 2020, p. 22.

¹⁷ The transmission system will be evaluated under normal system conditions NERC Category P0 (TPL 001-5), against normal ratings and normal voltage ranges, as well as emergency conditions NERC Category P1-P7 (TPL 001-5) contingencies against emergency ratings and emergency voltage range as identified in Section 4.1.6.

¹⁸ CAISO Operating Procedure No. 3100, Version 7, March 20, 2020.

¹⁹ See "Bay Blvd -Silvergate230 kV line," SDG&E Main System Preliminary Reliability Assessment Results, Frank Chen, CAISO 2020-2021 Transmission Planning Process Stakeholder Meeting, September 23-24, 2020, PDF p. 228 of 247.

²⁰ Business Practices Manual for the Transmission Planning Process, p. 43.

2. 2030 Draft Local Capacity Requirement (LCR) Study Results-Overall Summary²¹

The purpose of the CAISO LCR studies is to reflect the minimum resource capacity needed in transmission-constrained areas in order to meet the North American Electric Reliability Corporation's (NERC) reliability requirements,²² the Western Electricity Coordinating Council (WECC),²³ and the CAISO's mandatory reliability standards. The CAISO performs these LCR studies every two years²⁴ for California. As part of the LCR studies, the CAISO also reviews how much energy storage can be accommodated in each LCR area and sub-area based on the restriction of the battery capacity and its charging capability. The CAISO's short and medium-term²⁵ LCR studies for years 2021 and 2025 included the megawatts and megawatt-hours of the storage amounts. In the latest 2030 LCR studies, the CAISO also estimated the approximate maximum megawatts of "4-hour" storage that can be accommodated in each LCR area and sub-area from the perspective of batteries capability of charging in order to reflect the amount of storage that could be counted for resource adequacy.²⁶ However, the CAISO has not provided the underlying analysis regarding the capacity of the batteries and its capability of charging in order to support its LCR studies for 2021, 2025, and 2030. To further coordination, openness, transparency, and information exchange,²⁷ Cal Advocates recommends that the CAISO provide stakeholders with the underlying analysis it performed, in an *Excel* spreadsheet, to support its LCR studies for 2021, 2025 and 2030 as soon as possible, so stakeholders have adequate time to provide meaningful input on this analysis.

3. 2030 Draft LCR Study Results for the Los Angeles Basin²⁸

The CAISO assumed the Southern California Edison Company's (SCE) proposed Alberhill project would be in service in its 2030 TPP draft LCR studies.²⁹ The California Public Utilities

²¹ 2030 Draft LCR Study Results-Overall Summary, CAISO 2020-2021 Transmission Planning Process Stakeholder Meeting, September 23-24, 2020, p. 8.

²² NERC ensures the reliability of the bulk power system by developing quality reliability requirements.

²³ WECC promotes bulk electric system reliability in the Western interconnections.

²⁴ 2030 Draft LCR Study Results-Overall Summary, CAISO 2020-2021 Transmission Planning Process Stakeholder Meeting, September 23-24, 2020, p. 5.

²⁵ Short term LCR refers to year 2021, and medium term refers to year 2025. Long term LCR refers to year 2030.

²⁶ 2030 Draft LCR Study Results-Overall Summary, CAISO 2020-2021 Transmission Planning Process Stakeholder Meeting, September 23-24, 2020, p. 8.

²⁷ These transmission planning principles are provided in Federal Energy Regulatory Commission (FERC) Order Nos. 890 and 1000.

²⁸ 2030 Draft LCR Study Results for the LA Basin and Overall San Diego-Imperial Valley Areas, 2020-2021 Transmission Planning Process Stakeholder Meeting, September 23-24, 2020, p. 143.

²⁹ 2030 Draft LCR Study Results for the LA Basin and Overall San Diego-Imperial Valley Areas, 2020-2021 Transmission Planning Process Stakeholder Meeting, September 23-24, 2020, p. 143.

Commission (CPUC) previously denied the Certificate of Public Convenience and Necessity (CPCN) for the proposed Alberhill project without prejudice in 2018.³⁰ SCE filed a second amended application for the proposed Alberhill project on May 11, 2020.³¹ Conversely, SCE also submitted a plan in the CPUC’s Distributed Resource Proceeding³² to defer the Alberhill project and evaluate a non-wire solution to address potential overload in the Alberhill service area.

