

Docket No.: A.25-12-009
Exhibit No.: UCAN-03
ALJ: Camille Watts-Zagha
Witness: Tyson Siegele

Exhibit UCAN-03

SDG&E Supplemental Response to UCAN Data Request 01
(July 14, 2026)

[The original response to UCAN's data request is undated.
SDG&E served it on June 19, 2026.
SDG&E dates each supplemental response.]

UCAN DATA REQUEST 01
PALOMAR DECARBONIZATION DEMONSTRATION – A.25-12-009
SDG&E FOURTH SUPPLEMENTAL RESPONSE
PROVIDED PURSUANT TO JUNE 24, 2026 MEET & CONFER
DATE RECEIVED: JUNE 5, 2026
DATE RESPONDED: JULY 14, 2026

QUESTION 1:

Provide SDG&E's responses to all data requests that it has received from other parties in this proceeding.

SDG&E RESPONSE TO QUESTION 1:

Some data, documents, and information produced in response to this request are designated confidential and contain "Protected Materials" (i.e., trade secret, market sensitive, or other confidential and/or proprietary information) as determined by SDG&E in accordance with the provisions of D. 06-06-066 and subsequent decisions and subject to a Nondisclosure Agreement. Accompanying this data request response are SDG&E's declarations regarding confidentiality pursuant to General Order 66-D and D.06-06-066.

QUESTION 2:

Provide SDG&E's responses to all data requests that it has received from Energy Division in this proceeding.

SDG&E RESPONSE TO QUESTION 2:

As of June 19, 2026, no data requests have been received by SDG&E from Energy Division in this proceeding.

QUESTION 3:

Since the Project commenced operations, state each way in which:

QUESTION 3a:

ratepayers or the adjacent community is safer than before Project operations.

SDG&E RESPONSE TO QUESTION 3a:

SDG&E objects to this question on the grounds that it is vague and ambiguous as to the terms "safer," "ratepayers," and "adjacent community." SDG&E also objects because the question assumes facts not established, including that operation of the Project has resulted in a measurable change in the safety of ratepayers or the adjacent community. SDG&E further objects on the basis the question would require SDG&E to conduct expert analysis, risk assessment, and comparative safety determinations that SDG&E has not performed and that are not required by applicable law or Commission order, and objects to the extent it seeks speculation regarding hypothetical or unquantified changes in safety.

Subject to and without waiving these objections, SDG&E states that project is designed and operated safely and in compliance with applicable codes and standards. SDG&E is not aware of any analysis concluding that operation of the Project has had safety implications for ratepayers or the adjacent community.

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QUESTION 3b:

ratepayers or the adjacent community is less safe than before Project operations.

SDG&E RESPONSE TO QUESTION 3b:

SDG&E objects to this question on the grounds that it is vague and ambiguous as to the terms "safer," "ratepayers," and "adjacent community." SDG&E also objects because the question assumes facts not established, including that operation of the Project has resulted in a measurable change in the safety of ratepayers or the adjacent community. SDG&E further objects on the basis the question would require SDG&E to conduct expert analysis, risk assessment, and comparative safety determinations that SDG&E has not performed and that are not required by applicable law or Commission order, and objects to the extent it seeks speculation regarding hypothetical or unquantified changes in safety.

Subject to and without waiving these objections, SDG&E states that project is designed and operated safely and in compliance with applicable codes and standards. SDG&E is not aware of any analysis concluding that operation of the Project has had safety implications for ratepayers or the adjacent community.

QUESTION 4:

Provide hourly kWh production for the Project solar array from the first day of the solar array's operations through May 31, 2026.

SDG&E RESPONSE TO QUESTION 4:

Please see tables below for requested data in monthly (MWh) per system reports.

Year	Month	Solar Generation (MWh)	Year	Month	Solar Generation (MWh)
2024	January	9.56	2025	January	15.83
2024	February	18.58	2025	February	17.71
2024	March	31.07	2025	March	28.49
2024	April	38.48	2025	April	37.07
2024	May	40.71	2025	May	25.75
2024	June	43.16	2025	June	24.48
2024	July	42.81	2025	July	23.71
2024	August	37.54	2025	August	33.22
2024	September	28.56	2025	September	30.36
2024	October	22.88	2025	October	25.52
2024	November	19.34	2025	November	18.84
2024	December	15.96	2025	December	16.71

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Year	Month	Solar Generation (MWh)
2026	January	18.27
2026	February	15.96
2026	March	34.63
2026	April	36.89
2026	May	36.21

Solar system began producing in early 2023. Monthly data are not historized prior to 2024.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 4:

Please see the excel spreadsheet with the requested data produced herewith, UCAN 01 Question 4. Please note that this includes daily hourly solar generation (KW) from January 1, 2024 to May 31, 2026. Data are not historized prior to 2024.

QUESTION 5:

Provide the following information for the Project’s solar array:

QUESTION 5a:

Does the array share the Palomar Energy Center interconnection with CAISO or does the array connect to the distribution grid?

SDG&E RESPONSE TO QUESTION 5a:

The PV system provides plant and auxiliary power during solar production hours.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 5a:

The solar array is not connected to CAISO or the distribution grid. The PV system provides plant and auxiliary power during solar production hours.

QUESTION 5b:

If the array shares the Palomar Energy Center’s CAISO interconnection state how the solar array’s energy is metered.

SDG&E RESPONSE TO QUESTION 5b:

N/A.

