BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

FILED
02/19/25
04:59 PM
A2205002

Application of Pacific Gas and Electric Company (U39E) for Approval of its Demand Response Programs, Pilots and Budgets for Program Years 2023-2027.	Application No. 22-05-002
And Related Matters.	Application 22-05-003 Application 22-05-004

PETITION FOR MODIFICATION OF DECISION 22-12-009 OF CLEAN ENERGY ALLIANCE, SAN DIEGO COMMUNITY POWER AND MISSION:DATA COALITION, INC

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Dated: February 19, 2025

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I. Introduction & Summary of Petition

In accordance with Rule 16.4 of the California Public Utilities Commission ("Commission" or "CPUC") Rules of Practice and Procedure, Clean Energy Alliance ("CEA"), San Diego Community Power ("SDCP") and Mission:data Coalition, Inc ("Mission:data" and, collectively, the "Joint Petitioners") hereby file this Petition for Modification of Decision ("D.") 22-12-009 Approving Investor-Owned Utilities' Demand Response Programs, Pilots, and Budgets for Bridge Year 2023 (December 1, 2022) ("D.22-12-009" or the "Decision").

As demonstrated herein, the Commission should modify the Decision to clarify that San Diego Gas & Electric Company ("SDG&E") must continue to provide its distribution customers with real-time (or near real-time) energy usage data access to SDG&E's Advanced Metering Infrastructure ("AMI" or "Smart Meters") in accordance with the Commission's prior orders in D.09-12-046, D.11-07-056, Resolution E-4527 and subsequent decisions (the "Real Time Usage Data Access Orders"). The potential Demand Response ("DR"), load-shifting and energy cost savings benefits of such data access and connectivity between the SDG&E Smart Meters and its

customers' Home Area Network ("HAN") devices was a crucial factor in the Commission's decisions to approve ratepayer funding of the original rollout of SDG&E's Smart Meters, which amounted to $652 million.[1] SDG&E did not state in this Application that it would fail to comply with the Real Time Usage Data Access Orders, and D.22-12-009 did not address or reckon with this potential compliance gap. Since alternate means of providing such connectivity will not be available until SDG&E's fleet of existing Smart Meters "1.0" – which provide such access via "ZigBee"-based connections – are replaced with new Smart Meters "2.0" – which are anticipated to provide such access via WiFi – the Commission should modify the Decision and direct SDG&E to reconnect existing customer ZigBee-based connections and honor customer requests for new ZigBee connections as soon as possible.

A. Summary of Petition and Statement of Justification for Requested Relief

SDG&E is failing to provide its customers with access to real-time energy usage data by failing to reconnect its customers' HAN devices that lose connection to the SDG&E Smart Meter.[2] Furthermore, SDG&E is failing to grant customer requests for new connections between the customers' SDG&E Smart Meters and the customer's HAN.[3] Yet, as discussed in detail in Section III, below, real-time (or near real-time) energy usage data access is required by prior Commission decisions D.09-12-046, D.11-07-056, Resolution E-4527 and subsequent decisions, which remain good law. In fact, the Commission explicitly justified the considerable costs to ratepayers of originally installing Smart Meters across the large investor-owned utility ("IOU") service areas in part based on the benefits of such near real-time access to customer load data by the customer's

[1] D.07-04-043, *Decision Approving Settlement on San Diego Gas & Electric Company's Advanced Metering Infrastructure Project* (Apr. 16, 2007), FOF 34.
[2] Declaration of Michael Murray, attached hereto as **Exhibit C** ("Declaration of Michael Murray") at C-4 to C-5.
[3] *Id*. at C-5 to C-6.

HAN device, finding: "To realize the benefits of AMI, customers and authorized third parties need access to the information provided by the meters on a real-time or near real-time basis."[4]

SDG&E relies on D.22-12-009 to justify its failure to reconnect or make new connections to provide such required real-time energy usage data access for its customers.[5] Decision 22-12-009, which arose in the context of the instant SDG&E application for approval of its DR programs and budget amounts, found it reasonable for SDG&E to discontinue funding ZigBee technology support.[6] The Decision, however, anticipated a near-term rollout of new SDG&E Smart Meters that would utilize WiFi, as opposed to ZigBee connections.[7] Yet, in the two years since the Decision was issued, Smart Meters with WiFi-based real-time energy usage data access have not, in fact, been installed for SDG&E's customers. The Commission's decision in December of 2024 in SDG&E's General Rate Case (D.24-12-017) denied SDG&E's Smart Meter 2.0 project request on the grounds that SDG&E failed to provide sufficient supporting evidence of project costs and gas module failure, the uncertainty of the supply chain, and inadequate information from SDG&E regarding the benefits of fully replacing Smart Meter 1.0 versus repairing such units.[8] Rollout of WiFi-enabled Smart Meters is likely to take at a minimum several more years, following (and only

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[4] D.09-12-046, *Decision Adopting Policies and Findings Pursuant to the Smart Grid Policies Established by the Energy Information and Security Act of 2007* (Dec. 17, 2009), FOF 19; D.11-07-056, *Decision Adopting Rules to Protect the Privacy and Security of the Electricity Usage Data of the Customers of Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company* (Jul. 28, 2011), FOF 76 ("Many of the benefits of a Smart Meter arise from establishing a home area network that has access to the granular data produced by the Smart Meters."); Resolution E-4527 (Sep. 27, 2012) at 5-6 (stating that a portion of the benefits to ratepayers supporting the Commission's approval of AMI deployment "was *predicated*, in turn, on customers leveraging the near real-time usage monitoring and event signaling enabled by their smart meter HAN function to drive demand reduction via energy conservation, demand response and automated load control capabilities.") (emphasis added).

[5] Declaration of Michael Murray at C-5 to C-6.

[6] D.22-12-009, Conclusion of Law ("COL") 23.

[7] *Id*. at 28-29; *see also id*. at COL 14.

[8] Application ("A.") 22-05-015 et al., D.24-12-017, *Decision Addressing the 2024 Test Year General Rate Cases of Southern California Gas Company and San Diego Gas & Electric Company* (Dec. 19, 2024) at 672.

if) the Commission approves SDG&E's forthcoming application for the project, as ordered by D.24-12-074.[9]

In addition, SDG&E's testimony supporting the instant application provided that "devices that are connected via ZigBee will still remain connected until the customers' future new meters are replaced with a new meter not carrying ZigBee."[10] Yet, D.22-12-009 did not expressly incorporate this as a requirement, and SDG&E is not carrying out this assurance to the Commission. The Joint Petitioners note that, based on information and belief of Mission:data, Pacific Gas & Electric Company ("PG&E") and Southern California Edison ("SCE") are currently enabling such real-time data access from their existing Smart Meters.[11]

Decision 22-12-009 should be modified because it relied on facts that are no longer true, committed legal error by failing to acknowledge that complying with previous Commission orders requires ongoing ZigBee enablement and failed to make sufficiently clear that SDG&E should continue to maintain ZigBee until Smart Meters were replaced. Accordingly, the Commission should modify D.22-12-009 to expressly require SDG&E to continue to maintain existing ZigBee connections *and* to make new ZigBee connections for customers requesting such service until SDG&E offers replacement functionality for its customers, such as through a new Smart Meters with Wi-Fi capability that is directly usable by customers and enables real-time energy usage data access.

B. Background on Joint Petitioners and Interest in Petition

Clean Energy Alliance is a California Community Choice Aggregator ("CCA") serving over 250,000 customer accounts in the cities of Carlsbad, Del Mar, Escondido, Oceanside, San

[9] *Id*. at 672-73.
[10] Prepared Direct Testimony of E Bradford Mantz – Chapter 1A on behalf of San Diego Gas & Electric Company (May 2, 2022) ("SDGE-1A") at 19:25-20:1.
[11] Declaration of Michael Murray at C-7 to C-8.

Marcos, Solana Beach and Vista, California. These accounts represent approximately 2,400,000 MWh and fifteen percent (15%) of annual electric load in SDG&E's distribution territory. CEA is keenly interested in real-time energy usage data access for the customers it serves in SDG&E distribution territory. CEA's customers are entitled to this data, and such data can enable customers to shift load in response to dynamic pricing signals and to less grid-constrained and more environmentally beneficial times of the day from a greenhouse gas perspective. Such load-shifting can have considerable benefits to ratepayers in terms of savings on energy costs, which is urgently important amidst the current electricity affordability crisis in California. Please see the Declaration of Kaitlin McGee, Key Accounts/Program Manager of CEA, attached hereto as **Exhibit A**. CEA did not join this application proceeding when it was filed because CEA did not have the necessary staffing resources to evaluate the relevance of its involvement in this proceeding. CEA was not aware of the importance of participating in this proceeding until the issues raised in this Petition were recently brought to its attention by Mission:data.