Given the uncertainty associated with the Alberhill Project, Cal Advocates recommends that the CAISO recognize the potential cancellation and/or deferral of this project in its TPP modeling scenarios.

4. Wildfire Impact Assessment

Due to severe flaws in its study methodology, the CAISO’s Wildfire Impact Assessment provides little benefit for policymaking or planning. At the stakeholder meeting on September 24, 2020, the CAISO presented preliminary results of a “Wildfire Impact Assessment,” which purports to show the potential effects of proactive de-energization events on the transmission system in PG&E’s service territory. The Wildfire Impact Assessment examines what would occur if certain electric transmission segments were de-energized to mitigate the risk of wildfire ignition, at summer peak demand conditions.³³

The CAISO presented three scenarios; the first scenario posits that PG&E de-energizes all transmission segments running through high fire threat districts (HFTD). The second scenario posits that PG&E de-energizes all transmission segments running through Tier 3 HFTD areas – the highest-risk areas. The third scenario posits that PG&E de-energizes the same transmission segments that were shut off in the de-energization event of October 26-29, 2019.³⁴ However, the CAISO assumes that distribution lines would remain energized to serve customers in all scenarios.³⁵ With these scenario assumptions, the CAISO’s analysis predicts numerous overloads of the transmission system in PG&E’s service territory, which would require the CAISO to curtail load.

Unfortunately, the Wildfire Impact Assessment ignores critical facts. It fails to consider the most direct consequence of wildfire-related de-energization events: customers will lose power because

³⁰ Decision (D.)18-08-026 issued on August 31, 2018.

³¹ Second Amended Application of Southern California Edison Company (U 338-E) for A Certificate of Public Convenience Necessity for The Alberhill System Project, Application (A.)09-09-022, May 21, 2020.

³² SCE filed its Reports of Southern California Edison Company (U 338-E) of Its 2019 Grid Needs Assessment and 2019 Distribution Deferral Opportunities Report on August 14, 2014 in R.14-08-013.

³³ Wildfire Impact Assessment-Preliminary Results, 2020-2021 Transmission Planning Process Stakeholder Meeting, September 24, 2020. Presentation slides are not currently publicly available. <http://www.caiso.com/Documents/Presentation-2020-2021TransmissionPlanningProcess-Sep242020.pdf>.

³⁴ Wildfire Impact Assessment – Preliminary Results, 2020-2021 Transmission Planning Process Stakeholder Meeting, September 24, 2020.

³⁵ CAISO’s presentation slides acknowledged that the Wildfire Impact Assessment analysis did not consider any reduction in load from de-energization of the distribution system. The analysis only considered reductions in load driven by the transmission system.

distribution lines will be shut off. One cannot analyze a problem while ignoring its most important aspect. Because many customers lose service in de-energization events, load on the transmission system is substantially reduced from normal levels.³⁶

The scenarios that the CAISO presented do not reflect the actual occurrences and outcomes of de-energization events, which primarily affect distribution circuits and not transmission circuits.³⁷ These scenarios are not relevant to de-energization events that are likely to occur. Indeed, no California electric utility has ever called a transmission-only de-energization event.

Actual de-energization events to mitigate wildfire risk involve shutting off distribution circuits, resulting in loss of power to many electric customers. For example, on October 26, 2019, PG&E shut off power to nearly one million customer accounts.³⁸ Although the Wildfire Impact Assessment refers to this event as a scenario, the CAISO's assumptions do not match with facts PG&E has provided about their de-energization events.³⁹

Typically, electric utilities de-energize far more distribution lines than transmission lines, because distribution lines pose a greater risk of igniting wildfires.⁴⁰ To reduce the risk of vegetation contacting the wires and igniting a fire, transmission lines are mounted higher (above surrounding vegetation) and the surrounding trees are trimmed farther from the wires.⁴¹ Steel transmission towers are more resilient to strong winds than wooden poles. Transmission conductors are also spaced farther apart to reduce the likelihood of arcs, wire-to-wire contact, and animal contacts that cause faults. Because transmission lines carry lower risks of ignitions, shutting off transmission lines is less often necessary.

Moreover, electric utilities have evidently been reluctant to de-energize transmission lines because doing so might require shutting off power to many customers who do not live in high-risk areas.