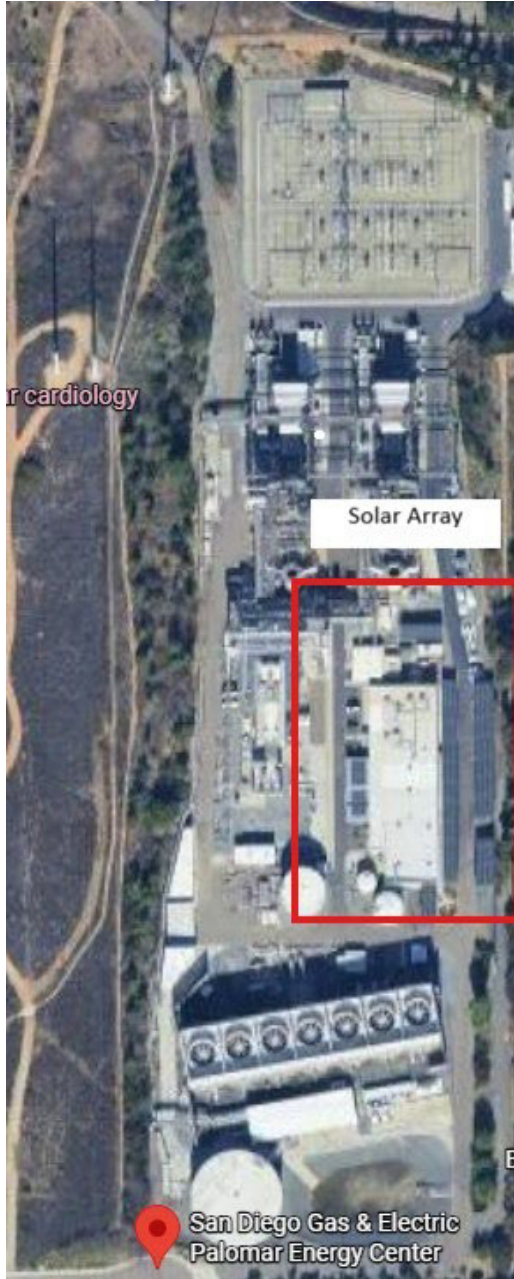
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QUESTION 5c:

Map or aerial photograph of the Project labeling the Project's solar array.

SDG&E RESPONSE TO QUESTION 5c:

Please see figure below.



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QUESTION 6:

Describe the Project's solar array's energy production and the Project's electrolyzer electricity use on an hourly basis from the first day of the solar array's operations through May 31, 2026.

SDG&E RESPONSE TO QUESTION 6:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 6:

Please see the excel spreadsheet with the requested data produced herewith, UCAN 01 Question 6. Based on the 2025 daily solar array energy production and Project's electrolyzer electricity use, SDG&E observes that the power generated by the solar is being used to offset the power required to run the electrolyzer. The hydrogen produced by the solar is then considered to be "green hydrogen".

QUESTION 7:

Provide the following information on the gas turbine(s) that is being supplied with the hydrogen and natural gas blend:

- a. Year installed
- b. Manufacturer
- c. Model number

SDG&E RESPONSE TO QUESTION 7:

See information requested for the (2) gas turbines below.

- a. Year installed: 2005
- b. Manufacturer: General Electric (GE)
- c. Model number: Frame 7FA Combustion Turbine Generators (CTG)

QUESTION 8:

Provide data from the manufacturer of the gas turbine to which the hydrogen is supplied including:

- a. Maximum hydrogen blend percentage allowed in combustion gas under the turbine warranty 5%
- b. kWh of electricity per kg of hydrogen supplied.

SDG&E RESPONSE TO QUESTION 8:

SDG&E does not have the requested data from the manufacturer.

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QUESTION 9:

Testimony states that “SDG&E operates two Toyota Mirai (passenger sedans) stationed out of PEC.”

- a. Provide the total number of miles that these vehicles have operated in each year of operation.
- b. Provide the total kilograms of hydrogen supplied to these vehicles from the Project in each year of project operation.
- c. Provide the use cases for these vehicles.
- d. Provide the total cost of these vehicles.

SDG&E RESPONSE TO QUESTION 9:

- a. Data is not being recorded on a yearly basis.

Please see table below for total mileage during each vehicle’s time of operation

Vehicle	Time of Operation	Total Mileage
Mirai #1	12/5/2022-Present	39,957
Mirai #2	7/18/2025-Present	13,052

- b. Please see table below for requested data.

Year	Hydrogen Used for Fleet (Kg)
2024	253.151
2025	256.035

- c. The two Mirai are light duty sedans that support plant operations.
- d. Please see table below for data requested.

Vehicle	Cost
Mirai #1	\$37,079.00
Mirai #2	\$18,500.00

The costs for Mirai #1 are for a new vehicle which included a fuel card from Toyota valued at \$15,000. The costs for Mirai #2 are for a used vehicle without a fuel card.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 9c:

The two Mirais are used by plant personnel to travel between the Palomar Energy Center and remote power plants and energy storage facilities, where employees perform routine maintenance, inspections, and provide on-site operational support.

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QUESTION 10:

SDG&E Chapter 2 Testimony “ATTACHMENT A Workpaper 1 – Direct Capital Cost Details,” Table WP1-C lists capital cost “Item.” Provide the date on which the contract(s) were signed for each of these Items, or state that the Item consists of entirely SDG&E internal costs, if that is the case.

SDG&E RESPONSE TO QUESTION 10:

SDG&E objects to this request to the extent it seeks all contract dates, on the basis that the request is overly broad and unduly burdensome, and not reasonably calculated to lead to the discovery of admissible evidence, as capital costs for the Project include more than 50 vendors.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 10:

SDG&E will address this question in a supplemental response.

SDG&E 7/2 SUPPLEMENTAL RESPONSE TO QUESTION 10:

SDG&E reiterates its objection to this question on the basis that the probative value of the information sought does not outweigh the burden to SDG&E. Subject to and without waiving the foregoing objection, SDG&E responds as follows:

Please see table below for requested data. Given the time constraints for providing a response to this request and burden of compiling the contract data and determining the date project-specific work started for each vendor, SDG&E is able to provide contract data for vendors contracted for major equipment. This response is not inclusive of all contracts under specified “Item” from WP1-C. During the June 24, 2026 meet and confer with UCAN, UCAN represented that it seeks contract dates so UCAN can develop a timeline of the project. As SDG&E noted in an email following the meet and confer, much of the work done for the project was completed under existing contracts, and some contract dates may not necessarily reflect when project-specific work started. SDG&E is willing to meet and confer with UCAN if there are additional questions regarding the project timeline that are not answered by the information below.

SDG&E would also like to point to ATTACHMENT A Workpaper 1 – Direct Capital Cost Details, Table WP1-A: Project Capital Activity by Year for project activity chronology.

