In the Matter of the Application of San Diego Gas & Electric Company (U 902 E) for Approval of its Proposals for Dynamic Pricing and Recovery of Incremental Expenditures Required for Implementation.

Application 10-07-009 (Filed July 6, 2010)

Application of San Diego Gas & Electric Company (U 902 E) for Authority to Update Marginal Costs, Cost Allocation, and Electric Rate Design

Application 19-03-002 (Filed March 4, 2019)

Application: 10-07-009/A.19-03-002

Exhibit No.:

PREPARED SUPPLEMENTAL REBUTTAL TESTIMONY OF JENNIFER MONTANEZ

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

SEPTEMBER 15, 2020



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On July 17, 2020, Administrative Law Judge (ALJ) McKinney issued a ruling by email (Ruling) providing parties with the opportunity to submit supplemental written testimony on real-time pricing (RTP) rates. This rebuttal testimony chapter responds to the following supplemental RTP testimony submitted by the following parties:

- California Solar & Storage (CALSSA), OhmConnect, Inc. (OhmConnect),
 California Energy Alliance (CESA), and Enel North America (collectively,
 the "Joint Advanced Rate Parties" or "JARP"), supported by witnesses Scott
 Murtishaw (CALSSA) and Ryan Mann (Enel North America) (Exhibit JARP-02), dated August 31, 2020.
- San Diego Airport Parking Company (SDAP), supported by Robert Levin and Lisa McGhee, dated August 31, 2020.

In this rebuttal testimony, failure to address any individual issue does not imply any agreement by San Diego Gas & Electric Company (SDG&E) with the proposal made by these or other parties.

ALJ McKinney's Ruling notes the California Public Utilities Commission's (Commission's or CPUC's) general support for and previously approved dynamic rates:

The Commission has previously indicated its support, in principle, for dynamic rates, including real-time pricing (RTP) rates. (See, e.g., Decision (D.) 17-01-006 at Appendix 2 (Illustrative Time-Varying Rates Compendium of Rate Designs Discussed in Rulemaking 15-12-012).) The Commission has already approved dynamic pricing options for San Diego Gas & Electric Company (SDG&E) customers. For example, small commercial customers are subject to a dynamic rate adopted by the Commission in Application (A.) 10-07-009. More recently, the Commission has approved a dynamic Vehicle-to-Grid Integration (VGI) rate and the Public Grid Integration Rate (GIR) for certain customer groups. The GIR rate includes a component tied to the CAISO Day-Ahead Hourly Price.¹

¹ Email Ruling of ALJ McKinney (July 17, 2020), at 3.

The Ruling further notes that JARP filed joint testimony on the need for an RTP rate on April 6, 2020 that proposed availability of an RTP rate for all customers, but without providing enough evidence to support its proposal:

The JARP testimony proposes that an RTP rate based on the real-time prices of electricity be made available to all customers classes on an opt-in basis and that SDG&E be required to implement a core set of capabilities to allow customers to take advantage of RTP rates. The JARP testimony does not, however, include the type of information necessary to evaluate and adopt a new rate design.²

For this reason, the Ruling states that it is providing the opportunity to submit supplemental testimony to address certain identified gaps in the testimonial record regarding RTP. The Ruling notes that, "[b]efore adopting a rate, the Commission must ensure that the rate is just and reasonable. This is a complex determination that requires the Commission to consider a myriad of factors and balance competing rate design principles." The Ruling then provides the Commission's adopted rate design principles for residential rates, noting their usefulness in other proceedings, and requests related supplemental testimony to address these principles and assist the Commission in determining whether JARP's proposal is just and reasonable. Specifically, the Ruling identifies the following areas that previously served testimony regarding RTP has not addressed, including:⁴

- Is the testimony "as thorough as possible," and does it provide "ample supporting research and regulatory citations"?
- Are rates based on cost-causation, and are any cross-subsidies or incentives transparent and support explicit state policy goals?
- Will customers be able to understand and respond to the new rate?
- Does the testimony provide implementation details such as bill comparisons and other data that would be necessary to evaluate a new RTP rate?

My testimony responds to the supplemental testimony from JARP on each of these points.

² Email Ruling of ALJ McKinney (July 17, 2020), at 5.

³ Email Ruling of ALJ McKinney (July 17, 2020), at 4.

⁴ Email Ruling of ALJ McKinney (July 17, 2020), at 5-6.

SDG&E believes that there is potential for a new dynamic rate to provide customer and other benefits but cautions that the JARP proposal is attempting to run before learning to walk. Additionally, SDG&E believes when considering adoption of an RTP rate the Commission should fully weigh the costs associated with implementing an RTP rate against any potential benefits. The Commission should also consider JARP's RTP proposal in the context of customer choice, noting that the majority of SDG&E's load is expected to depart and take community choice aggregation (CCA) or direct access (DA) service in the near future and thus take commodity service from another provider. Any new dynamic rate would thus likely only be available to SDG&E's bundled customers, as it is unlikely that a departing load commodity provider will offer such a complex rate. SDG&E's testimony below is intended to offer constructive feedback on JARP's proposal and lay out a potential path toward RTP that: 1) reduces the incremental system upgrade cost to ratepayers by utilizing current billing and meter capabilities; 2) will allow SDG&E, the Commission, and interested parties to gauge the level of interest in this type of dynamic rate; 3) encourages customer understanding by minimizing the complexity of the rate and targeted marketing, education and outreach (ME&O); and 4) ensures that this rate design does not create cost shifts from participants to non-participants. The Commission should take these factors into account as it weighs the potential costs and benefits of a new dynamic rate.

II. REBUTTAL TO SUPPLEMENTAL TESTIMONY

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As shown below, the testimony supporting JARP's RTP proposal provides additional detail but does not adequately support its adoption. If the Commission determines a new dynamic rate for SDG&E's service territory is warranted, the Commission should weigh the potential costs associated with implementing the rate with any potential benefits, while leveraging existing technologies and infrastructure.