San Diego Community Power is a CCA serving over 960,000 customer accounts in the County of San Diego and the cities of San Diego, Chula Vista, Encinitas, Imperial Beach, La Mesa and National City, California. These accounts represent approximately 7,400,000 MWh and fifty-one percent (51%) of annual electric load (base load) in SDG&E's distribution territory. CCAs are forecasted to provide generation service to approximately eighty percent (80%) of retail customer load in SDG&E distribution territory.[12] SDCP has a strong interest in its customers' access to real-time energy usage data, to which they are legally entitled. SDCP views such data as a critical tool that allows retail electric customers to make informed decisions about their energy usage, respond

[12] Declaration of Timothy Treadwell, attached hereto as **Exhibit B** ("Declaration of Timothy Treadwell"), at B-2 (citing A.24-05-010, *Prepared Rebuttal Testimony of Sheri Miller on Behalf of San Diego Gas & Electric Company*, p. SM-4, lines 17-19 (Sep. 9, 2024)).

effectively to dynamic rate signals, and shift their load in ways that align with State of California decarbonization objectives and SDCP's own policy goals. By leveraging granular, real-time meter data, customers can adjust usage during peak times, take advantage of lower-cost off-peak periods, and better integrate on-site and community-level renewable resources. SDCP also believes that maintaining reliable customer access to real-time/near real-time meter data, will drive technology innovation that will enable new cutting-edge programs and pilots that can support grid reliability. Please see the Declaration of Timothy Treadwell, Senior Program Manager at SDCP, attached hereto as **Exhibit B**. SDCP began serving customer load in 2021, moved for party status in this proceeding in December 2023, and it was granted in January, 2024.

Mission:data is a national nonprofit coalition of innovative technology companies that empower consumers with access to their own energy usage and cost data. Mission:data advocates for customer-friendly energy data access policies throughout the United States and Canada in order to deliver benefits for consumers and enable an innovative, vibrant market for energy management services. The leadership of Mission:data closely followed the development of the Commission's orders requiring real-time energy usage data access for customers, and Mission:data is very concerned about the lack of access currently in SDG&E territory in reliance on D.22-12-009. Such data access is vital to addressing California's ambitious greenhouse gas reduction and reliability goals because it enables customers to gain far more granular data and insights about their load and empowers load shifting and reductions based on such information. Please see the Declaration of Michael Murray, President of Mission:data, attached hereto as **Exhibit D**.

Mission:data was not a party to this proceeding initially because SDG&E's stated application was to seek approval of SDG&E's Demand Response programs, pilots and budgets for program years 2023-2027; the utility's application was not focused on energy data access and did

not apply or purport to alter the Commission's Real Time Usage Data Access Orders or its compliance therewith. Such an application failed to provide stakeholders with notice that discontinuance of funding for ZigBee vendors would curtail such Commission-ordered access. The Commission has also expressly found that Mission:data and other small stakeholders interested in AMI HAN functionality and real-time energy usage data access "have limited resources to track and participate in" numerous CPUC fora.[13]

C. Application of Rule 16.4

Modification of D.22-12-009 is justified pursuant to Rule 16.4 because, while more than one year has passed since the effective date of D.22-12-009, new information has come to light recently that was not available during such one-year period. While SDG&E's testimony assumed that older ZigBee technology would be replaced with WiFi-based connections when SDG&E replaced Smart Meters 1.0 with Smart Meters 2.0,[14] and the Commission relied on this as a factual basis for the Decision,[15] the Smart Meter 2.0 project was denied by the Commission in December, 2024, in D.24-12-074. Pursuant to the Commission's December 2024 order, SDG&E will now have to file a separate application for the Smart Meter 2.0 project, which is likely to take years to obtain approval and to be implemented.[16] This means ZigBee-based Smart Meters will not be replaced with WiFi-based meters for several years. In the meantime, SDG&E's customers are unable to obtain real-time energy usage data access, as is required by the Commission's Real Time Usage Data Access Orders. This fact pattern could not have been presented within one year of the effective date of D.22-12-009. As such, modification of D.22-12-009 is warranted under the Commission's Rules.

[13] Resolution E-4820 (Apr. 6, 2017) at 21.
[14] SDG&E-1A at 19:15- 20:19.
[15] D.22-12-009 at 28, Finding of Fact ("FOF") 14.
[16] Declaration of Michael Murray at C-7.

Further, as noted above and further discussed below, SDG&E's testimony in this proceeding provided that "devices that are connected via ZigBee will still remain connected until the customers' future new meters are replaced with a new meter not carrying ZigBee."[17] Yet, as set forth in the Declaration of Michael Murray attached hereto as **Exhibit C**, SDG&E is not, in fact, carrying out this assurance made to the Commission and stakeholders. Instead, existing ZigBee-based connections that have become disconnected are not being reconnected by SDG&E. As well, SDG&E is denying customer requests for new ZigBee connections to enable devices that provide real-time energy usage data monitoring.

The Joint Petitioners' proposed specific wording for the modifications to D.22-12-009, as required by Rule 16.4(b), are set forth in **Exhibit D** hereto. As further supported herein, this Petition satisfies the requirements of Rule 16.4 and the Commission should grant the relief requested.

II. SDG&E Is Failing to Provide Customers with Real-Time Energy Usage Data Access via their Smart Meters as Required by Multiple Commission Orders

As discussed in the attached Declaration of Michael Murray, attached hereto as **Exhibit C**, when a ZigBee connection is lost due to device issues with a customer's HAN device or the SDG&E meter, SDG&E is not reconnecting such ZigBee devices.[18] Mr. Murray's Declaration describes some of the technical aspects of ZigBee connections, the use cases of such real-time energy usage data access and potential causes of such disconnections.[19] As further described in **Exhibit C** and as SDG&E has informed the Joint Petitioners, relying on D.22-12-009, where

[17] SDGE-1A at 19:25-20:1.
[18] Declaration of Michael Murray at C-4 to C-6, Appendix 1.
[19] *Id*. at C-2 to C-5.

customers lose connectivity between their SDG&E Smart Meters and their HAN devices, SDG&E is refusing to reconnect such devices.[20]

SDG&E stated in its testimony in A.22-05-003 that 7,500 devices have been paired with SDG&E's Smart Meters.[21] Accordingly, such customers, as well as any additional customers that connected HAN devices to obtain Smart Meter data since such testimony was filed on May 2, 2022, could be impacted by SDG&E's reconnection denials. Moreover, when customers are making *new* requests to activate real-time energy usage data access to their Smart Meter data via ZigBee, SDG&E is denying such requests.[22] This means that customers that want to install devices or otherwise obtain access to their energy usage data on a real or near-real time basis are unable to do so in SDG&E territory.

This lack of data access for SDG&E customers prevents the use of real-time applications including, but not limited to, load-shedding, identifying and quantifying large loads, diagnosing problems during an energy audit, measurement and verification, and validating whole-home or whole-building curtailments.[23] Discontinuing this data access also curtails the ability of customers to save money on energy costs by shifting load in real-time, in the midst of an affordability crisis in California.

As described in Mr. Murray's Declaration, SDG&E's actions have real consequences for customers and the Commission's reliability goals, including, but not limited to, "**load flexibility offerings for commercial buildings in SDG&E's territory that have been suspended in the last year as a result of SDG&E's actions**."[24] This has even led to the cessation of product

[20] *Id*. at C-4 to C-6, Appendix 1.
[21] SDGE-1A at 19:4-5.
[22] Declaration of Michael Murray at C-5, C-6.
[23] *Id*. at C-2 to C-4.
[24] *Id*. at C-6 (emphasis added).

development and sales efforts by demand response entrepreneurs in SDG&E's territory, reducing the amount of load flexibility that would otherwise be available locally, and to California's grid as a whole.[25]

SDG&E's refusal to reconnect existing devices or to connect new devices is additionally problematic because SDG&E is seeing premature equipment failures with Smart Meters 1.0,[26] so the frequency and volume of such disconnections are likely to increase. And, due to the Commission's rejection of SDG&E's proposed Smart Meter 2.0 project, the pool of affected customers will only further increase.

Currently, real-time energy usage data access with existing SDG&E Smart Meters can only be provided via ZigBee. Itron Smart Meters 1.0 have a ZigBee radio; they do not have a WiFi radio.[27] As SDG&E stated in its testimony in A.22-05-003, "[a]ll of SDG&E's approximately 1.4 million meters today use ZigBee."[28] Thus, aside from ZigBee, there is no other way for SDG&E customers to obtain real-time energy usage data from the Smart Meters 1.0. "Green Button" usage data provided by California IOUs[29] are only available at 15-minute or 60-minute intervals and 24 hours in arrears.[30] As further explained in Section IV below, D.22-12-009 relied on facts regarding a customer shift away from ZigBee to WiFi-based technologies,[31] but did not address the fact that

[25] *Id*. at C-6 to C-7.
[26] *See* D.24-12-074 at 674 (discussing A.22-05-016, *Opening Brief of the Utility Reform Network* (Aug. 14, 2023 ("TURN Opening Brief")) with regard to premature Smart Meter failures) (citing TURN Opening Brief at 257-58)); D.24-12-074, FOF 321.
[27] Declaration of Michael Murray at C-2, C-6.
[28] SDGE-1A at 18:12-13.
[29] *See, e.g.*, D.13-09-025, *Decision Authorizing Provision of Customer Energy Data to Third Parties Upon Customer Request* (Sep. 23, 2013); SDG&E Electric Rule 34. Note that "Green Button Connect My Data" is synonymous with the North American Energy Standards Board's ("NAESB") Energy Services Provider Interface ("ESPI") standard.
[30] D.13-09-025, FOF 31 ("Subsequent access will include updates of data on a lagged basis of up to 24 hours with the prescribed interval information….").
[31] D.22-12-009 at 28-29, FOF 15.