Category from WP1-C	Item from WP1-C	Contract Effective Date
Major Equipment	Solar System Package	July. 12. 2021
	H2 Vendor Package: Electrolyzer, Storage, Fueling Station, and Compressor	February 2, 2022
	Blending Skid and Analyzer	
	Switchgear	
Other Services and Materials	Government Payments and Permits	
	Service Vehicle & Equipment Rental	
	Services - Engineering	August 30, 2020
	Services – Construction	
	Services – Contractors	
	Services – Consultants	
	Services – Other	

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	Materials	
Management and Non-Union Labor	Management and Non-Union Labor	SDG&E Internal Costs
Miscellaneous & Adjustments	Accounting Adjustment, Discounts, etc.	SDG&E Internal Costs

QUESTION 11:

In an excel spreadsheet, provide the daily data for Palomar Energy Center since 2020 including (1) MWh of electricity generation supplied to the CAISO grid, (2) pounds of NOx emissions produced by the gas-fired generation, (3) MMbtu of natural gas consumed by the gas-fired turbines, (4) MMcf of natural gas consumed by the gas-fired turbines, (5) MMbtu of hydrogen consumed by the gas-fired turbines, (6) MMcf of hydrogen consumed by the gas-fired turbines, (7) daily average hydrogen percentage of gas volume consumed by the gas-fired turbines compared to total volume of gas consumed by the gas-fired turbines, (8) daily average percentage of natural gas consumed by the gas-fired turbines compared to total volume of gas consumed by the gas-fired turbines, and (9) daily average percentage of other gas consumed by the gas-fired turbines (e.g., biofuel, syngas, etc.) compared to total volume of gas consumed by the gas-fired turbines.

SDG&E RESPONSE TO QUESTION 11:

Please see the excel spreadsheet with requested data produced herewith, UCAN 01 Question 11.

Data has been provided as requested for: 1-3 and 5

Data has been provided in different units per our system reports for: 4 and 6

Data is unavailable or not applicable and has therefore not been provided for: 7-9

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 11:

Data is unavailable for 7 and 8.

9 is inapplicable because “other gas” such as biofuel and syngas are not consumed by the gas-fired turbines.

QUESTION 12:

Provide SDG&E’s annual cost of third-party (non-SDG&E-produced hydrogen) hydrogen supplied to Palomar Energy Center from 2006 through 2025.

SDG&E RESPONSE TO QUESTION 12:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 12:

SDG&E will address this question in a supplemental response.

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SDG&E 7/2 SUPPLEMENTAL RESPONSE TO QUESTION 12:

Please see table below for requested data for annual cost of third-party hydrogen supplied for generator cooling. Costs shown below are exclusively for the commodity.

Year	Total Invoiced Amount
2016	\$39,288.63
2017	\$35,922.49
2018	\$16,834.65
2019	\$13,032.49
2020	\$18,820.37
2021	\$15,511.68
2022	\$14,932.99
2023	\$9,594.90
2024	\$20,863.86
2025	\$0.00
TOTAL:	\$92,756.29

QUESTION 13:

Regarding the Project's installed electrolyzer, provide the total annual hydrogen production capacity in kilograms.

SDG&E RESPONSE TO QUESTION 13:

Per manufacturer's specification sheet the total annual hydrogen production capacity is 531 kg/day.

Please also see the manufacturer's specification sheet produced herewith, UCAN 01 Question 15.

QUESTION 14:

Regarding the Project's installed electrolyzer, provide the name of the manufacturer and the model number of the electrolyzer.

SDG&E RESPONSE TO QUESTION 14:

Please see below for information requested.

- a. Manufacturer: NEL
- b. Model: MC-250

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QUESTION 15:

Regarding the Project's installed electrolyzer, provide the manufacturer's specification sheet for the equipment.

SDG&E RESPONSE TO QUESTION 15:

Please see the manufacturer's specification sheet produced herewith, UCAN 01 Question 15.

QUESTION 16:

Regarding the Project's installed electrolyzer, provide a list of every location known to SDG&E where the same electrolyzer model has been installed.

SDG&E RESPONSE TO QUESTION 16:

SDG&E objects to this Request on the basis that this Request is overly burdensome, calls for information that does not currently exist, and would require SDG&E to generate data and conduct analysis and studies. Subject to and without waiving the foregoing objections, SDG&E responds as follows:

SDG&E does not have knowledge of where all other NEL MC-250 electrolyzers have been installed and therefore the information cannot be provided.

QUESTION 17:

Regarding the Project's H2 vendor package, provide the bidding packages that SDG&E received from each vendor that submitted bids to SDG&E.

SDG&E RESPONSE TO QUESTION 17:

SDG&E will address this question in a supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 17:

SDG&E will address this question in a supplemental response.

SDG&E 7/2 SUPPLEMENTAL RESPONSE TO QUESTION 17:

Please note that the attachments referenced in this response contain "Protected Materials" (i.e., trade secret, market sensitive, or other confidential and/or proprietary information) as determined by SDG&E in accordance with the provisions of D. 06-06-066 and subsequent decisions and subject to a Nondisclosure Agreement. The confidentiality declaration of Ari Beer is provided herewith.

SDG&E objects to this request under Rule 10.1 of the Commission's Rules of Practice and Procedure to the extent it seeks information that is neither relevant to the subject matter involved in the pending proceeding nor reasonably calculated to lead to the discovery of admissible evidence. SDG&E further reasserts objections to this request on the grounds that it calls for the production of highly sensitive information, including but not limited to Critical Energy Infrastructure Information, that is protected from disclosure, and/or contractual information that is confidential (i.e., contains market sensitive, trade secrets, or other confidential and/or proprietary information) and protected from disclosure. Subject to and without waiving the foregoing objections, SDG&E responds as follows:

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Please see the following, produced herewith:

- CONFIDENTIAL PSM quote for H2 Project_Redacted
- CONFIDENTIAL PSM-07 PEC H2 System Eng_Manuf_Inst_Comm REV-03SIGNED.pdf
- CONFIDENTIAL Signed 6-948
- CONFIDENTIAL Supplier Signed.pdf

QUESTION 18:

Regarding the Project's H2 vendor package, state the name of the vendor whose bid was selected for the Project.