³⁶ Cal Advocates has issued a data request to PG&E to obtain specific information about how much de-energization events reduce load but has not yet received responses. Cal Advocates data request CalAdvocates-PGE-HB-09282020, issued September 28, 2020 with responses due October 12, 2020.

³⁷ In each de-energization event in October and November 2019, PG&E de-energized approximately ten times as many miles of distribution lines as transmission lines. PG&E response to Public Advocates Office data request CalAdvocates-003 in Rulemaking 18-12-005, questions 3 and 4.

³⁸ PG&E shut off 967,705 customer accounts in this event. Cal Advocates data request Cal Advocates-PGE-I1911013-OII-08.

³⁹ In the October 26, 2019 de-energization event, PG&E de-energized 32,784.4 miles of distribution circuits and only 3,570.8 miles of transmission circuits. PG&E response to Public Advocates Office data request CalAdvocates-003 in Rulemaking 18-12-005, question 4.

⁴⁰ Cal Advocates has issued a data request to PG&E to obtain specific information but has not yet received responses. Cal Advocates data request CalAdvocates-PGE-HB-09282020, issued September 28, 2020 with responses due October 12, 2020.

⁴¹ California Public Utilities Commission, General Order 95, Table 1, Case No. 14: Radial clearance of bare line conductors from vegetation in the Fire-Threat District. Additionally, Appendix E, Guidelines to Rule 35, sets out "recommended minimum clearances that should be established, at time of trimming, between the vegetation and the energized conductors and associated live parts where practicable." The recommended clearance distances increase with the voltage of the conductor. General Order 95 is available at <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M217/K418/217418779.pdf>.

For example, on October 23, 2019, PG&E de-energized distribution lines in the North Bay,⁴² but did not shut off the Geysers #9 Lakeville Line, a 230 kV transmission line. According to the California Department of Forestry and Fire Protection (CAL FIRE), the Geysers #9 Lakeville Line ignited⁴³ the Kincade Fire northeast of Geyserville on the night of October 23, 2019.⁴⁴

The Wildfire Impact Assessment does not provide a realistic or informative analysis of de-energization events for wildfire mitigation. Because the study's assumptions are not based in fact, the findings should not be used for policymaking or planning.

If the CAISO is concerned that de-energization events will overload the transmission system, it should commence a new analysis with realistic assumptions. Any analysis of de-energization events must account for reductions in load caused by the de-energization of distribution circuits. The CAISO should confer with electric utilities and other stakeholders to develop the parameters for the study. A good starting point would be to develop scenarios based on de-energization events that have occurred. The CAISO could also consider policy changes, such as adopting a presumption that any newly constructed transmission lines should not pass through Tier 3 HFTD areas.

Conclusion

Cal Advocates recommends the CAISO:

- 1) Provide an itemized list of the estimated capital costs for the proposed Santa Teresa 115 kV Substation Project, identify the transmission components of the project, and the methodologies that PG&E used to develop those capital cost estimates.
- 2) Not approve the SDG&E proposed Bay Blvd - Silvergate transmission line project under reliability basis. However, if the CAISO approves this project, it should identify and provide economic benefits of the project, if any.
- 3) Provide stakeholders, in an *Excel* spreadsheet, comprising the estimation of the level of energy storage that can be accommodated in each LCR area and sub-area from the charging restriction perspective for years 2021, 2025 and 2030.
- 4) Recognize the potential cancellation and/or deferral of the SCE Alberhill project and omit the Alberhill project in its 2020-2021 TPP modeling scenarios.

⁴² PG&E, *Public Safety Power Shutoff (PSPS) Report to the CPUC: October 23-25, 2019 De-Energization Event*. Submitted to CPUC on November 8, 2019.

⁴³ The Mercury News, "PG&E power lines caused Kincade Fire in Sonoma County: state investigation," July 16, 2020, <https://www.mercurynews.com/2020/07/16/pge-power-line-caused-kincade-fire-sonoma-county-state-investigation-wildfire/>.

Utility Dive, "PG&E faces further investigation after California officials blame utility for Kincade Fire," July 20, 2020, <https://www.utilitydive.com/news/pge-faces-further-investigation-after-california-officials-blame-utility-f/581874/>.

⁴⁴ CAL FIRE, Kincade Fire Report, <https://www.fire.ca.gov/incidents/2019/10/23/kincade-fire/>.