A. Does the testimony provide "ample supporting research and regulatory citations"?

The Ruling requests supplemental testimony that is "as thorough as possible" and that provides "ample supporting research and regulatory citations" that would support adoption of the new rate. JARP's supplemental testimony provides additional details regarding their rate proposal, such as rate elements of the proposed RTP tariff, unique components to this proposed RTP tariff compared to SDG&E's current dynamic rate tariffs or programs, JARP's assessment of risk of cost shifting to non-participants, and the potential customer interest in a RTP rate. SDG&E appreciates this additional detail; however, there are several issues regarding JARP's supporting research and regulatory citations. Specifically, JARP's proposed rate differs substantially from SDG&E's vehicle grid integration (VGI) rate and from other utility comparator rates identified in its testimony. As shown below, these distinctions are meaningful and add significant complexity and costs to JARP's proposal.

1. JARP's testimony fails to acknowledge that its proposed rate differs substantially from SDG&E's vehicle grid integration (VGI) rate.

JARP's prepared testimony states that SDG&E's current Schedule VGI rate is similar to their proposed RTP rate,⁶ and that this similarity will make implementation straightforward.⁷ JARP indicates that in order to minimize the risk of cost shifting they have proposed to only alter the generation portion of the customers' otherwise applicable tariffs (OATs).⁸

SDG&E disagrees with JARP's characterizations, as its proposed RTP rate differs from SDG&E's VGI rate schedule in two significant areas that greatly increase the complexity of the rate

⁵ JARP Supp. Test. at 2, 9, 11-14.

⁶ SDG&E Schedule VGI, available at http://regarchive.sdge.com/tm2/pdf/ELEC ELEC-SCHEDS VGI.pdf.

⁷ JARP Supp. Test. at 10.

⁸ JARP Supp. Test. at 1.

and cost of implementation: (1) JARP's proposed energy rates are based on real-time pricing, compared with SDG&E's VGI rate, which uses day-ahead pricing; and (2) the JARP RTP rate is billed in 15-minute intervals, compared with SDG&E's VGI rate, which bills on an hourly basis.⁹ A more detailed comparison of the two rates is shown in Table JM-1, below:

Table – JM-1

	SDG&E VGI Rate ¹⁰	JARP RTP Rate Proposal ¹¹
Distribution Rate	Base rate for non-distribution rates,	Utility Distribution Company
	base rate for distribution, and	(UDC) ¹² Otherwise
	dynamic distribution event adder	Applicable Tariff (OAT)
Fixed Charge	No Fixed Charge	Residential - \$16/month
		Non-Residential - OAT
Commodity Rate	CAISO day-ahead pricing + event	CAISO real-time pricing +
	adder based on top 150 system	two event adders based on 1)
	hours	Top 50 system hours and 2)
		Top 51-150 system hours
CAISO Pricing	Day-ahead (hourly interval) pricing	Real-time (5-minute interval)
		pricing, which SDG&E would
		average to turn into 15-minute
		interval pricing
Eligibility	Opt-In Pilot program for customers	Opt-in, no eligibility
Requirements	with an electric vehicle charging at	requirements
	an SDG&E VGI pilot facility	
Metering &	Hourly (60-minute) intervals	15-minute intervals
Billing Interval		

As shown in Table JM-1, JARP also proposes several additional rate design features that differ from the VGI rate. JARP's proposal would change the VGI commodity critical peak pricing (CPP) adder that is currently based on the California Independent System Operator (CAISO) dayahead hourly pricing for the top 150 SDG&E system peak hours to multiple dynamic adders: one adder during the top 50 hours and a second adder for the top 51-150 hours. JARP proposes a

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⁹ JARP Supp. Test. at 8.

¹⁰ SDG&E Schedule VGI, http://regarchive.sdge.com/tm2/pdf/ELEC_ELEC-SCHEDS_VGI.pdf.

¹¹ JARP Supp. Test. at 2.

¹² UDC rate components include all rate components except commodity, Department of Water Resources (DWR) Bond Charge, and DWR Credit (*e.g.* distribution, transmission, etc.).

delivery charge or fixed charge as part of their RTP rate, which is not part of the VGI rate schedule. ¹³ JARP's RTP rate proposal will have no eligibility requirements, and SDG&E's VGI rate is limited to customers charging their electric vehicle at an SDG&E VGI pilot facility.

For all of these reasons, SDG&E disagrees with JARP's characterization that their proposed RTP rate is similar to SDG&E's current Schedule VGI tariff/rate. SDG&E's VGI rate is an hourly dynamic rate schedule and is only available to customers charging an electric vehicle at an SDG&E owned and operated Electric Vehicle-Grid Integration Pilot Program facility participating in the VGI pilot program. SDG&E's VGI rate was designed to incentivize transportation electrification, as one of the goals of both the Commission and the state. SDG&E would need to complete further comprehensive rate analysis to incorporate all the changes JARP has suggested in their RTP rate proposal to fully assess the costs and benefits of such a rate.

Currently, SDG&E's residential meters measure data on an hourly interval. Sub-hourly or 15-minute interval pricing requires significant investments in advanced information technology and billing systems to accommodate the exponential increase in data collection, storage, billing, communication, and management. The potential theoretical value to be gained by reprogramming residential meters to transmit 15-minute reads may not justify the additional cost of metering and billing at 15-minute intervals. In addition, changing the commodity prices from the CAISO day-ahead hourly pricing to the CAISO real-time pricing would require a significant ME&O to ensure customers are aware of the potential volatility in the real-time prices. SDAP highlights the fact that RTP are not stable, especially in the summer, due to high CAISO energy market prices. ¹⁴ These issues need to be fully understood through analysis, so they can be addressed prior to the adoption of

¹³ JARP Supp. Test. at 3.

¹⁴ SDAP Supp. Test. at 8-9.

RTP rates. I provide further detail on the types of investments and ME&O associated with the development of an RTP rate in sections C and D below.