SDG&E RESPONSE TO QUESTION 18:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 18:

SDG&E will address this question in its supplemental response.

SDG&E 7/2 SUPPLEMENTAL RESPONSE TO QUESTION 18:

Proton Energy Systems Inc., d/b/a NEL Hydrogen US

QUESTION 19:

Regarding the Project's Solar System Package, provide the bidding packages that SDG&E received from each vendor that submitted bids to SDG&E.

SDG&E RESPONSE TO QUESTION 19:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 19:

Please note that the attachments referenced in this response contain "Protected Materials" (i.e., trade secret, market sensitive, or other confidential and/or proprietary information) as determined by SDG&E in accordance with the provisions of D. 06-06-066 and subsequent decisions and subject to a Nondisclosure Agreement. The confidentiality declaration of Ari Beer is provided herewith.

With respect to the requests for copies of the bids and final contracts, SDG&E objects to this request under Rule 10.1 of the Commission's Rules of Practice and Procedure to the extent it seeks the production of information that is neither relevant to the subject matter involved in the pending proceeding nor is reasonably calculated to lead to the discovery of admissible evidence, and on the grounds that it calls for contractual information that is confidential (i.e., contains market sensitive, trade secrets, or other confidential and/or proprietary information) and protected from disclosure. Subject to and without waiving the foregoing objections, SDG&E responds as follows:

Please see confidential attachments produced herewith:

- CONFIDENTIAL 20-6028R2-KCPSDGE_Palomar_Energy_Center_PV_System_Project_SEI_Job_Scope_Letter
- CONFIDENTIAL Baker_Electric_Proposal_-_SDGE_PEC_PV_System_FINAL_1

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QUESTION 20:

Regarding the Project's Solar System Package, state the name of the vendor whose bid was selected for the Project.

SDG&E RESPONSE TO QUESTION 20:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 20:

Baker Electric.

QUESTION 21:

Provide the SDG&E's research plan and evaluation criteria for the Project pilot.

SDG&E RESPONSE TO QUESTION 21:

Please refer to the testimony of Ari Beer, Chapters: IV, V, VI, and VII.

QUESTION 22:

Provide all data collected by SDG&E for the Project's pilot evaluation through May 31, 2026.

SDG&E RESPONSE TO QUESTION 22:

SDG&E objects to this Request on the basis that this Request is overly burdensome and vague and ambiguous as to the terms "all data collected" and "pilot evaluation." Subject to and without waiving the foregoing objections, SDG&E responds as follows:

The Project pilot is still in progress and therefore evaluation activities are ongoing. However, SDG&E has evaluated (1) total electricity the electrolyzer uses to retire an equivalent amount of the Renewable Energy Certificates (RECs) (2) Investment tax credits and (3) LCFS Zero Emission Vehicle (ZEV) Refueling Infrastructure programs. SDG&E is also actively evaluating operational, technical, and strategic insights into hydrogen systems for power generation such as those noted in AB-10, lines 11-18 and PK_KC, Chapter IV. SDG&E will also continue to gain and has gained a variety of different learnings as listed in AB-10, lines 1-9.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 22:

Additionally, SDG&E is collecting operational data that SDG&E will utilize for evaluation purposes. Some examples of this data include: solar production, electrolyzer electricity production, emissions, and hydrogen production. Sample sets of this data and actual data sets have been provided throughout various data requests under A.25-12-009. PEC is an active demonstration and SDG&E is also collecting real-time data on safety, workforce readiness, and system design as noted in AB-5, lines 9-16.

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QUESTION 23:

SDG&E Testimony at page PK_KC-3, Table 1, provides data for the years 2020-2024. Provide the year 2025 data corresponding the Table 1.

SDG&E RESPONSE TO QUESTION 23:

Please see table below for requested data.

Year	Capacity Factor*	Service Factor**	Net Generation (MWh)
2025	29.3	37.5	1,476,021

*Capacity factor represents the ratio of actual electricity output to the theoretical maximum output of a power plant over a specific period. Capacity Factor= Net Generation divided by (period hours times max capacity).

** The service factor measures the ratio of actual electricity output to the actual load demand of a power plant.

QUESTION 24:

SDG&E Testimony at page PK_KC-3, states that “Prior to this Project, SDG&E trucked-in “gray” hydrogen produced by steam methane reforming from a third party.” Provide the location from which the majority of the methane was procured prior to the Project producing hydrogen for Palomar Energy Center.

SDG&E RESPONSE TO QUESTION 24:

Gray hydrogen was trucked in from a third party and the location of where the majority of the methane was procured by the third party is unknown to SDG&E.

QUESTION 25:

State the percentage of the Project cost that was procured and constructed to serve the hydrogen vehicles including piping, storage, and any other components.

SDG&E RESPONSE TO QUESTION 25:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 25:

SDG&E objects to this question on the basis it calls for speculation. Subject to and notwithstanding the foregoing objection, SDG&E responds as follows:

SDG&E notes that the available cost information for the project are not separated at the component level. As a result, it is not possible to reasonably attribute a specific portion of installation or material costs to the fueling station.

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QUESTION 26:

The Application states that the Project’s purpose was to demonstrate a hydrogen system that “helped to inform SDG&E and others’ long term electrification decarbonization and reliability strategy, and balanced the needs of decarbonization and affordability.” Provide all analyses that SDG&E completed (workpapers, calculations, spreadsheets, or other quantitative evaluations) on decarbonization options prior to selecting a hydrogen demonstration project.

SDG&E RESPONSE TO QUESTION 26:

SDG&E objects to this question to the extent it mischaracterizes the purpose of the project and implies facts not established in the record, including that SDG&E was weighing other “decarbonization options.” Subject to and without waiving the foregoing objections, SDG&E responds and as follows:

SDG&E would like to reiterate the purpose of the Project, referred to as the “Palomar Decarbonization Demonstration Project”, is to gain critical knowledge, expertise, and real life operational experience of *clean hydrogen’s role* in electric system decarbonization as stated in the testimony of Ari Beer. Analysis on decarbonization with renewable hydrogen in California policy, the Commission’s mandate, and project benefits is also included throughout the testimony of Ari Beer.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 26:

SDG&E reserves the right to supplement this response.