SDG&E Smart Meters 1.0 are simply not compatible with WiFi. Thus, until SDG&E's current fleet of Smart Meters 1.0 are replaced with WiFi-compatible AMI, ZigBee is the *only* way to provide the near real-time energy data usage access required by the Commission's Real Time Usage Data Access Orders. Accordingly, the demand flexibility, reliability, energy efficiency and affordability benefits of Smart Meter real-time energy usage data access in SDG&E's distribution territory "will be zero so long as SDG&E has foreclosed altogether on customer use of their ZigBee HAN."[32]

The Joint Petitioners have raised these issues, including SDG&E's failure to comply with such prior Commission orders, with both SDG&E and the Energy Division, yet they remain unresolved.[33] Accordingly, the Joint Petitioners have resorted to filing the instant Petition, so that D.22-12-009 can be modified and SDG&E can be ordered to comply with the requirement to provide its customers with real or near real-time energy usage data access to the HAN device of the customer's choice. Please see **Exhibit D** for Joint Petitioner's proposed changes to the language of D.22-12-009.

III. Commission Precedent Requires SDG&E to Provide Near Real-Time Energy Usage Data Access via a Connection between the Customer's Smart Meter and their Home Area Network.

A. Statutory and Policy Context: Federal and State Law Basis for the Commission's Real Time Energy Usage Data Access Orders

In Rulemaking ("R.") 08-12-009, the Commission's Smart Grid proceeding, the Commission examined California's responsibilities under the Federal Energy Information and Security Act of 2007's ("EISA") amendments to the Public Utilities Regulatory Policies Act ("PURPA").[34] These amendments required utilities to provide price and usage data, including

[32] Declaration of Michael Murray at C-7.
[33] *Id*. at C-5, C-7.
[34] D.09-12-046 at 2, 40-65.

hourly use information, on a daily basis.[35] The Commission found that its existing orders already satisfied the EISA requirements, including requiring large IOUs to provide customer access to its energy usage information in 1-hour intervals via AMI, with a one-day lag.[36] The Commission also noted that the utilities' AMI projects already included HAN devices "that link to the new meters. A HAN device can enable price signals, load control and near real time data for electric customers."[37]

Despite this prior California compliance with EISA, and as further set forth in Section III(B) below, the Commission found it important in D.09-12-046 to "reaffirm our expectations that PG&E, SDG&E and SCE provide their customers and other interested persons with real-time or near real-time retail and wholesale price information and provide their customers with usage information."[38] The Commission reasoned that "customer access to usage information is a goal of this Commission, and should be a goal of IOUs in implementing a Smart Grid."[39] The Commission further relied on California Senate Bill ("S.B.") 17 (Padilla, ch. 327, Statutes of 2009), which set a California policy goal of "[i]ncreased use of cost-effective digital information and control technology to improve reliability, security, and efficiency of the electric grid."[40] S.B. 17 also required "[d]eployment of cost-effective smart technologies, including **real time**, automated, interactive technologies that optimize the physical operation of appliances and consumer devices for metering, communications concerning grid operations and status, and distribution automation."[41]

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[35] *Id*. at 40 (citing 16 U.S.C. § 1621(d)(19)(B)).
[36] *Id*. at 51 (citing D.07-07-042 with respect to SCE, D.06-07-027 with respect to PG&E and D.07-04-043 with respect to SDG&E; citing D.08-09-039, FOF 20); *see also id*. at 63, FOFs 13, 16.
[37] *Id*. (citing D.09-03-026, FOF 6).
[38] *Id*. at 51-52.
[39] *Id*. at 63.
[40] Cal. Pub. Util. Code ("P.U.C.") § 8360(3).
[41] P.U.C. § 8360(e) (emphasis added).

The Commission further supported its energy usage data access requirement based on related policy goals:

> Also, ensuring that price and consumption information are easily accessible to customers will be important to support the Commission's **dynamic pricing policies**. … As the participation of Google and Tendril in this proceeding makes clear, customers will likely have opportunities to invest in enabling devices that "listen" to prices and automatically increase or decrease their consumption of energy based on instructions that have been pre-programmed by the customer. These automatic agents will help customers to manage their energy consumption.[42]

This legal and policy context set the stage for the Commission's Real Time Usage Data Access Orders.

B. Commission Precedent Requires the Large IOUs to Provide Customers with Smart Meter Real Time Energy Usage Data Access

On the basis of EISA, S.B. 17 and California public utility policy noted above, the Commission in 2009 required the large IOUs

> to ensure that real-time or near-real time access to this data and to the benefits offered by AMI are realized, we will explicitly require that each IOU be capable of providing a customer with an AMI meter **with access to the customer's usage information on a near real-time basis by the end of 2011 should the customer desire that information**.[43]

In so doing, the Commission found: "To realize the benefits of AMI, customers and authorized third parties need access to the information provided by the meters on a real-time or near real-time basis."[44] The Commission's order on this point was for the utilities to "provide to their customers with a smart meter access to usage data on **a real-time or near real-time basis** no later than the end of 2011, consistent with the rules developed pursuant to Ordering Paragraph 5 below."[45] Ordering Paragraph 5 of D.09-12-046 pushed to a later phase of the docket rules to provide

[42] D.09-12-046 at 52.
[43] *Id*. at 65 (emphasis added), COL 18.
[44] *Id*., FOF 19.
[45] *Id*., Ordering Paragraph ("OP") 4 (emphasis added).

customers and third parties with access to usage data "consistent with Energy Information and Security Act of 2007 standards, the general public interest, and state privacy rules."

Subsequently, after extensive review of customer data privacy issues in the Smart Grid docket (R.08-12-009), the Commission issued D.11-07-056, which required the IOUs' Smart Meters to "transmit energy usage data to the home so that it can be received by HAN device of the customer's choice."[46] By failing to maintain existing Zigbee connections or enabling new ones, SDG&E is in violation of this directive.

In 2011, the Commission explained the data access use case at issue in this Petition, elaborating that the proceeding had considered:

> the provision of information through a customer premises device in direct communication with the Smart Meter, where the device is either owned by the customer or under a service contract with either the utility or a third party. In addition, it was noted that a consumer can sometimes directly install a device on his or her electric service that provides much of the information available from a Smart Meter. Finally, when a customer deploys a HAN-enabled device in their home, this device may be in communications with customer appliances or, via the internet, with other energy service entities and obtaining information simultaneously from multiple sources.[47]

The Commission found that "[m]any of the benefits of a Smart Meter arise from establishing a home area network that has access to the granular data produced by the Smart Meters."[48] It went on to say that "[t]he goal of this roll out is to provide California customers with secure, private, and direct access to the disaggregated data available in the Smart Meters."[49] The Commission noted that the data access provided by the three large IOUs at the time of issuance of D.11-07-056 was delayed by one day.[50] Based on these findings and conclusions, the Commission required the

[46] D.11-07-056, OP 11.
[47] *Id*. at 106-107.
[48] *Id*., FOF 76.
[49] *Id*. at 117.
[50] *Id*. at 107.

large IOUs to file Tier 3 advice letters within four months of the decision to develop Smart Meter Home Area Network implementation plans specific to each such IOU. The implementation plans were to include an initial phase, followed by a full rollout to all customers by March 1, 2012, that required the Smart Meters to transmit energy usage data to the customer's home, so that it could be received by the HAN device of the customer's choosing.[51]

The three large IOUs then filed their HAN implementation plans advice letters, and the Commission's Resolution E-4527 addressed these filings in 2012. The Commission found deficiencies in the IOU's implementation plans that did not comply with D.11-07-056, and ordered the utilities to begin accepting requests from customers for activating HAN function of the customer's Smart Meter to allow the customer to use a commercially available HAN device of the customer's choosing to monitor "in near real-time" the customer's electricity usage recorded by the smart meter.[52] The Commission expressly found that "*activation of electric smart meter's HAN function to provide near real-time access to energy consumption data* or demand response signaling is key to achieving certain ratepayer benefits included in the AMI business cases approved by the CPUC."[53] The reasonableness of ratepayer funding for and policy rationale undergirding this order is discussed further in Section III(C), below.

The Commission orders and decisions discussed above remain good law today, and the Commission has not modified its direction by subsequent action. In fact, subsequent Commission orders have reiterated these requirements. On March 27, 2013, applying Resolution E-4527, the

[51] *Id*. at 115-17.
[52] *Id*. at 2, OP 1(a) ("By January 15, 2013, each Utility shall begin accepting requests from its customers, via phone or a web portal through a process consistent across the Utilities, for activating the HAN function of the customer's electric smart meter to allow the customer to use a commercially available HAN device (of customer's choosing and obtained by the customer from the marketplace independently of the Utility) to monitor in near real-time the household electricity usage recorded by the customer's smart meter.").
[53] *Id.*, FOF 2.