For all of these reasons, JARP's characterization that the proposed RTP rate modifications from existing SDG&E rates are not "modest," but rather create additional, significant complexities.

JARP's proposal would require significant changes to SDG&E's meters, infrastructure and billing system, as discussed further below.

2. JARP's proposed rate differs substantially from other utility comparator rates identified in its testimony.

JARP's supplemental testimony provides examples of companies that have residential customers on a RTP rate, such as Oklahoma Gas & Electric (OG&E) and Commonwealth Edison (ComEd) and Ameren utilities in Illinois, and use these examples to estimate customer interest in such a rate. In a data request provided by JARP, they indicate that they are not aware of a jurisdiction that has adopted and implemented an RTP rate that is the same as the rate proposed in their direct and supplemental testimony. JARP states, "The rate we propose borrows from rates that have been approved in California and elsewhere."

A review of the OG&E, ComEd and Ameren websites shows that the rates JARP points to as comparable are not RTP rates with implementation at the 15-minute interval; rather, these rates are implemented at the hourly (60-minute) interval¹⁹ or by set Time-of-Use (TOU) periods.²⁰ JARP has

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¹⁵ JARP Supp. Test. at 2.

¹⁶ JARP Supp. Test. at 9-10.

 $^{^{\}rm 17}$ JARP Response to SDG&E Data Request 01, Question 5.

¹⁸ JARP Response to SDG&E Data Request 01, Question 5.

¹⁹ ComEd Hourly Pricing Program Overview, https://hourlypricing.comed.com/about/, and Ameren PowerSmart Pricing, https://www.powersmartpricing.org/prices/.

²⁰ OG&E Standard Pricing Schedule R-VPP, https://www.oge.com/wps/portal/oge/save-energy/smarthours/!ut/p/z1/IZFNC4JAEIZ_SwevzqQm1m1tY_0gsEK0vYSFrYK6opZ_PyEvQfYxp5nheedlzoBDDLxK7rllulxWSTHUR26eLI1uHA-1LbMPJpK9vWSM.

not provided existing examples of their proposed RTP rate's potential success at the 15-minute interval they propose. Furthermore, the utilities listed above appear to use different, less complex methodologies in creating their pricing for the hourly or TOU intervals, such as hourly day-ahead pricing and four set levels of peak pricing (subscription pricing) with a set off-peak price.²¹ Thus, JARP's comparator examples do not establish customer interest in or otherwise provide direct support for its proposal to use 15-minute interval pricing using the CAISO real-time market prices, as discussed further below.²²

The fact that there appears to be no existing rate(s) with the same complexities JARP proposes must be carefully considered. It may be beneficial to increase customer understanding of RTP rates by introducing the concept slowly and by potentially increasing complexity over a period of time; for example, by starting with an hourly dynamic rate to gauge customer interest and overall understanding and awareness, with a smaller incremental system upgrade than JARP's proposed RTP rate would require.

3. JARP's testimony fails to substantiate the need from real-time pricing, in place of day-ahead pricing.

JARP claims that CAISO day-ahead prices are less accurate than real-time prices, as these two prices may diverge significantly.²³

SDG&E disagrees with JARP that CAISO day-ahead prices are less accurate than CAISO real-time prices. According to CAISO, "... the CAISO market design for the Day-Ahead Market (DAM) and the Real-Time Market (RTM), prices between these markets are expected to converge to a reasonable degree ..." JARP has not established that the two prices are significantly different or

²¹ CPUC Workshop Report (October 29, 2019), California Solar + Storage Association, Slides 2, 4.

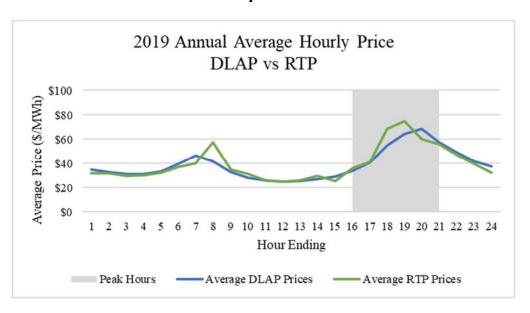
²² JARP Supp. Test. at 2.

²³ JARP Supp. Test. at 8.

²⁴ CAISO, Price Performance in the CAISO's Energy Markets, (June 18, 2019) at 9.

that the difference in these prices justify the significant amount of investments needed to implement JARP's RTP rate proposal at the 15-minute interval. In the graph below, Graph JM-1, SDG&E shows that the 2019 day-ahead prices and the real-time prices are very similar when taking the hourly average for the year.

Graph JM-1



Graph JM-1 further justifies SDG&E's assumption that day-ahead prices are similar to real-time prices and that the cost to transition to 15-minute interval pricing may not create enough added value when hourly day-ahead pricing closely reflects real-time market prices. JARP has not established that there is a need to use real-time prices rather than hourly prices and invest significant ratepayer funds into SDG&E's existing meters, IT infrastructure to support the meters, and customer information system (CIS) billing system. The investments needed to implement a 15-minute interval

B. Are rates based on cost-causation, and are any cross-subsidies or incentives transparent and supportive of explicit state policy goals?

rate are discussed in more detail below in sections C and D.

The Ruling requests supplemental testimony to support a conclusion that JARP's proposed RTP rate is based on cost-causation principles, and that any subsidies created by the rate transparently support state policy:

Rates should be based on cost-causation and any cross-subsidies or incentives should be transparent and support explicit state policy goals. Therefore, it is essential that the Commission understand how any customer cost-savings will impact other ratepayers. For example, if the customers on an RTP rate are expected to save \$28 million, then the Commission must consider how the utility will recover that \$28 million. Will the utility have a corresponding \$28 million in savings? Or, will the \$28 million be shifted to another customer group?