QUESTION 27:

Provide all research that SDG&E completed on hydrogen blending into natural gas supplies for gas-fired turbines prior to its internal decision to move forward with the project.

SDG&E RESPONSE TO QUESTION 27:

SDG&E objects to this question as overly broad to the extent seeks “all research completed on hydrogen blending.” Subject to and without waiving the foregoing objection, SDG&E responds as follows:

Research on hydrogen blending for power generation is included throughout the testimony of Ari Beer and Kevin Counts and Pooyan Kabir. Additional research regarding hydrogen blending as related to SDGE’s proposed hydrogen blending application (A.22-09-006) is referenced in the testimony of Ari Beer. SDG&E also notes that these references are not necessarily reflective of “all research” as some research and analysis conducted by SDG&E prior to implementing the project did not result in deliverables or tangible work product.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 27:

SDG&E reserves the right to supplement this response.

SDG&E 7/14 SUPPLEMENTAL RESPONSE TO QUESTION 27:

Please see response to question 33.

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QUESTION 28:

Provide all research that SDG&E completed on hydrogen blending into natural gas-fired generators on which SDG&E based its project design and evaluation process.

SDG&E RESPONSE TO QUESTION 28:

SDG&E objects to this question as overly broad to the extent seeks “all research completed on hydrogen blending.” Subject to and without waiving the foregoing objection, SDG&E responds as follows:

Research on hydrogen blending as related to the project design is also included throughout the testimony of Kevin Counts and Pooyan Kabir. As noted in the response to 22, Project evaluation activities are ongoing. SDG&E also notes that these references are not necessarily reflective of “all research” as some research and analysis conducted by SDG&E prior to implementing the project did not result in deliverables or tangible work product.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 28:

SDG&E reserves the right to supplement this response.

SDG&E 7/14 SUPPLEMENTAL RESPONSE TO QUESTION 28:

Please see response to question 33.

QUESTION 29:

How many kg of hydrogen has the Project’s electrolyzer produced each month since the electrolyzer first commenced operations?

SDG&E RESPONSE TO QUESTION 29:

Please see tables below for requested data.

November 2023: 184.47 Kg

December 2023: 422.37 Kg

Year	Month	Hydrogen Produced (Kg)	Year	Month	Hydrogen Produced (Kg)
2024	January	259.68	2025	January	187.70
2024	February	0.00	2025	February	101.85
2024	March	245.98	2025	March	23.68
2024	April	13.20	2025	April	127.61
2024	May	0.00	2025	May	439.50
2024	June	0.00	2025	June	449.47
2024	July	57.35	2025	July	513.84
2024	August	77.22	2025	August	513.84
2024	September	368.16	2025	September	478.03
2024	October	135.35	2025	October	165.23
2024	November	145.51	2025	November	578.39
2024	December	440.38	2025	December	524.84

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Year	Month	Hydrogen Produced (Kg)
2026	January	44.45
2026	February	49.45
2026	March	46.37
2026	April	77.90
2026	May	81.52

QUESTION 30:

Provide the total annual dollar amount that SDG&E has paid for natural gas for Palomar Energy Center from 2010-2025.

SDG&E RESPONSE TO QUESTION 30:

Please see table below for requested data.

Year	Cost of Natural Gas
2010	\$105,277,917
2011	\$70,191,123
2012	\$67,279,215
2013	\$111,254,915
2014	\$88,400,011
2015	\$71,447,634
2016	\$57,048,839
2017	\$74,349,575
2018	\$66,224,247
2019	\$50,272,861
2020	\$56,205,837
2021	\$94,904,563
2022	\$184,402,528
2023	\$107,837,937
2024	\$34,901,015
2025	\$50,770,866

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QUESTION 31:

Provide the annual average \$/MMBtu that SDG&E has paid for natural gas for Palomar Energy Center from 2010-2025.

SDG&E RESPONSE TO QUESTION 31:

Please see table below for requested data.

Year	\$/MMBtu Total Average Cost	
2010	\$4.70	
2011	\$4.60	
2012	\$3.40	
2013	\$4.20	
2014	\$5.16	
2015	\$3.15	
2016	\$3.46	
2017	\$3.29	
2018	\$5.37	
2019	\$5.89	
2020	\$3.91	
2021	\$7.22	
2022	\$11.12	
2023	\$11.84	
2024	\$6.43	
2025	\$5.20	

QUESTION 32:

The electricity used by the Project is supplied to the electrolyzer, stored in storage tanks, blended into the natural gas pipeline, and combusted in the Palomar Energy Centers turbines. Of the original amount of electricity that was supplied to the electrolyzer, what percentage of that electricity does the Project send to the grid that was generated from hydrogen-fired generation?

SDG&E RESPONSE TO QUESTION 32:

SDG&E objects to this question on the basis it calls for speculation. The percentage requested is based on a multitude of conditions and variables of the equipment and PEC. Therefore, this calculation would be theoretical. Subject to and without waiving the foregoing objection, SDG&E responds as follows:

The hydrogen electrolyzer is rated to produce 1 kg of H₂ per 50.4 kWh, or approximately 19.8 kg per 1 MWh. Based on a heat content of 1 MMBtu per 8.72 kg of hydrogen, that level of hydrogen production equates to about 2.27 MMBtu of fuel energy. Using a plant heat rate of 7.12 MMBtu/MWh, that fuel input would generate roughly 0.32 MWh of electricity.

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SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 32:

SDG&E reiterates its objection to this question on the basis it calls for speculation. The percentage requested is based on a multitude of conditions and variables of the equipment and PEC. Therefore, this calculation would be theoretical. Subject to and without waiving the foregoing objection, SDG&E responds as follows:

The hydrogen electrolyzer is rated to produce 1 kg of H₂ per 50.4 kWh, or approximately 19.8 kg per 1 MWh. Based on a heat content of 1 MMBtu per 8.72 kg of hydrogen, that level of hydrogen production equates to about 2.27 MMBtu of fuel energy. Using a plant heat rate of 7.12 MMBtu/MWh, that fuel input would generate roughly 0.32 MWh of electricity – i.e. 32% round trip efficiency.