5) Recognize the limitations of the CAISO's wildfire impact assessment in its applications for policymaking or planning purposes. Attachment A is a copy of our data responses from PG&E (refer to footnotes 37 and 39).

If you have any questions regarding these comments, please contact Lina Khoury at either Lina.Khoury@cpuc.ca.gov or 415-703-1739.

Attachment A

**PACIFIC GAS AND ELECTRIC COMPANY
De-Energize Power Lines OIR
Rulemaking 18-12-005
Data Response**

PG&E Data Request No.:	CalAdvocates_004-Q03a-c		
PG&E File Name:	De-EnergizePowerLines_DR_CalAdvocates_004-Q03a-c		
Request Date:	December 12, 2019	Requester DR No.:	004
Date Sent:	January 9, 2020	Requesting Party:	Public Advocates Office
PG&E Witness:		Requester:	Lucy Morgans

QUESTION 03

Critical Facilities and Public Safety Partners

3) For the de-energization event that took place between October 9-12, 2019 please state:

- a) the proportion of lines that were de-energized in terms of transmission versus distribution level lines;
- b) explain whether the decision-making process to de-energize transmission and distribution lines is the same and provide a justification for your approach.
- c) the proportion of lines de-energized that were underground versus overhead lines.
- d) explain whether the decision-making process to de-energize underground and overhead lines is the same and provide a justification for your approach.

ANSWER 03

In regards to Question 3, parts a and c, please see the table below for the approximate miles of distribution and transmission lines de-energized during the October 9, 2019, de-energization event, broken down by miles of underground and overhead lines.

Event	Distribution (Tier 1,2,3)		Transmission
	Total OH Miles	Total UG Miles	Total OH Miles
October 9, 2019	23581.2	3665.5	2442.5

**PACIFIC GAS AND ELECTRIC COMPANY
De-Energize Power Lines OIR
Rulemaking 18-12-005
Data Response**

PG&E Data Request No.:	CalAdvocates_003-Q04		
PG&E File Name:	De-EnergizePowerLines_DR_CalAdvocates_003-Q04		
Request Date:	December 16, 2019	Requester DR No.:	003
Date Sent:	January 9, 2020	Requesting Party:	Public Advocates Office
PG&E Witness:		Requester:	Lucy Morgans

QUESTION 04

Transmission/Distribution and Underground/Aboveground PSPS criteria

Please state:

- a) The proportion of lines that were de-energized in terms of transmission-level versus distribution-level lines for each of PG&E's PSPS event since October 13, 2019 (grouped by PSPS time period/event); and
- b) The proportion of lines de-energized that were underground versus overhead lines for each of PG&E's PSPS event since October 13, 2019 (grouped by PSPS time period/event).

ANSWER 04

Please see the table below for the approximate miles of distribution and transmission lines de-energized, broken down by miles of underground and overhead lines, for the de-energization events that have taken place since October 13, 2019, grouped by PSPS time period.

Event	Time Period	Distribution (Tier 1,2,3)		Transmission
		Total OH Miles	Total UG Miles	Total OH Miles
October 23, 2019	1	6737.5	541.3	519.5
	2	1326.3	245.0	122.4
	3	65.5	6.6	0.0
	4	12.7	0.0	0.0
TOTAL		8142.0	792.9	641.9
October 26, 2019	1	9824.9	857.9	1265.6
	2	384.1	106.8	1152.0
	3	3507.9	338.5	85.9
	4	8408.2	2249.1	535.3
	5	5038.1	414.9	463.5
	6	50.0	0.7	0.0

	7	1523.4	80.0	68.5
TOTAL		28736.6	4047.8	3570.8
October 29, 2019	1	3210.6	243.7	483.5
	2	4430.2	348.8	502.9
	3	1078.5	113.4	97.1
	4	7274.8	1359.2	607.2
	6	0.0	0.0	98.7
	7	0.0	0.0	22.2
	9	78.7	0.7	0.0
	1A	183.0	1.7	0.0
	3B	324.1	39.8	8.4
TOTAL		16579.8	2107.4	1820.0
November 20, 2019	1	1217.4	153.1	193.7
	3	777.7	42.8	35.5
	3.1	187.6	1.8	0.0
	6	35.1	0.2	0.2
	10	556.1	48.0	39.0
TOTAL		2773.9	246.0	268.4