Energy Division approved the large IOUs' HAN implementation plans, including SDG&E's Advice Letter 2307-E-A. As part of its own rate case, SDG&E itself explicitly argued and the Commission agreed that **if HAN integration was not funded, it would be contrary to the Commission's requirements for Smart Meters to be integrated with the HAN device of the customer's choosing set forth in D.11-07-056**.[54] The Commission agreed. In D.14-12-004, the Commission reiterated and summarized its prior requirements set forth in D.09-12-046 and D.11-07-056.[55] Finally, in 2017, Resolution E-4820 required the large IOUs to offer incentives to residential customers for devices that use AMI data through a HAN device or other means per Assembly Bill 793 (2015).[56] The incented devices were to make use of Smart Meter data, including from "HAN-connected technologies or other in-home hardware devices, which offer access to real-time AMI data."[57] Thus, it is very clear that SDG&E is required by applicable law and Commission precedent to provide its customers with real-time (or near real-time) access to their Smart Meter energy usage data with connectivity to the HAN device of the customer's choice.

C. The Commission's Policy Rationale in Requiring Customer Real-Time Energy Usage Data Access Remains Highly Relevant Today.

As far back as 2001, in a docket regarding real-time energy metering for SDG&E's large customers, the Commission concluded that the timeliness of information was important to the economical usage of electricity:

> Any attempt at demand responsiveness is dampened because customers have a significant lag time before they receive their monthly bill, which is usually well after the high hourly prices and peak usage periods occur... By implementing real time energy meters, customers can optimize their use of electricity during different hours of the day.[58]

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[54] D.13-05-010 at 483, 488 (emphasis added).
[55] D.14-12-004, *Decision Closing Proceeding and Denying Petition to Modify* (Dec. 4, 2014) at 5, 8.
[56] Resolution E-4820 at 20, FOF 3, OP 1(a).
[57] *Id*. at 22.
[58] D.01-05-032 at 7.

In 2007, the Commission described the very purpose of SDG&E's AMI project to include "real near-term usage information to customers."[59] Indeed, in its original application for AMI deployment (A.05-03-015), SDG&E itself testified that its AMI project would provide near real-time energy usage information empowering customers to make informed choices about their energy usage.[60] As explained in the Commission's Resolution E-4527, real-time energy usage data access "is a key step in advancing California's energy policies and maximizing the benefits and return on the state's investment in AMI infrastructure."[61] The Commission explained:

> Access to the HAN function will allow customers to, in near real-time, monitor their energy consumption measured continuously by the smart meter and/or, in the future, receive and respond to load control signals (also referred to as demand response events). These capabilities enable customers to manage and optimize their energy consumption by identifying conservation opportunities and shifting/reducing peak hour demand to achieve bill savings. Such customer actions can yield system level demand reduction in aggregate which benefits the ratepayers in the form of avoiding future electricity supply costs, a key benefit driving California's investment in the Advanced Metering Infrastructure (AMI), also referred to as smart meters.[62]

Resolution E-4527 was also explicit that an integral rationale for adopting AMI deployment across the IOUs' service areas was its promise in advancing such policy objectives, including energy conservation and demand response through the HAN function of such meters.[63]

> The CPUC approved the Utilities' deployment of the AMI infrastructure, **including installation of electric smart meters pre-equipped with the HAN function, based on a finding of positive business cases for all three Utilities from the ratepayer's perspective** (specifically, the benefits to ratepayers exceeded the costs of each Utility deploying and operating the AMI infrastructure over its projected life). The benefits enabled by the AMI systems in these cases included 1) operational benefits realized by the utilities in achieving more efficient operations and improved system reliability and 2) demand side benefits (such as energy conservation and demand response) realized by the ratepayers through avoidance of future electricity supply costs due to the demand reduction achieved by

[59] D.07-04-043 at 2.
[60] *Id.* at 10.
[61] Resolution E-4527 at 6.
[62] *Id*. at 3 (emphasis added); *see also id*. at 4-6; D.08-09-039 at 45.
[63] Resolution E-4527 at 4.

> customers receiving **timely information about their energy consumption generated by smart meters and time-differentiated price tariffs and load control signals supported by smart meters**.[64]

The Commission stated a portion of the benefits to ratepayers supporting the Commission's approval of AMI deployment "was *predicated*, in turn, on customers leveraging the **near real-time usage monitoring and event signaling enabled by their smart meter HAN function** to drive demand reduction via energy conservation, demand response and automated load control capabilities."[65] The Commission even compared the potential benefits enabled by such HAN functionality to customers monitoring their usage through a web-based portal and noted that HAN-based monitoring was projected to achieve ***three times*** the reduction in energy consumption.[66]

Such benefits were an important factor in the Commission's approval of SDG&E's AMI rollout from the beginning. In the settlement agreement adopted by D.07-04-043 regarding SDG&E's GRC, the costs for SDG&E's AMI were explicitly increased to "accommodate the additional cost of adding HAN functionalities to SDG&E's AMI."[67] The Commission there stressed the importance of customer access to such information.[68] "It is clear from D.07-04-043 and D.11-07-056 that the Commission wants the advanced metering infrastructure of SDG&E to provide its customers with HAN functions."[69]

In its re-submitted HAN implementation plan that was approved by the Energy Division, SDG&E itself highlighted these policy purposes of the HAN pairing with its customers' Smart Meters:

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[64] *Id*. at 5 (emphasis added).
[65] *Id*. at 5-6 (emphasis added).
[66] *Id*. at 6.
[67] D.13-05-010, *Decision on General Rate Cases of San Diego Gas & Electric Company and Southern California Gas Company* (May 9, 2013) at 486 (citing D.07-04-043 at 82).
[68] *Id*. at 487.
[69] *Id*. at 488.

> Access to the HAN function will allow customers to monitor energy consumption measured continuously by the smart meter and/or, in the future, receive and respond to demand response events. These resources allow customers to manage and optimize energy consumption by identifying conservation opportunities and shifting/reducing peak hour demand to achieve savings. Such customer actions can yield system level demand reduction in aggregate which benefit the ratepayers in the form of avoiding future electricity supply costs.[70]

In seeking Commission approval for its plan, SDG&E explained how such HAN functionality aligned with its overall AMI deployment, DR programs, emerging dynamic pricing, saying that SDG&E's commitment to such goals was of "utmost importance."[71]

And, as the Commission recognized back in 2012, there is an important affordability component to real-time energy usage data access as well: if customers are enabled by timely and accurate information on current load, they will be better enabled to shift load off peak and to reduce power costs.[72] At a load-serving entity ("LSE") level or system level, such individual behavioral changes can reduce energy supply costs for customers throughout SDG&E distribution territory.[73]

The "utmost importance" of such data access in enabling customer response to DR signals, reliability events and dynamic prices and in addressing California's energy affordability crisis is even more clear and urgent today. The primacy of demand response and load shifting is baked into California's Loading Order, which identifies energy efficiency and demand response as California's first and preferred means of addressing energy needs.[74] As reliability has become a far more real and acute problem for California's grid in recent years, demand-side management remains one of the state's central policy tools. Citing the "perfect storm" of inadequate grid supply,

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[70] SDG&E Advice Letter 2307-E-A (Oct. 29, 2012) at 2 (emphasis added) (approved by Energy Division disposition letter on March 27, 2013).
[71] *Id*. at 2-3.
[72] Resolution E-4527 at 3-6.
[73] *Id*.
[74] CPUC, *Energy Action Plan II, Implementation Roadmap for Energy Policies* (Oct. 2005), *available at*: https://docs.cpuc.ca.gov/published/Report/51604.htm, §1.

heat waves, droughts and other extreme weather events and the impact of wildfires to electricity transmission and distribution, the Commission called for "urgent action" in its emergency reliability order in 2021.[75] These extreme grid stressors led to demand-side policies, such as expansions to the Emergency Load Reduction Program and the Flex Alert media campaign, improvements and expansions to DR programs, smart thermostat incentives and innovative dynamic rate pilots.[76] As well, on the supply side, the Commission ordered a staggering amount of new procurement in the "mid-term reliability" orders in 2019, 2021 and 2023.[77]

The California Energy Commission relied on the importance of load shifting in establishing its Load Management Standards that went into effect last year, requiring each LSE to provide dynamic rates for each of its customer classes. These policy goals can be actualized by giving customers real-time (or near real-time) usage data access to enable real-time load shifting. CCAs in SDG&E's distribution service area are highly interested in their customers' ability to access such real-time or near real-time energy usage data from their Smart Meters. SDCP sees such data access as being critical for its customers to respond effectively to dynamic rate signals by load-shifting. SDCP views such access as a means of driving technology innovation that could result in new SDCP programs to support grid reliability.[78] Similarly, CEA is keenly interested in the resumption of such data access in SDG&E's territory because such data can enable load-shifting

[75] D.21-12-015, *Phase 2 Decision Directing Pacific Gas & Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company to Take Actions to Prepare for Potential Extreme Weather in the Summers of 2022 and 2023* (Dec. 2, 2021) at 5.
[76] *Id*. at 2-4.
[77] D.19-11-016, *Decision Requiring Electric System Reliability Procurement for 2021-2023* (Nov. 7, 2019); D.21-06-035, *Decision Requiring Procurement to Address Mid-Term Reliability (2023-2026)* (Jun. 24, 2021); D.23-02-040, *Decision Ordering Supplemental Mid-Term Reliability Procurement (2026-2027) and Transmitting Electric Resource Portfolios to California Independent System Operator for 2023-2024 Transmission Planning Process* (Feb. 23, 2023); *see also* D.24-09-006, *Decision Allowing Bridge Resources for Alternative Compliance with Diablo Canyon Replacement Resource Category in Decision* 21-06-035 (Sep. 12, 2024).
[78] Declaration of Timothy Treadwell at B-2.

in response to dynamic rate signals in a manner that supports California's urgent reliability and greenhouse gas emissions reduction goals.[79]

The importance of customer access to real-time energy usage data has only grown as grid reliability and affordability crises have rattled California, and state climate goals and policy interventions to address these pressing issues have evolved over the past fifteen years. Such policy factors strongly support modification of D.22-12-009, as further explained below.