JARP acknowledges that cost shifting will occur; however, they believe it will be minimized by only making changes to the generation rate component.²⁵ JARP suggests that undercollections (or overcollections) could possibly be tracked and recovered from participants; however, they go on to highlight the complexities of calculating this amount (cost shift).²⁶ Moreover, JARP's proposal does not adequately account for the potential for cost-shifting or cross-subsidies from participants to non-participants and must be viewed in light of the pending impacts of CCA and departing load.

SDG&E believes that JARP's proposal to use SDG&E's existing residential rate schedule EV-TOU-5 is inappropriate and would cause cost shifts.

1. JARP's proposal fails to properly calculate residential customers' rates, causing additional cost-shifts.

JARP used aspects of SDG&E's residential rate EV-TOU-5 to develop their "illustrative residential RTP rate" in Table 2 of their testimony.²⁷

SDG&E disagrees with JARP's proposal to use SDG&E's residential rate schedule EV-TOU-5, as the EV-TOU-5 rate schedule is specific to residential customers who own an electric vehicle (EV) and was developed with a low super off-peak rate to incentivize charging of EVs overnight. JARP's RTP rate proposal is thus not based on a residential rate schedule open to all customers. SDG&E does not agree with JARP's decision to use a rate design that was designed to incentivize overnight charging, as it could create significant cost shifts to non-participating

²⁵ JARP Supp. Test. at 1.

²⁶ JARP Supp. Test. at 16.

²⁷ JARP Supp. Test. at 4.

customers. Non-commodity component rate design in a new dynamic rate should be based on cost-causation principles and should ensure that there is no cost shifting. If the Commission chooses to move forward with a new dynamic rate, the starting point should be to design a rate that is applicable to all SDG&E customers, with no eligibility restrictions or designs that are intended to support transportation electrification.

2. JARP's proposal fails to properly calculate the potential for cost-shifting or cross-subsidies from participants to non-participants.

As indicated above, JARP's proposal does not properly calculate residential customers' bill and cost savings, by starting with SDG&E's rate schedule EV-TOU-5 and applying proposed adjustments to calculate these savings.²⁸ JARP calculated the bill savings by selecting the top 10% of customers who structurally benefit by opting in to their proposed rate without changing their energy usage.²⁹ A structural benefiter is a customer who would benefit from the RTP rate without changing their consumption or shifting their load. JARP then calculated the residential customer bills on SDG&E's EV-TOU-5 rates and JARP's proposed RTP rate. JARP calculated the medium/large commercial customers on SDG&E's AL-TOU and JARP's proposed RTP rate. They conclude that residential customers would receive average bill savings of \$71.96 per year and nonresidential customers would receive average bill savings of \$1,988.73 per year. SDG&E has 1.3 million residential customers. If 10% of customers opted in and saw a \$71.96 per year bill savings, this means that there would be a \$9,354,800 cost shift to non-participating customers. If the rate enrollment was limited to JARP's 35,000 proposed residential customer cap,³⁰ this average savings would result in a \$2,518,600 cost shift to non-participating customers. JARP indicates that if this cost savings from participants is reallocated to the entire customer class, then residential non-

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²⁸ JARP Response to SDG&E Data Request 01, Question 3, and JARP Supp. Test. at 11.

²⁹ JARP Supp. Test. at 11.

³⁰ JARP Supp. Test. at 17.

participants would see a bill increase of \$7.26 per year and non-residential non-participants would see a bill increase of \$199.73 per year. JARP indicates that structural benefiters' consumption is more heavily weighted to the cheaper intervals of the TOU periods.³¹

JARP also provided scenarios in which they took load during the higher priced periods and shifted it to the lowest priced intervals on the same day.³² JARP indicates this is a "conservative assumption," as they shifted load within the same day and did not reduce load. 33 However, JARP only provided estimates of bill savings and cost shifting for structural benefiters who did not change their energy consumption pattern.³⁴ JARP did not provide bill savings and cost shifting estimates for customers when they assumed that 25% of their load was shifted to lower-priced hours. Because JARP did not provide these estimates, SDG&E can only assume that the bill savings and cost shifting would be larger, with the order of magnitude undetermined. SDG&E therefore believes that JARP has not shown that their proposal would not result in significant cost shifts and is concerned that the RTP rate proposed by JARP could lead to equity and affordability issues. Customers who opt into an RTP rate need to have the ability to reduce usage quickly in order to respond to the constantly changing price signals in the real-time market at the 15-minute or hourly interval level. This requires customers to invest in technologies and appliances that have the capability to shut down or start-up quickly. JARP's RTP rate proposal could also lead to equity issues because it is likely that participating customers, as "early adopters," are those who can afford these new technologies, absorb higher bill volatility, and have favorable existing load profiles.

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³¹ JARP Supp. Test. at 11.

³² JARP Supp. Test. at 12.

³³ JARP Supp. Test. at 12.

³⁴ JARP Supp. Test. at 11.

1 JARP claims that avoided generation capacity costs provides a benefit to SDG&E customers 2 by reducing SDG&E's forecasted load.³⁵ JARP indicates that bill savings will be offset by shifting 3 the load away from the top 150 hours that are charged the CPP adders. JARP then used the load shifting methodology (25% shifting to lower cost hours) to calculate the "avoided costs" for their 4 5 analysis. In all of JARP's scenarios, if the "lower" bookend price is used for SDG&E's local 6 Resource Adequacy (RA) savings, then additional costs will shift to non-participating customers. 7 JARP acknowledges that the overall RA avoided costs results from the participants' load reductions 8 in SDG&E load forecast the following year, and in turn reduces SDG&E's RA obligation in the second year. ³⁶ However, SDG&E's system load is constantly changing from year to year. There is 9 10 virtually no way to attribute system load reduction in a given year to specific customers. 11 Additionally, this "avoided cost" estimate assumes that these customers will actually respond to the 12 RTP price signals. Although it is likely that customers who opt-in to RTP are more likely to respond 13 to price signals than customers who do not, there is no guarantee that customers will consistently 14 reduce or shift load. Customers have the ability to exercise choice behind the meter and may choose not to respond to price signals. JARP has not adequately demonstrated that SDG&E would realize 15 16 "avoided costs" from the implementation of their proposed RTP rate.