QUESTION 33:

Provide all SDG&E correspondence with the Palomar Energy Center's turbine manufacturer discussing hydrogen blending.

SDG&E RESPONSE TO QUESTION 33:

SDG&E objects to this request under Rule 10.1 of the Commission's Rules of Practice and Procedure to the extent it seeks the production of information that is neither relevant to the subject matter involved in the pending proceeding nor is reasonably calculated to lead to the discovery of admissible evidence. SDG&E further objects to the request on the grounds that it is overbroad and calls for information that is confidential, proprietary, contains trade secrets, is privileged or otherwise entitled to confidential protection by reference to statutory protection.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 33:

SDG&E reserves the right to supplement this response.

SDG&E 7/14 SUPPLEMENTAL RESPONSE TO QUESTION 33:

SDG&E's director of generation had several meetings with the turbine manufacturer in September 2020. He has retired and his communication on the hydrogen blending with the turbine manufacturer is not readily available. However, an internal record shows a discussion with the turbine manufacturer on performance impact of hydrogen on a separate GE engine (LM6000) in September 2020.

QUESTION 34:

SDG&E's testimony describes the Project's method for producing renewable energy certificates (RECs). Provide the Portfolio Content Category of these RECs as defined in the CPUC's Portfolio Content Category Classification Review Process Handbook found at (<https://www.cpuc.ca.gov/-/media/cpuc-website/industries-and-topics/documents/energy/rps/pcc-book2020.docx>).

SDG&E RESPONSE TO QUESTION 34:

The RECs for the Project are Portfolio Content Category 1 (PCC 1).

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 34:

SDG&E will address this question in a supplemental response.

SDG&E 7/2 SUPPLEMENTAL RESPONSE TO QUESTION 34:

The Portfolio Content Category is not applicable within this demonstration project. The RECs are

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generated and used onsite and thus not subject to Portfolio Content Category classification or eligible for Portfolio Content Category (PCC-1) compliance. They do have attributes of a PCC-1 REC in that the energy and credits are coupled/bundled together but do not meet other criteria within the CPUC’s above mentioned Handbook.

QUESTION 35:

The Application states “Prior to this demonstration, PEC relied on trucked-in hydrogen, which was purchased from a third party that produced it via steam methane reformation of natural gas.”

QUESTION 35a:

Has SDG&E purchased third party hydrogen for Palomar Energy Center since the first day of operations of the Project?

SDG&E RESPONSE TO QUESTION 35a:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 35a:

Yes, gray hydrogen for generator cooling has been purchased from the third party since the first day of operations of the Project. As the Project electrolyzer began operations in late 2023, gray hydrogen was utilized as necessary. Additionally, some gray hydrogen was purchased since the first day of operations pursuant to the terms of an existing contract, under which the third-party hydrogen tank has remote monitoring that triggered at least one automatic order due to low pressure in the tank. Services with the third party for gray hydrogen are being terminated as SDG&E is in the process of updating the existing contract as is evident by the 0 quantity of hydrogen purchased in 2025.

QUESTION 35b:

If SDG&E has purchased third party hydrogen since the start of Project operations, state the amount of hydrogen procured, the purpose for the purchased hydrogen, and the cost of the purchased hydrogen.

SDG&E RESPONSE TO QUESTION 35b:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 35b:

Please see table below for data requested.

Year	Quantity	Unit of Measure
2019	225,250	SCF
2020	332,856	SCF
2021	268,536	SCF
2022	244,346	SCF
2023	156,711	SCF
2024	339,200	SCF
2025	0	SCF

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Please also see response to 12.

QUESTION 36:

The application states that “SDG&E generates its own renewable, electrolytic hydrogen onsite that has a carbon intensity (“CI”) score of zero.”

QUESTION 36a:

Has this carbon intensity score been audited by a third party?

SDG&E RESPONSE TO QUESTION 36a:

Yes.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 36a:

A third party audit is currently pending, and is expected to be completed by the end of August 2026.

QUESTION 36b:

If the carbon intensity score has been audited by a third party, provide the third-party audit.

SDG&E RESPONSE TO QUESTION 36b:

The third-party audit is pending.

QUESTION 37:

The Application states that “The Project is fully operational and demonstrates how renewable hydrogen can be utilized to support decarbonization across multiple areas of electric utility operations, including: (1) generator cooling, (2) power generation, (3) fleet vehicle fueling, and (4) to support (“RD&D”).”

QUESTION 37a:

Has SDG&E completed any analysis showing that the hydrogen produced by the Project is cost effective for any of those four utilization options?

SDG&E RESPONSE TO QUESTION 37a:

SDG&E objects to this question as vague and ambiguous as to the term “cost effective,” and to the extent it assumes facts that mischaracterize the purpose and nature of the project. Subject to and without waiving the foregoing objections, SDG&E responds as follows:

SDG&E would like to reiterate that the Project itself is designed to be a cost effective demonstration as noted in AB-6, lines 13-16. The Project’s purpose as stated in AB-3, lines 5-10 is to gain critical knowledge, expertise, and real life operational experience of clean hydrogen’s role in electric system decarbonization by demonstrating a hydrogen system can maximize use cases (such as the four utilization options UCAN referenced), was used and useful, decarbonizes PEC operations, informs long term electrification decarbonization and reliability strategy and balances the needs of decarbonization and affordability.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 37a:

SDG&E additionally notes that the importance of early investment in clean energy technologies such as hydrogen has been recognized by the Commission to reach the state’s goals just as it did with solar, wind, and storage. As discussed in AB-20 The Commission has championed clean energy

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investments such as the Renewable Portfolio Standard which began in 2004 and achieved a monumental and remarkable technological shift in how the state’s grid is powered. Additionally, the Commission approved the first significant hydrogen project in 2023 (Resolution E-5261) to develop a clean substation microgrid project for Public Safety Power Shutoff mitigation: the Calistoga substation in PG&E’s service territory that uses combined battery energy storage and hydrogen fuel cell technology noted in AB-21. SDG&E reserves the right to supplement this response.