IV. In D.22-12-009, the Commission Permitted SDG&E to Discontinue Collecting Funding for Service of ZigBee Connections, But It Anticipated Near-Term Rollout of Smart Meters 2.0 that were WiFi Enabled for Real-Time Energy Usage Data Access

A. SDG&E's Application to Discontinue ZigBee Service

The explanation given by SDG&E and the Energy Division for SDG&E's failure to reconnect and refusal to make new connections between their existing Smart Meters and customers' HAN devices was based on D.22-12-009, issued in this proceeding, which approved SDG&E's request to discontinue the funding of support for ZigBee technology.[80] In the instant Application, SDG&E's testimony "notified" the Commission of SDG&E's "intent to discontinue its support of demand response and/or other devices that connect to SDG&E's Smart Meters via ZigBee technology."[81] SDG&E's expert explained in testimony that ZigBee is "no longer the favored path for meter technology. Wi-fi is the preferred technology for residential. Today, all communication for DR events with smart thermostats now occurs via a wi-fi signal."[82] The testimony went on to explain that SDG&E's existing fleet of Smart Meters would be nearly 20 years old by 2027 and

[79] Declaration of Kaitlin McGee, attached hereto as **Exhibit A**, at A-2.
[80] Declaration of Michael Murray at C-5 to C-6; D.22-12-009 at 28-29, COL 23.
[81] SDGE-1A at EBM 18:5-7.
[82] *Id*. at EBM 19:10-12.

the utility had issued a Request for Proposals ("RFP") for new Smart Meters "to be available possibly in late 2023 and beyond in the event older meters start to fail."[83] SDG&E then stated that

> starting in 2023 SDG&E will no longer support new ZigBee device pairing. There has not been demand for new device pairing, and **devices that are connected via ZigBee will still remain connected until the customers' future new meters are replaced with a new meter not carrying ZigBee**.[84]

The testimony explained how SDG&E would then communicate with customers with existing ZigBee connections about transitioning to "wi-fi digital 'assistants,' wi-fi smart thermostats or other wi-fi appliance controls."[85]

SDG&E's testimony then explained that the costs for pairing the ZigBee signals to customers' HAN devices were "very nominal" at $30,000 per year.[86] SDG&E requested $30,000 to fund the portal for 2023, and no additional funding for subsequent years.[87] There were no responses or protests to SDG&E's ZigBee-related request.

It is important to address what was *not* stated in SDG&E's Application and testimony: SDG&E did not tell the Commission or stakeholders that it would cease providing real-time (or near real-time) energy usage data access for its customers. SDG&E did not address the fact that until all SDG&E Smart Meters are replaced with upgraded AMI that provides such access via WiFi, SDG&E would be out of compliance with the Commission's Real Time Usage Data Access Orders. SDG&E did not explain that it would not be providing near real-time access to its customers to the HAN device of the customer's choosing. To the contrary, SDG&E's testimony stated the existing customers with ZigBee-based connections would still remain connected until their meters were

[83] *Id*. at EBM 19:15-19.
[84] *Id*. at EBM 19:24 – EBM 20:1.
[85] *Id*. at EBM 20:1-7.
[86] *Id*. at EBM 20:16.
[87] *Id*. at EBM 20:15-19.

replaced with meters not utilizing ZigBee.[88] Reliance on D.22-12-009 as an excuse for failing to comply with the Real Time Usage Data Access Orders is unfounded, because the Commission did not establish a record to nor did it conclude that such precedent should be reversed. Utilizing the instant DR budget application to attempt to reverse this longstanding precedent constituted an unpermitted collateral attack by SDG&E, and it should not be sustained.[89]

B. The Commission's Decision in D.22-12-009

In approving SDG&E's request to discontinue ZigBee technology support, D.22-12-009 reasoned as follows:

> SDG&E's original smart meters utilized ZigBee technology as the basis for sending meter data to management systems. SDG&E now proposes to discontinue support for ZigBee technology, given customer shifts to wireless internet (Wi-Fi) device communications as well as plans to solicit for new smart meters in the near future. [citation omitted] SDG&E will end new ZigBee device connections in 2023, with plans to educate customers regarding their ZigBee devices when their smart meters are replaced, which will end ZigBee device functionality. Given the move towards Wi-Fi and lack of vendors supporting ZigBee, it is reasonable to end funding for ZigBee support as proposed by SDG&E.[90]

Thus, the Commission relied on SDG&E's plans to deploy Smart Meters 2.0 across its fleet that would provide WiFi-based connectivity. The Commission concluded that "[i]t is reasonable to discontinue ZigBee technology support for SDG&E."[91] In so doing, D.22-12-009 made several errors of law and fact.

C. D.22-12-009 Erred as a Matter of Law and Fact

Again, SDG&E's Application in this docket did not disclose that SDG&E would leave its customers without connectivity and data access as required by the Real Time Usage Data Access

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[88] *Id*. at EBM 19:25-20:1.
[89] *See* P.U.C. § 1709; *see, e.g.*, D.22-06-005, *Decision Granting in Part the January 31, 2022 Petition for Modification of Valley Clean Energy, Polaris Energy Services, and TeMix Inc.* at 9, FOF 3, COL 1 (barring a collateral attack on a prior Commission decision).
[90] D.22-12-009 at 28-29 (emphasis added).
[91] *Id*., COL 23.

Orders; rather; it stated the opposite. As a result, neither the Real Time Energy Usage Data Access Orders nor the other decisions or resolutions discussed in Section III above are even mentioned, and certainly not addressed in D.22-12-009. The Decision does not reckon with the potential gap in compliance with such prior Commission precedent until Smart Meters 1.0 are replaced. As well, presumably because it was not put on notice by SDG&E, the Decision did not refer to D.13-05-010, where the Commission reasoned that if HAN integration was not funded, it would be contrary to the Commission's requirements for Smart Meters to be integrated with the HAN device of the customer's choosing set forth in D.11-07-056.[92] Given the result – that SDG&E is now failing to provide such connectivity in reliance on D.22-12-009 -- this resulted in legal error.

Next, D.22-12-009 did not acknowledge or address the fact that Smart Meters 1.0 can communicate real-time energy usage data to a customer's HAN ***solely via ZigBee***.[93] Existing Smart Meters do not support WiFi. Thus, WiFi-based real-time energy usage data access is dependent on rollout of new Smart Meters (*e.g.*, the Smart Meter 2.0 project). Decision 22-12-009 is based on faulty reasoning: SDG&E customers cannot access real-time energy usage data currently via WiFi. ZigBee is the only current option until Smart Meters 2.0 are rolled out. SDG&E customers do not, in fact, have real-time energy usage data access via HAN if their existing ZigBee shuts off and is not reconnected by SDG&E, or if SDG&E refuses to turn on new ZigBee-based connections.

Decision 22-12-009 also failed to reiterate the crucial exception to SDG&E's proposed termination of ZigBee service for existing customers that had been articulated in its testimony, *i.e.* that existing ZigBee customers would not lose their connections prior to receiving new Smart Meters with WiFi capability. Instead, the Decision stated: "SDG&E will end *new ZigBee device*

[92] D.13-05-010 at 483, 488.
[93] *See* Declaration of Michael Murray at C-2, C-6.

connections in 2023, with plans to educate *customers regarding their ZigBee devices when their smart meters are replaced*, which will end ZigBee device functionality."[94] This sentence could be interpreted to mean that SDG&E should continue to maintain ZigBee for existing customers, but it was not explicit, and, despite its testimony, SDG&E is not doing so. This amounts to an additional error of law.

The Decision also erred by failing to address the compliance gap caused by any *new* customer requests for HAN connectivity before such customers' meters could be replaced with Smart Meter 2.0. As discussed above, SDG&E is not reconnecting HAN devices that become disconnected from the customer's Smart Meter via ZigBee, and, as well, is failing to honor new requests for ZigBee-based connections. In light of SDG&E's behavior, the Decision's errors are having an actual adverse impact on SDG&E customers and should be rectified as outlined herein.

V. New Facts Further Warranting Modification: SDG&E GRC Decision Denied SDG&E's Smart Meter 2.0 Rollout

In addition to the legal and factual errors noted in Section IV above, a Commission decision issued in December of 2024 has further eroded the accuracy of the facts on which D.22-12-009 relied. In D.24-12-074, the Commission's decision on SDG&E's 2024 Test Year General Rate Case ("GRC"), the Commission denied SDG&E's Smart Meter 2.0 project to replace all of SDG&E's existing Smart Meter 1.0 AMI with new Smart Meters.[95] Instead, D.24-12-074 authorized SDG&E to file a separate application for its Smart Meter 2.0 project.