3. JARP's proposal fails to consider the pending impacts of Community Choice Aggregation (CCA) and Departing Load, and that 60% of SDG&E's bundled load will depart by 2023.

SDG&E does not have the ability to unilaterally propose commodity rates for customers in its service territory. As discussed previously, JARP proposes to modify only the commodity portion of the rate.³⁷ Although SDG&E does not currently have a sizeable CCA population, it is forecasted

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³⁵ JARP Supp. Test. at 13.

³⁶ JARP Supp. Test. at 13-14.

³⁷ JARP Supp. Test. at 2.

that between 2020 and 2023 SDG&E's bundled load is expected to decrease by approximately 60% due to load departure. CCAs or DA providers would not be required to provide an RTP rate structure. In order for a CCA to provide an RTP rate, it would have to choose to create it – and providing such a rate would require an investment, such as: rate design, development of pricing, ME&O and a platform to communicate price signals to customers. For this reason, SDG&E believes it is extremely unlikely that a CCA would willingly choose to provide an optional RTP rate, and it is likely that only SDG&E's remaining bundled customers would have the ability to opt-in to this proposed RTP rate. Implementing JARP's proposed RTP rate would require significant investments on SDG&E's part, as discussed below in sections C and D, which will increase all customers' rates and bills – and by which only a small subset of opt-in bundled customers will potentially benefit. The Commission should factor in the significant amount of SDG&E's future departing load and the cost to ratepayers associated with implementing JARP's proposed RTP rate with the potential limited customer benefits due to future CCA adoption in SDG&E's service territory.

C. Will customers be able to understand and respond to the new rate?

The Ruling requests supplemental testimony that examines how customers will adapt to the new rate, and whether they will be able to understand and respond to it:

The Commission must also consider whether customers will be able to understand and respond to the new rate. This is especially important for time-varying rates that are designed to flatten peak loads and reduce renewables curtailment. Typically, the Commission uses bill impact forecasts, modeling based on historical data and illustrative rates to make this evaluation.

JARP provides speculative testimony that minimizes the ME&O efforts that would be necessary to implement its proposal, while optimistically claiming (without support) that customers

³⁸ 2020 Individual Integrated Resource Plan of San Diego Gas & Electric Company, App. 2 at 31.

in SDG&E's territory will be interested in their proposed RTP rate.³⁹ At the same time, JARP admits a similar type of rate proposal has never been adopted by any public utility commission and thus can provide no analogous support for its claims.⁴⁰ JARP's testimony must be viewed in this context, taking into account the complexity of its rate proposal and other circumstances. Specifically, as discussed below, JARP's testimony: (1) fails to acknowledge the substantial marketing and outreach efforts that customer adoption of their proposed new rate would require; (2) does not account for SDG&E's recent transition efforts to TOU; and (3) fails to establish the level of existing customer interest in an RTP rate.

1. JARP's testimony fails to acknowledge the substantial marketing and outreach efforts that customer adoption of their proposed new rate would require.

JARP indicates that the responsibility of recruiting participants/customers would be driven mainly by third-party product and service providers in the energy storage, demand response, and electric vehicle industries. ⁴¹ JARP suggests that SDG&E should be required to do 2-3 rounds of bill inserts or emails and create a website with all the details pertaining to the RTP rate. They also recommend the Commission require SDG&E to do targeted ME&O to customers with energy storage systems, electric vehicles, and high consumption during peak load periods. ⁴²

It is unclear from JARP's testimony whether third-party providers would be largely responsible for recruiting participants, as JARP claims. SDG&E would ultimately be responsible for communicating with its customers and could face a backlash if a third party misinformed a customer about the RTP rate. JARP's testimony also does not account for the costs of coordinating with third parties, which would ultimately be borne by SDG&E's customers.

³⁹ JARP Supp. Test. at 10.

⁴⁰ JARP Response to SDG&E Data Request 01, Question 5.

⁴¹ JARP Supp. Test. at 18.

⁴² JARP Supp. Test. at 18.

From SDG&E's experience with dynamic rates, the complexity of JARP's proposed RTP rate would require substantial customer outreach in order to potentially determine benefiters versus non-benefiters. A customer's ability to respond to the rate is heavily dependent on changes in behavior, such as load shifting and attention to market prices and fluctuations. Due to the complexities of an RTP rate, identifying potential customers would be challenging and at a minimum require an extensive quantitative and qualitative market assessment. In alignment with rate design principles, significant research would also need to be conducted to determine that the language used to communicate the new rate would be understandable to customers, whether the communication is done through email, website or other tactics.

With a rate as specialized as JARP's proposal, SDG&E strongly disagrees with JARP's recommendation to provide several rounds of bill inserts to all customers as a communications tactic. Using bill inserts would have a higher potential for creating customer confusion, as they cannot be targeted to a specific customer demographic. Additionally, bill inserts are an incremental cost that JARP's testimony does not acknowledge.

Any effective external communications, marketing and outreach plan would require SDG&E to develop resources to educate customer facing employees, like the Customer Care Center, Account Executives and Outreach teams, so they can effectively speak to customers about the new rate and address any questions. For all of these reasons, JARP's testimony significantly understates the amount of ME&O needed to promote an RTP rate. The Commission should account for a number of factors, including customer research and data analysis, communications creative development and production, mailing costs, etc., when determining the level of ME&O that would be needed to educate and engage customers to participate in a new dynamic rate.

2. JARP's testimony does not account for SDG&E's recent transition efforts to TOU and the potential for conflicting and confusing messaging regarding RTP rate intervals.