QUESTION 37b:

If SDG&E has completed any cost-effectiveness analysis for these utilization options, provide the analyses.

SDG&E RESPONSE TO QUESTION 37b:

SDG&E objects to this question as vague and ambiguous as to the term “cost-effectiveness analysis,” and to the extent it assumes facts that mischaracterize the nature and purpose of the project. Subject to and without waiving the foregoing objections, SDG&E responds as follows: As mentioned in response to 37a, the Project is an ongoing cost effective demonstration in itself, which not only provides insights into the utilization options, but also is informing future planning, supporting state policy goals.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 37b:

Please see supplemental response to 37a. Additionally, SDG&E determined it was cost effective to design the demonstration project to utilize an existing facility that was already designed for and utilized hydrogen in its operations, and which had an existing operations crew familiar with hydrogen onsite. SDG&E reserves the right to supplement this response.

QUESTION 38:

For each year of Project operations through May 31, 2026, provide the amount of hydrogen in kilograms used in each of the potential end uses listed in the application using the following spreadsheet format:

Year	generator cooling (kg H2)	power generation (kg H2)	fleet vehicle fueling (kg H2)	to support RD&D (kg H2)

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SDG&E RESPONSE TO QUESTION 38:

Please see table below for requested data.

Year	Generator Cooling (kg H2)	Power Generation (kg H2)	Fleet Vehicle Fueling (kg H2)	To Support RD&D (kg H2)
2024	N/A	N/A	253.151	N/A
2025	1,197.07	2,826.21	256.035	N/A
2026*	237.00	0	101.00	N/A

*Through May 31, 2026.

Hydrogen for generator cooling was not metered at the facility until late 2025 and therefore actual data cannot be provided. However, SDG&E has calculated a rough estimate of hydrogen required for generator cooling in 2025 by subtracting all other hydrogen use cases at PEC from the total hydrogen used. SDG&E interprets “Power Generation” to be for blending of hydrogen which is done using CTG #2. SDG&E did not blend hydrogen into CTG #2 in 2024. In 2026, CTG #2 was offline for maintenance for 93 days through May 31, 2026. To date, SDG&E has not utilized hydrogen produced by the Project for R&D.

QUESTION 39:

The Application states “The testimony provided herewith documents extensive learnings—from integration engineering to combustion behavior to safety protocols—that can only be obtained by doing.” State the pages and lines of testimony to which this statement refers.

SDG&E RESPONSE TO QUESTION 39:

The quoted statement is in reference to both the testimony of (1) Ari Beer and (2) Pooyan Kabir and Kevin Counts.

The following statement is supported by the following pages and lines of testimony

- PK_KC-9, lines 17-24
- PK_KC-10, lines 1-13
- PK_KC-15, lines 10-14
- PK_KC-20, lines 6-12
- AB-3, lines 5-10
- AB-5, lines 9-19
- AB 10, lines 10-18

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QUESTION 40:

The Application states that “Every year of delay compounds future costs, narrows compliance pathways, and risks leaving the state without the firm, clean capacity Senate Bill (“SB”) 100 and SB 1020 require.”

QUESTION 40a:

a. In this statement, SDG&E appears to assert that hydrogen blending in gas-fired turbines will be needed for SDG&E to achieve the SB 100 and SB 1020 goals. Is that accurate?

SDG&E RESPONSE TO QUESTION 40a:

SDG&E objects to this question to the extent it mischaracterizes testimony or assumes facts not in the record. Subject to and without waiving the foregoing objection, SDG&E responds as follows: SDG&E agrees that in order to achieve SB 100 and SB 1020 goals for the state of California, hydrogen blending may play a critical role for the state goals. Refer to the testimony of Ari Beer, Chapter V.

QUESTION 40b:

If SDG&E has found that hydrogen blending in gas-fired turbines is required to achieve the SB 100 and SB 1020 goals, provide all SDG&E quantitative analyses that have resulted in that finding (e.g., spreadsheets, calculations, modeling, and any other quantitative data).

SDG&E RESPONSE TO QUESTION 40b:

Please see response to 40a. As described in the testimony of Ari Beer, the State of California has determined that hydrogen may play a critical role in achieving the state’s goals and statutory decarbonization-related directives.

QUESTION 41:

The Application states that “The Commission plays a central role in ensuring that California’s electric system is both reliable and decarbonized, and the Project directly supports that responsibility by demonstrating a firm resource that fills a crucial gap in the state’s long-term planning.” Define what the Application means by “crucial gap.”

SDG&E RESPONSE TO QUESTION 41:

In the Application the “Crucial gap” refers to firm power generation (i.e. non intermittent like renewables) that can be dispatched as a clean source at any time it is needed.

QUESTION 42:

SDG&E Testimony at AB-5 states that “This technology demonstration is essential to California’s commitment to deliver 100% carbon-free electricity to its customers by 2045 as required by Senate Bill (“SB”) 100.” Provide the studies and resources or internal analyses that SDG&E relies on to support its claim that the Project’s “technology demonstration is essential to California’s commitment to deliver 100% carbon-free electricity.”

SDG&E RESPONSE TO QUESTION 42:

SDG&E will address this question in its supplemental response.

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SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 42:

SDG&E will address this question in its supplemental response.

SDG&E 7/2 SUPPLEMENTAL RESPONSE TO QUESTION 42:

There is general recognition that in order for the state to meet its loft climate and clean energy goals, it will need to utilize a diverse portfolio of clean fuels that are able to decarbonize all sectors of the economy. This is precisely why SB 100 requires “100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources” by 2045.¹ Clean hydrogen has been identified as a potential fuel in enabling “zero-carbon resources” within the statewide electricity supply. SDG&E utilized several studies to support and guide the Application. The California Energy Commission’s SB 423 Report highlighted the opportunities and challenges for hydrogen as a firm zero-carbon resource within California’s generation portfolio.² The recent modeling from the Transmission Planning Process noted the continued uses of gas fired power plants in SDG&E’s service territory, along with the statewide fleet.³ Displacing a material amount of the natural gas used at those facilities with clean firm fuel, such as clean hydrogen, will be needed to reach California’s energy goals. Beyond SB 100, SDG&E’s points to several other statutes that mandate deeper and quicker cuts to statewide GHG emissions.⁴ In addition to aligning with state reports, transmission planning documents, and legislation, the demonstration project complements the policy objectives within the Governor’s Hydrogen Strategy for future development.⁵ Additional resources that SDG&E used to justify the demonstration can be found in Ari Beer’s testimony.