As context, SDG&E filed its rate case in which it proposed its Smart Meter 2.0 project in the same year and month in which it proposed to defund ZigBee in the instant Application. SDG&E proposed to "proactively replace 1.5 million electric and 900,000 gas meters with attached gas

[94] D.22-12-009 at 28-29 (emphasis added).
[95] D.24-12-074, *Decision Addressing the 2024 Test Year General Rate Cases of Southern California Gas Company and San Diego Gas & Electric Company* (Dec. 19, 2024) at 661, 672, 676, COL 215.

Advanced Metering Infrastructure (AMI) modules. [citation omitted] SDG&E first seeks to replace its gas modules and then transition to electric meter replacements."[96] As noted above, this proposal was referenced in A.22-05-003, and at that time, SDG&E believed meter replacements could begin as early as late 2023,[97] but this never occurred. In fact, in December of 2024, the Commission found that SDG&E had not provided either sufficient evidence or a comprehensive cost-benefit analysis to justify the proactive replacement of Smart Meters 1.0, had failed to enforce vendor equipment warranties, contrary to standard procurement practices, and supply chain disruptions resulted in "significant uncertainties in authorizing ratepayer funding" for the proposed replacement of SDG&E's existing AMI prior to the end of their useful life.[98] On this basis, the Commission concluded that there was insufficient justification for approving ratepayer funding for Smart Meter 2.0 project in the GRC application.[99] It concluded that "[t]he evidence does not support the immediate and widespread replacement proposed in the Smart Meter 2.0 project."[100] Instead, the Commission ordered SDG&E to file a separate and new application for cost recovery of replacing Smart Meter 1.0.[101]

Decision 24-12-017 did authorize SDG&E to "maintain a memorandum account as an interim means to deploy meter and module replacements or to service existing equipment."[102] The Commission authorized SDG&E to seek a cost reasonableness review of such costs "when it files a separate application seeking cost recovery for replacing or repairing failing meters and modules."[103] While the purpose of this Petition is to correct the legal and factual errors in D.22-

[96] *Id*. at 671.
[97] SDGE-1A at EBM 19:15-19.
[98] D.24-12-017 at 672-74, 676, FOFs 317-19.
[99] *Id*. at 676, COL 215.
[100] *Id*., COL 215.
[101] *Id*., OP 51.
[102] *Id*. at 675.
[103] *Id*.

12-009 and not to resolve the pool of funds from which SDG&E can draw to comply with the Real Time Usage Data Access Orders (*i.e.*, by reconnecting disconnected ZigBee connections with Smart Meters 1.0 and honoring customer requests for new connections), such memorandum account could potentially be considered to fund continuation of ZigBee connections.

In sum, by denying the deployment of Smart Meters 2.0 and resulting from the fact that Smart Meters 1.0 have not been replaced across SDG&E's territory, D.24-12-074 has altered the factual basis underlying D.22-12-009 and justifies modification of the Decision.

VI. Conclusion: the Commission Should Modify D.22-12-009 to Require SDG&E to Reinstate Existing ZigBee Connections and to Enable New ZigBee Connections Until SDG&E Provides New Smart Meters that Provide Near Real-Time Energy Usage Data Access

The Commission should modify D.22-12-009 at its earliest convenience to correct its legal errors. The Decision failed to acknowledge and address compliance with prior Commission orders requiring SDG&E to provide real-time energy usage data access for customers using the HAN device of the customer's choosing. Decision 22-12-009 also failed to incorporate SDG&E's testimony stating that customers with existing ZigBee connections would continue to have them until they received WiFi-enabled new Smart Meters, which would have partially addressed SDG&E's gap in compliance (with respect to customers with existing ZigBee connections).

The Decision also did not address the fact that a key basis for approving the IOUs' AMI infrastructure was to enable customers to access their load data on a near real-time basis via pairing with their selected HAN devices, as articulated in Resolution E-4527, outlined above. The Decision is thus inconsistent with California policy and the Commission's own directives regarding timely customer response to grid needs and dynamic electricity prices. By approving SDG&E's discontinuance of its service of ZigBee-based connections to its Smart Meters, D.22-

12-009 fails to ensure SDG&E's compliance with EISA and S.B. 17, federal and state law, respectively, that underlay the Real Time Usage Data Access Orders.

Decision 22-12-009 should also be modified because it relied on facts that are no longer true: in the years that have passed and as a result of D.24-12-074 in December of 2024, SDG&E's Smart Meters 1.0 were not, in fact, replaced in late 2023 with WiFi-compatible meters, and they will not be replaced for at least several more years. It is currently unknown when or whether the Commission will approve fleet-level AMI replacement. If the Smart Meter 2.0 project is approved, SDG&E will need substantial time for procurement and installation of 900,000 gas meters *and only then* does it plan to replace its 1.5 million electric meters.[104] This could take many years. Installation could be further postponed as a result of supply chain issues uncovered in A.22-05-015 *et al.*[105] Thus, D.22-12-009 approved a material gap in SDG&E's compliance with the Real Time Usage Data Access Orders that has grown significantly wider in the past month.

Unfortunately, SDG&E is not remedying this situation on its own. SDG&E has shown no willingness to reconnect existing ZigBee connections or honor customer requests for new ones, arguing that its hands are now tied by D.22-12-009.[106] SDG&E is not carrying out the assurance contained in its testimony in this proceeding that existing customers utilizing ZigBee will retain to their real-time energy usage data via their Smart Meters until such meters are replaced.

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[104] *See id*. at 671.
[105] *See id*. at 672-73.
[106] Declaration of Michael Murray at C-4 to C-6, Appendix 1. The Joint Petitioners invited SDG&E to a meeting to discuss this issue and work towards a resolution in order to avoid the need for Commission action. SDG&E did not accept the Joint Petitioners' meeting invitation, explaining that it had ended its contract with its vendor and did not have Commission-authorized budget for "HAN provisioning" and management of an online portal to service customer requests for HAN pairing with its existing Smart Meters. *Id*. at C-5 to C-6.

As a result of these legal and factual deficiencies, the Commission should modify D.22-12-009 to:

1) Clarify that SDG&E remains required to comply with the Real Time Usage Data Access Orders, and, until applicable customers' Smart Meters 1.0 are replaced with Smart Meters that have WiFi connectivity,

    a. specify that SDG&E must reconnect existing ZigBee-based connections between customers' Smart Meters 1.0 and their HAN device in the event of disconnections; and

    b. state that SDG&E must honor customer requests for new ZigBee-based connections between customers' Smart Meters 1.0 and their HAN device (until applicable customers' are able to receive HAN connectivity through Smart Meters that contain WiFi).

The specific wording changes to D.22-12-009 proposed by the Joint Petitioners, as required by Rule 16.4(b), are set forth in **Exhibit D**, attached hereto.

Respectfully submitted,

/s/ Sheridan Pauker

Sheridan Pauker
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Dated: February 19, 2025

Exhibit A

Declaration of Kaitlin McGee
Key Accounts/Program Manager, Clean Energy Alliance

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company (U39E) for Approval of its Demand Response Programs, Pilots and Budgets for Program Years 2023-2027.	Application No. 22-05-002
And Related Matters.	Application 22-05-003 Application 22-05-004

DECLARATION OF KAITLIN MCGEE
IN SUPPORT OF PETITION FOR MODIFICATION

I, Kaitlin McGee, declare as follows:

1. I am one of two Key Accounts/Program Managers of Clean Energy Alliance ("CEA"). My business address is 5857 Owens Ave, Suite 2023, Carlsbad, CA 92008.

2. I have a personal knowledge of the facts and representations herein and, if called upon to testify, could and would do so competently, except for those facts expressly stated to be based upon information and belief, and as to those matters, I believe them to be true.

3. I provide this declaration in support of the Petition for Modification of Decision ("D.") 22-12-009 filed on behalf of CEA, San Diego Community Power ("SDCP") and Mission:data Coalition, Inc ("Mission:data" and collectively, the "Joint Petitioners").

4. I am the primary staff person handling energy usage and customer data for CEA. This data is utilized for the design, development, and administration of energy programs for CEA customers. I have 10 years of experience working with customer data and energy usage data. I started my career working for the City and County of San Francisco, Public Utilities Commission

analyzing meter data from PG&E and utilizing data to build load forecasting models. I have now worked for three separate Community Choice Aggregators.

5. CEA is a California Community Choice Aggregator ("CCA") serving over 250,000 customer accounts in the cities of Carlsbad, Del Mar, Solana Beach, Escondido, San Marcos, Oceanside and Vista, California. These accounts represent approximately 2,400,000 MWh and 15 percent (15%) of annual electric load in SDG&E's distribution territory.

6. CEA is keenly interested in real-time energy usage data access for the customers it serves in SDG&E distribution territory. CEA's customers are entitled to this data, and such data can enable customers to shift load in response to dynamic pricing signals and to less grid-constrained and more environmentally beneficial times of the day from a greenhouse gas perspective.

7. Based on my ten years of experience with energy usage data, access to real-time data will allow CEA the flexibility to deploy effective demand response programs and dynamic rates in the future for CEA's service area.

I declare under penalty of perjury of the laws of the State of California that the foregoing is true and correct. Executed on this 19th day of February, 2025 at Carlsbad, CA.