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In order to make customers aware of an RTP rate option and encourage adoption, SDG&E would require a thorough ME&O strategy, to ensure that ratepayer dollars are being used efficiently and are not undermining the past five years of TOU outreach to both residential and non-residential customers. SDG&E completed its transition to TOU rates for all customers (residential and nonresidential) in 2020. This effort required extensive outreach to educate customers on the importance of on-peak pricing between 4 p.m. to 9 p.m. SDG&E's ME&O efforts for small and medium business customers began in late 2015, with the transitioning of ~124,000 accounts, followed by the residential pilot in 2017 and then residential mass default transition to TOU in 2019. As of August 2020, SDG&E has roughly 972,000 residential customers on a TOU rate. Of those residential customers, approximately 797,000 received communications as part of the mass default to TOU from 2018 to June 2020, when the transition was complete. The ME&O budget from 2017 to Q2-2020 for TOU awareness was roughly \$15M.⁴³ As noted in the August 3, 2020 SDG&E Quarterly Report on Progress of Residential Rate Reform, SDG&E continues to see higher awareness survey scores in comparison to the 2018 Default Pilot, particularly in awareness of TOU pricing, awareness of advertising, and understanding of TOU plan details and impacts on a customer's bill.⁴⁴

Any proposed timing of a new dynamic rate proposal should take into account SDG&E's recent successful TOU efforts, particularly around the reasons and importance of shifting energy use outside the on-peak hours. Without precise and targeted communications, a new dynamic rate could

⁴³ Rulemaking (R.)12-06-013, SDG&E Quarterly Report on Progress of Residential Rate Reform (August 3, 2020), App. A at A-1, https://www.sdge.com/sites/default/files/regulatory/R.12-06-013%20SDGE Q1 2020 PRRR 5%201%202020%20FINAL%20small.pdf.

⁴⁴ R.12-06-013, SDG&E Quarterly Report on Progress of Residential Rate Reform, (August. 3, 2020), Attach. A at 19-21, https://www.sdge.com/sites/default/files/regulatory/R.12-06-013%20SDGE Q1 2020 PRRR 5%201%202020%20FINAL%20small.pdf.

undermine SDG&E's and the state's efforts to encourage customer adoption of TOU rates. TOU rates provide an opportunity for customers to begin to understand the importance of shifting energy usage based on established TOU price signals. As part of the statewide transition to TOU, the CPUC selected agency, Ipsos, is conducting an annual survey across the three investor-owned utilities, SDG&E, Pacific Gas and Electric Company (PG&E), and Southern California Edison Company (SCE), to understand customer awareness, education and desire to change behaviors on TOU. This research will help all parties better understand how customers react to a time-based pricing plan.

In SDG&E's experience, it takes time to properly inform customers of potential behavioral changes needed in order to be successful on a TOU rate design. The Commission should consider SDG&E's experience in implementing TOU rates for smaller usage customers (small commercial and residential customers) when determining the level of ME&O necessary for customers to be able to understand and respond to a significantly more complex RTP rate. The Commission should also be mindful of the timing of current statewide efforts regarding transitions to TOU rates.

In sum, JARP's testimony has not provided a viable proposal to communicate its proposed RTP rate to customers and downplays the complexities that arise with communicating a 15-minute interval price signal in order for customers to properly respond. JARP's proposal at the 15-minute interval would be significantly more complex and could undermine SDG&E's TOU ME&O efforts.

3. JARP's testimony fails to establish the level of existing customer interest in an RTP rate.

Although JARP admits that determining potential customer interest in an RTP rate is difficult, as this rate is not available in California or any other jurisdiction, they imply that customers participating in Demand Response (DR) programs would have an interest in RTP rates.

Furthermore, JARP asserts that an RTP rate would provide DR customers opportunities to manage

their energy bill by aligning their energy usage with grid needs. ⁴⁵ JARP gives examples of companies that have residential customers on a RTP rate, such as Oklahoma Gas & Electric (OG&E), and ComEd and Ameren utilities in Illinois. JARP provided further detail in a data request stating, "As of 2019, ComEd had 34,465 participants in its Hourly Pricing residential RTP program and Ameren had 12,970 participants in its residential Power Smart Pricing program . . , [and] SmartHours has over 120,000 customers enrolled and that OG&E serves a total of 830,000 customers, including non-residential accounts."

JARP draws conclusions about customer interest in RTP from residential California customer participation in demand response programs. SDG&E disagrees that meaningful conclusions about RTP can be drawn from this data. Participation in a demand response or CPP program, with a maximum number of events that can be called in a year or hours in an "event" day, is not the same as participation in an RTP rate. Customers on a DR rate or program only need to be cautious of avoiding high peak situations (shifting energy usage) on event days, in which they are notified the day before, and only for certain preset hours during that day. This allows DR customers to actively shift their energy usage on announced event days, and to be less active the remaining days throughout the year. The key for a customer to be successful on JARP's RTP rate proposal would rely on a customer being active daily, and their ability to shift load very quickly (day-of price signals). SDAP provided an example of high energy market prices during a heat wave occurrence between August 17 – August 23, 2020 over a period of serval hours each day. If a customer opts into such an RTP rate and does not actively participate on a daily basis to shift energy usage outside

⁴⁵ JARP Supp. Test. at 10.

⁴⁶ JARP Response to SDG&E Data Request 01, Question 6a. (citing Press Release, OG&E, *OG&E offers products and services to help customers save energy and money* (August 25, 2016) (https://ogeenergy.gcs-web.com/node/12806/pdf)

⁴⁷ JARP Supp. Test. at 9-10.

⁴⁸ SDAP Supp. Test. at 9.

of high priced peak intervals, the customer's bill could drastically increase due to the real-time market price swings that occur throughout the day.

As discussed in Section A, JARP's testimony provided examples of other utility rates that vary drastically in their RTP rate design. JARP's examples do not establish a level of customer interest or willingness to participate in an RTP rate proposal at the 15-minute interval, based on the CAISO real-time market pricing. JARP's assumptions do not support a conclusion that a large number of customers would participate in an RTP rate of this complexity, as previously discussed.