/s/ Kaitlin McGee
Kaitlin McGee

Exhibit B

Declaration of Timothy Treadwell
Senior Program Manager, San Diego Community Power

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company (U39E) for Approval of its Demand Response Programs, Pilots and Budgets for Program Years 2023-2027.	Application No. 22-05-002
And Related Matters.	Application 22-05-003 Application 22-05-004

DECLARATION OF TIMOTHY TREADWELL
IN SUPPORT OF PETITION FOR MODIFICATION

I, Timothy Treadwell, declare as follows:

1. I am a Senior Program Manager with San Diego Community Power ("SDCP"). My business address is P.O. Box 12716, San Diego, CA 92212-3716.

2. I have a personal knowledge of the facts and representation herein and, if called upon to testify, could and would do so, except for those facts expressly stated to be based upon information and belief, and as to those matters, I believe them to be true.

3. I provide this declaration in support of the Petition for Modification of Decision ("D.") 22-12-009 filed on behalf of SDCP, Clean Energy Alliance ("CEA") and Mission:data Coalition, Inc ("Mission:data" and, collectively, the "Joint Petitioners").

4. I have 18 years of experience in the utility and clean energy sectors, focusing on demand-side management, distributed energy resource ("DER"), and Vehicle-Grid Integration ("VGI") programs. I have worked with technology companies using real time data to support flexible load management and energy efficiency initiatives, as well as policy and regulatory engagement on data access issues.

5. Based on my 18 years of professional experience with *customer-focused program design and implementation*, I know that by leveraging granular, real-time meter data, customers can adjust usage during peak times, take advantage of lower-cost off-peak periods, and better integrate on-site and community-level renewable resources.

6. SDCP is a Community Choice Aggregator ("CCA") serving over 960,000 customer accounts in the County of San Diego and the cities of San Diego, Chula Vista, Encinitas, Imperial Beach, La Mesa and National City, California. These accounts represent approximately 7,400,000 MWh and fifty-one percent (51%) of annual electric load (base load) in SDG&E's distribution territory.

7. CCAs are forecasted to provide service to approximately 80% of load in SDG&E distribution territory.[1]

8. In my current role as Senior Program Manager at SDCP, I oversee the agency's flexible load strategy, VGI strategy, operation and management of its Distributed Energy Resource Management System ("DERMS"), as well as the design and implementation of related pilot programs.

9. SDCP has a strong interest in its customers' access to real-time energy usage data, to which they are legally entitled. SDCP views such data as a critical tool that allows retail electric customers to make informed decisions about their energy usage, respond effectively to dynamic rate signals, and shift their load in ways that align with State of California decarbonization objectives and SDCP's own policy goals. SDCP also believes that maintaining reliable customer access to real-time/near real-time meter data, will drive technology innovation that will enable new cutting-edge programs and pilots that can support grid reliability.

[1] Application ("A.") 24-05-010, *Prepared Rebuttal Testimony of Sheri Miller on Behalf of San Diego Gas & Electric Company*, p. SM-4, lines 17-19 (Sep. 9, 2024).

10. While SDCP does not currently maintain any programs requiring real-time energy usage data, SDCP continues to develop energy efficiency programs, electric vehicle initiatives, demand response programs and incentives, dynamic rates and related programs. SDCP seeks to preserve the ability to utilize real-time energy usage data in the development and implementation of such programs.

I declare under penalty of perjury of the laws of the State of California that the foregoing is true and correct. Executed on this 19th day of February, 2025 at San Diego, CA.

/s/ Timothy Treadwell
Timothy Treadwell

Exhibit C

Declaration of Michael Murray
President, Mission:data

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company (U39E) for Approval of its Demand Response Programs, Pilots and Budgets for Program Years 2023-2027.	Application No. 22-05-002
And Related Matters.	Application 22-05-003 Application 22-05-004

DECLARATION OF MICHAEL MURRAY
IN SUPPORT OF PETITION FOR MODIFICATION

I, Michael Murray, declare as follows:

1. I am the President of Mission:data Coalition, Inc ("Mission:data"). My business address is 1752 NW Market Street #1513, Seattle, WA 98107.

2. I have a personal knowledge of the facts and representation herein and, if called upon to testify, could and would do so, except for those facts expressly stated to be based upon information and belief, and as to those matters, I believe them to be true.

3. I provide this declaration in support of the Petition for Modification of Decision ("D.") 22-12-009 filed on behalf of San Diego Community Power ("SDCP"), Clean Energy Alliance ("CEA") and Mission:data (collectively, the "Joint Petitioners").

4. I have over 20 years of professional experience working with energy usage data. I began my career in 2004 as co-founder and CEO of Lucid, an energy management software company for commercial buildings based in Oakland, California, where I grew the company from zero to 40 employees. Lucid offered a cloud-based service that analyzed real-time meter data from thousands of commercial buildings across North America to support energy efficiency. Lucid's

customers included over 350 organizations, including a school district in San Diego Gas & Electric's ("SDG&E") territory where I personally installed devices on-site to wirelessly read SDG&E's meters using the radio frequency communications protocol known as "ZigBee," enabling the school district to manage their energy costs.

5. I hold two U.S. patents relating to energy data collection, sharing and analysis, #8,176,095 and #8,375,068.

6. After Lucid, I co-founded Mission:data, a non-profit organization which advocates for customer control over their energy data held by electric and natural gas utilities nationwide. In that role, I have testified before ten (10) state public utility commissions regarding technical, financial and legal dimensions of advanced metering and customer use of real-time energy data.

7. Mission:data is a national coalition supported by approximately 25 technology companies delivering data-enabled distributed energy resources ("DERs") for residential, commercial and industrial customers. Mission:data works with industry and policymakers to advance customers' ability to quickly and conveniently share their energy-related data with energy management companies of their choice, including their real-time power draw information.

8. Based on my 12 years of experience working with Home Area Network ("HAN") devices and related technologies and services that obtain real-time or near real-time energy usage data access from Advanced Metering Infrastructure ("AMI" or "Smart Meters"), I know that SDG&E's Smart Meters (or "Smart Meters 1.0") are capable of providing customers with real-time kW and kWh values approximately every 5-7 seconds to a customer's HAN device, but such connection is only possible using a 2.4 GHz communications protocol called ZigBee Smart Energy Profile.

9. Based on my expertise in the field of energy usage data access technology and services, there are numerous benefits of making real-time electric usage data available to ratepayers and to numerous devices in homes and buildings that can take action on that information. For example, commercial buildings can use real-time usage data to diagnose equipment problems, identify improperly timed heating, ventilation and air conditioning loads, send timely alerts to facility managers, and generally make electric load more flexible and responsive. It is difficult for commercial buildings to acquire equivalent sources of real-time electric usage data, often costing many thousands of dollars and requiring the installation of additional metering equipment.

10. As for residential customers, homeowners benefit from reduced costs by virtue of the ZigBee HAN. Most HAN devices are internet-connected, meaning that real-time electric usage data can be broadcast to any smart thermostat, water heater, power strip, etc. inside a home, so long as they share an internet connection. This enables the automatic orchestration of energy usage within peak periods, helping customers reduce their monthly bills.

11. Another significant benefit of the ZigBee HAN is that for homes with 100 amp electrical panels, real-time electric usage data can help customers electrify appliances and reduce the need for an upgrade to 200 amp service, which could amount to thousands of dollars of savings. A recent report from the Staff of the California Public Utilities Commission estimated panel upgrade costs of $1,000 to $14,000.[1] Section 750.2 of the 2020 National Electric Code, which is adopted in California as the 2022 California Electrical Code, allows the addition of new loads, such as electric vehicles and stovetops, to exceed a 100 amp limit without upgrading the electrical panel if there is an energy management system installed that monitors real-time power usage and

[1] Rulemaking ("R.") 19-01-011, *Phase 4A Staff Proposal* (Jul. 18, 2024) at 7, available at https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M536/K015/536015666.PDF.

controls total household load within certain limits. With access to real-time energy usage data, an energy management system can automatically curtail loads that are less critical at certain times, such as an electric vehicle, in order for higher priority loads to continue, while staying within a 100 amp limit.

12. In my capacity as President of Mission:data, I work with our members and supporters who offer hardware and software solutions that enable customers to manage their energy usage and modify load as a result of such information. These firms frequently contact me regarding industry and regulatory developments as well as barriers to their businesses and environmental goals.

13. In my role as President of Mission:data, it has come to my attention that SDG&E has discontinued servicing the ZigBee connections between its Smart Meters and its customers' HAN devices. Based on my knowledge and experience with such ZigBee connections to customers HAN devices, disconnections with HAN devices can sometimes occur, but SDG&E has taken the position that disconnected HAN devices will no longer be reconnected. Please see the text of an email that SDG&E sent to one of its customers announcing this change, attached to my Declaration as Appendix 1. The content of this email was provided to me by Rainforest Automation, a company that provides ZigBee HAN devices and energy management services.

14. Based on my experience in the field of energy usage data and in working with ZigBee connections, the underlying causes of a disconnection vary and are not always known. For example, ZigBee communication over 2.4 GHz could be interrupted by interference from other consumer electronics devices communicating on the same frequency. After a prolonged interruption, the Smart Meter can lose the security certificate that allows secure communication with a particular device, leading to disconnection. When this happens, resolving the radio

interference problem will not result in re-establishing communication with the HAN device because the security certificate no longer exists in the Smart Meter's memory. Moreover, certain over-the-air software updates that SDG&E broadcasts to its Smart Meters could also cause disconnections if the security certificate is lost for any reason.