D. Does the testimony provide implementation details such as bill comparisons and other data that would be necessary to evaluate a new RTP rate?

The Ruling requests supplemental testimony that provides additional implementation details that would allow the Commission to evaluate JARP's proposal. For example, the Ruling suggests that additional detail could be provided regarding "the estimated cost of designing and automating a rate that includes an RTP component" and "illustrative rates, comparisons with existing SDG&E rate options, and bill impact analysis based on SDG&E billing determinants." As shown below, JARP's testimony fails to acknowledge that the type of cost estimates required by the ruling vary greatly depending on the specific proposed rate. Without support, JARP's testimony incorrectly speculates "that much of the framework to manage these customer rates [JARP RTP rate proposal] likely already exists," and mischaracterizes discovery on the issue of costs. In fact, JARP's proposal would require incremental costs and implementation time for billing and meter upgrades, although those costs are difficult to estimate in the abstract. If the Commission were to determine that a new dynamic rate is in the public interest and should be implemented, changes would need to be made in order to leverage existing technologies and infrastructure and to ensure the new rate is cost-effective to implement.

⁴⁹ JARP Supp. Test. at 2.

⁵⁰ JARP Supp. Test. at 10.

1. JARP mischaracterizes discovery on costs.

JARP speculates that "much of the framework to manage [its proposed] customer rates likely already exists," in part because "SDG&E already administers the VGI rate, which is similar in its complexity." JARP's assumptions are incorrect. JARP's testimony preliminarily mischaracterizes the discovery information SDG&E has provided regarding the issue of costs. JARP states:

The Joint Parties requested that SDG&E provide information to support cost estimates of designing and automating a rate that included an RTP component in a Data Request submitted to SDG&E on February 28, 2020. On March 13, 2020, SDG&E responded to this Data Request, but declined to provide the requested cost estimates (see Attachment A). However, the Joint Parties re-affirm from our Opening Testimony that much of the framework to manage these customer rates likely already exists. For example, SDG&E already administers the VGI rate, which is similar in its complexity. ⁵²

JARP's referenced Attachment A is a data request seeking cost estimates for significant hypothetical technology upgrades to SDG&E's system, such as an API (Application Programming Interface) that push an RTP signal "to anyone who would like to subscribe to the API," and "for providing machine readable digital tariffs, including ones that change up to every five minutes," for example, with context or no reference to any proposal in this proceeding. At the time SDG&E responded to the request, in March 2020, SDG&E assumed the requested information did not relate to this proceeding, as it did not relate to any submitted testimony. Additionally, JARP did not ask follow-up questions or provide information suggesting otherwise.

In addition to its original objection to this data request, aside from the information provided, SDG&E did not (and does not) have the information requested. When JARP eventually issued

⁵¹ JARP Supp. Test. at 10.

⁵² JARP Supp. Test. at 10.

⁵³ Regardless, SDG&E provided the information that it had available – for example, by referencing SDG&E testimony regarding costs to reprogram meters that was submitted in A.18-11-017. *See* JARP Supp. Test., Attach. B, Response to Question 4 (citing discussion in testimony of Tishmari Lewis (Chapter 2) of A.18-11-017).

similar detailed RTP-related discovery questions in the July/August time frame (JARP/SDG&E Data Request #2), SDG&E further explained why such information could not be provided, stating:

SDG&E objects to this request because the requested information does not exist

within SDG&E's possession. SDG&E has not performed the requested analysis.

SDG&E also explained that the information was not available to JARP in further discovery-related discussions on this issue. For this reason, JARP's statement that "SDG&E declined to provide the requested cost estimates" is incomplete and incorrect, because it does not acknowledge that the requested estimates do not exist.

Additionally, as shown in the discussion below, accurately estimating costs and timing implementation regarding the type of RTP proposal outlined in JARP's testimony is no easy task.

JARP is incorrect in assuming that such information exists or is readily available.

2. JARP's proposed RTP rate would require a significant amount of time to implement and billing system costs cannot be estimated as SDG&E's new billing system is not yet built.

JARP is incorrect in assuming that SDG&E already has the existing technological framework to implement JARP's RTP rate proposal and in claiming that their suggested RTP rate proposal is similar in its complexity to SDG&E's VGI rate.⁵⁵

As the Commission is aware, SDG&E is in the midst of implementing a CIS replacement program as approved in D.18-08-008, which adopted an all-party settlement, including costs and the replacement program's implementation timeline. The new CIS system is expected to go live in April 2021. The implementation timeline includes a "freeze period" on changes to SDG&E's legacy CIS system during 2020 and 2021 to reduce the overall risks and customer impacts during the transition to the new system. The "freeze period" requires that any new structural rate changes or other similar initiatives be deferred to permit transition from the legacy CIS to the new system. Given the

⁵⁴ JARP Supp. Test. at 10.

⁵⁵ JARP Supp. Test. at 10.

into production and stabilized, it is not possible for SDG&E to accurately estimate the costs to implement an RTP rate as proposed by JARP in the new billing system at this time. An RTP rate based on 15-minute intervals is highly complex, unlike any of SDG&E's existing rates, and will take a significant effort to modify the new billing system to support it. SDG&E does not have any comparable efforts to use as a baseline for the estimate.

As addressed in Section A above, SDG&E strongly disagrees with JARP that SDG&E's VGI rate is similar in complexity to the JARP RTP rate proposal. JARP's RTP rate proposal would require significant investments in advanced information technology, and billing systems to accommodate the exponential increase in data collection, storage, billing, communication, and management. Therefore, SDG&E concludes that it would take a significant amount of time, resources, personnel, and costs in order to implement a rate of this magnitude at this time.

3. JARP's proposed RTP rate would require significant meter and IT infrastructure costs and a minimum of 2 years for such upgrades/changes.

JARP's RTP rate proposal consisting of a 15-minute interval framework, although feasible, has the risk of impairing smart meter infrastructure and communication. JARP's proposed rate would require significant investments in smart meter and IT infrastructure, in addition to CIS changes, to accommodate the exponential increase in communication, data collection, storage, system configurations, billing, and maintenance. SDG&E estimates it would take at least 2 years to upgrade its existing legacy system with the required upgrades. SDG&E would most likely be expected to file a separate application for the design, cost, implementation, etc., of any RTP rate proposal, meaning SDG&E would need at least two years from a RTP rate application's Commission decision to deploy the upgrades and changes needed to the existing smart meter infrastructure. Therefore, this process would most likely begin sometime in 2023 or 2024.

Switching residential customers' meters from the standard 60-minute, 1-channel to the standard 15-minute, 2-channel would result in more estimations and delayed bills. As of today, 65% of SDG&E's meter population delivers 24 intervals (60-minute interval, 1-channel) per day. JARP's RTP rate proposal for residential customers would require an increase of eight times the data, resulting in 192 intervals (15-minute, 2-channel) per day. This would require an increase in the amount of Field Area Routers (FARs), most likely doubling the amount from 2,625 to at least 5,250 FARs. In addition, changing the meters from 60-minute intervals to 15-minute intervals would result in lower overall communication over the network for meter reads. All message segments from the meter reads must be received in ordered to properly bill customers; therefore, the likelihood of missing segments will increase, as the increased amount of data will cause lower overall communications, resulting in bill estimations and delays.

The required investment to implement these changes would be significant, as changes would need to be made to SDG&E's billing system (not currently deployed), ME&O efforts, smart meter and IT infrastructure, including communication, data collection, storage, system configurations, and maintenance. In addition, the required investment in this potential upgrade to our current smart meters would have a high likelihood to strand ratepayer dollars and assets, as technological advancements in the development of the "next generation" smart meters would make the existing meters obsolete once they are deployed.

4. If the Commission adopts an RTP Rate Proposal, Additional Implementation Details Would Need to Be Examined.

When considering the possible adoption of a new RTP rate of any kind, the Commission should weigh the costs associated with implementing an RTP rate against any potential benefits. There are different ways to design and implement RTP (dynamic) pricing rates, and some designs may lead to unreasonable rate and bill impacts for all customers if the costs and benefits are not weighed appropriately. For all of the above reasons, JARP's proposal does not appropriately

balance the investment needed to implement an 15-minute-interval RTP rate while ensuring that impacts to customers' rates and bills are reasonable and fair to all customers, without creating non-cost-effective cross-subsidies or cost-shifts. Given the ongoing COVID-19 pandemic, SDG&E believes that an affordability assessment of a new rate is especially important, as Californians are experiencing additional financial burdens and uncertainty. The successful implementation of a new RTP rate would require a thoughtful balance to minimize cost to ratepayers and maximize benefits.

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SDG&E believes a more pragmatic approach to a new dynamic rate would be to leverage established processes and rate design. If the Commission wishes to consider a new RTP rate proposal, it should examine solutions that could leverage similar existing SDG&E rates and technologies. For example, the Commission could consider a rate that is based on the same CAISO day-ahead hourly pricing methodology and hourly (60-minute) interval used in SDG&E's VGI commodity rate. The timing of implementing a new RTP rate would also need to take into consideration SDG&E's recent transition efforts to TOU rates – including the potential for customer confusion and additional ME&O costs to educate customers and synchronize messaging – as well as the timing of SDG&E's ongoing CIS billing system updates. SDG&E would not currently be able to provide a firm cost estimate to implement such a rate, as the new billing system has not yet been built, placed into production and stabilized. From a billing perspective, SDG&E currently anticipates that the process of implementing an hourly RTP rate, billed on the CAISO day-ahead hourly prices, would not be able to begin until some point in 2022. Billing system cost estimates based on the specific requirements of an approved rate would need to be developed at that time or in a future RTP rate application.

Additionally, as shown above, the appropriate process to consider and approve the new RTP rate being discussed here would be through an application process, rather than the workshop and

advice letter process JARP proposes.⁵⁶ Costs specific to the details of any new RTP rate proposal (including any incremental billing, meter, infrastructure or ME&O costs) would need to be assessed, requested, reviewed, and approved through the Commission's application process.

III. CONCLUSION

To summarize, the Commission should disregard JARP's proposal to develop an RTP rate at the 15-minute interval using CAISO real-time market pricing. JARP did not establish the customers' potential benefits, customers' interest or the appropriate investment requirements when developing their proposed rate. SDG&E concludes that it would take a significant amount of time, resources, personnel, and costs in order to implement a rate of this magnitude at this time. The Commission should weigh the potential costs associated with implementing the rate with any potential benefits.

If the Commission determines a new RTP (dynamic) rate for SDG&E's service territory is warranted, the Commission should leverage SDG&E's existing rates, technologies and infrastructure along with the SDG&E's timing restrictions. Allowing the Commission to consider a rate that is based on the CAISO day-ahead hourly pricing and hourly (60-minute) intervals that exist in SDG&E's rate design framework.

This concludes my prepared rebuttal testimony.

IV. STATEMENT OF QUALIFICATIONS

My name is Jennifer Montanez and my business address is 8330 Century Park Court, San Diego, California 92123. I am employed by SDG&E as a Rate Strategy Project Manager in the Customer Pricing Department. My primary responsibilities include planning, development, and implementation of rate related proceedings, cost-of-service studies, determination of revenue allocation and preparation of various regulatory filings. Prior to my current position, I was

⁵⁶ JARP Supp. Test. at 19.

- employed in positions of increasing responsibility in the Electric and Fuel Procurement, Energy Risk

 Management, and Resource Planning departments of SDG&E. I also served as an accountant for

 various Sempra Energy business units for five years. I have been employed with SDG&E or another

 Sempra Energy company for 13 years.
 - I graduated from California State University of San Marcos with a bachelor's degree in Business Administration with an emphasis in Accounting.
 - I have previously submitted testimony to the Commission.

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