15. Based on information available to me, when a HAN device is disconnected, SDG&E is not honoring reconnection requests. I do not know exactly how many HAN devices have been disconnected for SDG&E customers. However, I note that SDG&E has been replacing some percentage of Smart Meters due to hardware failures over time. When a Smart Meter replacement occurs, this will also result in a disconnected HAN device because the replacement Smart Meter 1.0 does not automatically receive the security certificate for the specific HAN device. Therefore, I expect the number of disconnections to gradually increase over time.

16. In my role as President of Mission:data, members and other interested stakeholders have brought it to my attention that SDG&E is also not allowing *new* ZigBee HAN device connections in its territory when they are being requested by customers.

17. My understanding of SDG&E's discontinuance of ZigBee service has been confirmed to the Joint Petitioners by SDG&E. On December 2, 2024, Sheridan Pauker, counsel to the Joint Petitioners, invited SDG&E via email to meet to discuss this issue and work towards a resolution. SDG&E did not agree to meet with the Joint Petitioners, instead explaining in a reply email sent on December 9, 2024, that it had ended its contract with its ZigBee vendor and did not have Commission-authorized budget for "HAN provisioning" and management of an online portal to service customer requests for HAN pairing with its existing Smart Meters.

18. Based on SDG&E's December 9, 2024 email referenced above, it is my understanding that SDG&E is relying on D.22-12-009 as the basis for its failure to reconnect

existing HAN connections or to honor requests for new ones. SDG&E explained in such email that it had proposed to "discontinue its offering of pairing the HAN devices with its smart meters at the end of 2023 for the reasons stated in Mr. Mantz's testimony in A.22-05-002." SDG&E went on to explain that no party objected to this proposal, and the Commission "agreed with SDG&E and approved the discontinuance of the service. … As authorized by the Commission, SDG&E ended its contract with the vendor providing the service, which included the HAN provisioning, and the management of an online portal to service customer requests for the pairing of devices. As for reinstating the service, SDG&E did not seek (nor was it granted) any further authorization or budget for doing so past 2023. Therefore, SDG&E is unable to reconnect Zigbee connections or enable new ones as requested in your email."

19. Based on my expertise in the field of HAN-based real-time energy usage data applications, SDG&E's currently-installed Smart Meters 1.0 are not capable of providing real-time usage data via WiFi. Therefore, SDG&E's refusal to make new HAN device connections or to reconnect existing ZigBee-based connections that have been disconnected deprives customers of access to their real-time usage data unless and until SDG&E replaces its fleet of Smart Meters 1.0 with upgraded AMI.

20. Based on information available to me from Rainforest Automation, a company that provides ZigBee HAN devices and energy management services, I understand there are load flexibility offerings for commercial buildings in SDG&E's territory that have been suspended in the last year as a result of SDG&E's actions. Without real-time usage data available from Smart Meters, entrepreneurs serving the commercial sector have ceased product development and sales efforts in SDG&E's territory, reducing the amount of load flexibility that would otherwise be available. While I cannot provide an estimate of the number of new megawatts of load that would

have otherwise been controllable as a result of the ZigBee HAN, I can say with certainty that the number will be zero so long as SDG&E has foreclosed altogether on customer use of their ZigBee HAN.

21. Based on my experience intervening in California Public Utilities Commission proceedings, my experience with past utility AMI implementations and in light of the Commission's recent Decision in SDG&E's General Rate Case (D.24-12-017) denying SDG&E's "Smart Meter 2.0" program, this problem is likely to persist for at least an additional three years or more, until SDG&E obtains Commission approval for and has implemented the replacement of its fleet of existing Smart Meters 1.0 with new AMI that provides real-time energy usage data access to customer HAN devices via WiFi.

22. The Joint Petitioners reached out to SDG&E and the Energy Division to raise this issue and in hopes of resolving it without the expenditure of time and resources by the Commission, the utility or the Joint Petitioners involved in a Petition for Modification process. To date, no resolution has been proposed by either SDG&E or the Energy Division that addresses SDG&E's obligation to provide real-time energy usage data access to the HAN device of the customer's choosing pursuant to the Commission's prior orders in D.09-12-046, D.11-07-056 and Resolution E-4527.

23. Based on information available to me, the other large Investor Owned Utilities ("IOU") subject to D.09-12-046, D.11-07-056 and Resolution E-4527 currently provide real-time energy usage Smart Meter data access for their customers via ZigBee connections.

24. In 2019, I was informed that Southern California Edison ("SCE") announced to its customers that it would disconnect HAN devices receiving real-time energy usage data via ZigBee on January 1, 2020. On or about January 28, 2020, Mission:data mailed correspondence to SCE

and to the President and Commissioners of the California Public Utilities Commission concerning violations of SCE's obligation to provide such real-time data access set forth in D.09-12-046, D.11-07-056 and Resolution E-4527 caused by this action by SCE. In response to my letter, to the best of my knowledge and information, SCE then reversed its previous decision and began supporting ZigBee HAN devices once again, which continues to today.

25. Based on information available to me in my role as President of Mission:data, it is my understanding that Pacific Gas & Electric continues to offer real-time (or near real-time) energy usage Smart Meter data access for their customers via ZigBee connections.

I declare under penalty of perjury of the laws of the State of California that the foregoing is true and correct. Executed on this 19th day of February, 2025 at Winthrop, Washington.

/s/ Michael Murray
Michael Murray

Appendix 1

Email from SDG&E to a Home Area Network customer sent in late 2023

On December 1, 2023, technology support for your Home or Business Area Network (HAN) will be discontinued. The HAN equipment is attached to your smart meter and provides real-time energy use information within your home and business. The decision to close the program was based on a combination of low customer adoption and rapidly evolving technology.

Currently connected HAN devices may remain connected until the HAN equipment fails or your smart meter is replaced. If your HAN device fails or becomes disconnected, we will be unable to reconnect the HAN device, and no new home or business devices can be added to the network.

You still have access to your usage data

If you would like a copy of your past energy use through Green Button, you can download your data. Not sure how to download your data? Here are instructions to help you.

You can also review your energy use history in My Account. Log in and click the “usage” tab.

If you have any questions on the change to your Home Area Network, please send us an email at HomeAreaNetwork@sdge.com.

Thank you,

Home Area Network Team

San Diego Gas & Electric

Exhibit D

Joint Petitioners' Proposed Modifications to D.22-12-009

Deletions are shown in ~~strikethrough~~

Additions are underlined and in **bold font**

Joint Petitioners' Requested Revisions are below:

Pages 28-29

7.3. Program Changes Unaddressed by Intervenors

SDG&E's original smart meters utilized ZigBee technology as the basis for sending meter data to management systems. SDG&E now proposes to discontinue support for ZigBee technology, given customer shifts to wireless internet (Wi-Fi) device communications as well as plans to solicit for new smart meters in the near future.[95] **In D.09-12-046, D.11-07-056, Resolution E-4527 and subsequent decisions, however, we required PG&E, SDG&E and SCE to provide their customers with real-time or near real-time energy usage data access via a connection between such customers' Smart Meters and the Home Area Network (HAN) device of the customer's choosing. SDG&E's original smart meters do not provide such data access via Wi-Fi. The only means by which SDG&E customers may obtain such access and connectivity from SDG&E's original smart meters is via a ZigBee connection.**

Accordingly, if the Commission approves replacement of SDG&E's original smart meters with new smart meters that provide such real-time or near real-time energy usage meter data access via Wi-Fi: (1) SDG&E ~~will~~ **may** end new ZigBee device connections **for customers requesting such connections once it has replaced such customers' original smart meters with such new smart meters; and (2)** ~~in~~

~~2023 once it has ,~~ with **respect to customers with existing ZigBee connections, SDG&E shall** ~~plans to~~ educate **such** customers regarding their ZigBee devices **and the switch to Wi-Fi-based energy usage data access** when their smart meters are replaced, which will end ZigBee device functionality. Given the move towards Wi-Fi and lack of vendors supporting ZigBee, it is reasonable to end

funding for ZigBee support as proposed by SDG&E **only after all SDG&E customers have received new smart meters that can provide the required data access via Wi-Fi**.

…

Findings of Fact

…

14. **If the Commission approves replacement of SDG&E's original smart meters with new smart meters that provide such real-time or near real-time energy usage meter data access via Wi-Fi,** SDG&E new smart meter customers will not be utilizing ZigBee Technology.

15. For SDG&E customers, there has been decreasing use of ZigBee technology among new customers for communicating meter data.

16. **The only means by which SDG&E customers may access their real-time or near real-time energy usage data from SDG&E's original smart meters is via a ZigBee connection.**

17. The United States Navy no longer wishes to participate in SDG&E's Armed Forces DR Pilot.

Conclusions of Law

…

23. **In D.09-12-046, D.11-07-056, Resolution E-4527 and subsequent decisions, we required PG&E, SDG&E and SCE to provide their customers with real-time or near real-time energy usage data access via such customers' Smart Meters to the Home Area Network (HAN) device of the customer's choosing.**

24. If the Commission approves replacement of SDG&E's original smart meters with new smart meters that provide real-time or near real-time energy usage meter data access via Wi-Fi, it would be ~~It is~~ reasonable to discontinue ZigBee technology support for SDG&E **only after all SDG&E customers have had such new smart meters installed**.