QUESTION 43:

SDG&E Testimony at AB-7 states that “The hydrogen produced by the Project may support further research and development, including for SDG&E’s “Renewable Mobile Nanogrid for Climate Resiliency” (“Nanogrid”).”

QUESTION 43a:

State the ways in which the Project may support SDG&E’s Nanogrid project.

SDG&E RESPONSE TO QUESTION 43a:

As described in testimony, AB-23: In 2025, SDG&E identified a need for hydrogen in conventional tanks to support long duration deployment testing of the nanogrid under EPIC-4. Today, small scale deliveries of renewable hydrogen in the San Diego area are challenging to source, creating significant logistical hurdles for the Nanogrid project. SDG&E leveraged its EPIC budget to add a hydrogen export panel to the Project, enabling the Nanogrid to have a reliable, local source of renewable hydrogen for all of its testing needs. Now that the Project can export hydrogen to tanks, it opens up opportunities for

¹ De León, Chapter 312, Senate Bill No. 100, 2018

² CEC, SB 423 Emerging Renewable and Firm Zero-Carbon Resources Report: Assessment of Firm Zero-Carbon Resources to Support a Clean, Reliable, and Resilient California Grid

³ See CPUC.CA.GOV, R.25-06-019, 26-27 Transmission Planning Process RESOLVE Modeling Results (September 30, 2025)

⁴ AB 1279 (2022): Establishes a statewide goal for carbon neutrality as soon as possible, but no later than 2045, requiring 85% reduction from 1990 levels; SB 1020 (2022): Accelerates SB 100, setting targets for 90% clean electricity by 2035, 95% by 2040, and 100% by 2045; SB 32 (2016) & Beyond: Set earlier GHG reduction targets (40% below 1990 levels by 2030).

⁵ Office of Governor Gavin Newsom, Governor Newsom Announces New Strategy to Develop a Hydrogen Economy of the Future (August 8, 2023)

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regional RD&D efforts to benefit by sourcing local, renewable hydrogen from PEC.

The Nanogrid and associated hydrogen export panel at PEC is funded through the Electric Program Investment Charge (“EPIC”), by California utility customers under the auspices of the Commission and is not included as a cost in this application

QUESTION 43b:

State the ways in which the Nanogrid project produces and/or uses hydrogen.

SDG&E RESPONSE TO QUESTION 43b:

As described in PK_KC-13, lines 1-3: SDG&E’s EPIC 4 test plan includes operating the Nanogrid in island mode for long durations using an external clean hydrogen source for power, which SDG&E can now produce locally.

The Nanogrid and associated hydrogen export panel at PEC is funded through the Electric Program Investment Charge (“EPIC”), by California utility customers under the auspices of the Commission and is not included as a cost in this application

QUESTION 44:

SDG&E Testimony at AB-8 states that “When SDG&E first proposed this Project in 2021, electrolysis was the most favorable technology for several reasons.”

QUESTION 44a:

Does SDG&E still assert that electrolysis is “the most favorable technology” in 2026?

SDG&E RESPONSE TO QUESTION 44a:

SDG&E acknowledges that electrolysis is currently the most mature way to produce hydrogen without the use of natural gas as a feedstock. However, as with every technology, SDG&E will continue to monitor advancements in alternative methods to pursue the most cost-effective clean fuel that meets California’s policies and objectives.

QUESTION 44b:

If electrolysis is no longer SDG&E’s “most favorable technology” state the other technologies that are more favorable in 2026.

SDG&E RESPONSE TO QUESTION 44b:

Please see response to 44a.

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QUESTION 45:

SDG&E Testimony at AB-8 states that “electrolytic hydrogen was favored due to its commercial availability and the general consensus that it had the ability to scale to generate abundant, affordable, and reliable clean hydrogen within the decade.” State the dollar amount of hydrogen in \$/kg, including delivery cost, that SDG&E defines as “affordable.”

SDG&E RESPONSE TO QUESTION 45:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 45:

SDG&E objects to this question on the basis it calls for speculation, and to the extent it mischaracterizes testimony. Subject to and without waiving the foregoing objections, SDG&E responds as follows:

SDG&E does not independently or in a vacuum make determinations about affordability metrics that are in actuality defined by the market and a host of variables, contexts, and relative factors. The testimony does not suggest an objective \$/kg affordability number, but rather indicates that the potential for electrolytic hydrogen to scale to the point that hydrogen is made affordable is a driving force and justification for developing the demonstration project. SDG&E also notes that the US Department of Energy “Hydrogen Shot” and the BloombergNEF Hydrogen Economy Outlook (as referenced on AB-8) state that electrolytic hydrogen is cost-effective.

SDG&E 7/14 SUPPLEMENTAL RESPONSE TO QUESTION 45:

SDG&E objects to this question on the basis it calls for speculation, and to the extent it mischaracterizes testimony. Subject to and without waiving the foregoing objections, SDG&E responds as follows:

In 2022, the Legislature passed Senate Bill (SB) 1075, which called for California Air Resource Board (CARB), in consultation with the California Energy Commission and California Public Utilities Commission, to produce a comprehensive report on hydrogen. This report will cover the development, deployment, and use of hydrogen across all sectors. There are benchmarks for hydrogen production cost range forecasts for 2045 for several technologies, including electrolyzers with solar.⁶

QUESTION 46:

SDG&E Testimony at AB-9 states that “SDG&E will continue to monitor the electrolyzer market, as well as assess the other scalable, cost-competitive, low-carbon and renewable hydrogen generation technologies that could be adopted in the future.” Define “scalable” as used in SDG&E’s Application and Application testimonies.

SDG&E RESPONSE TO QUESTION 46:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 46:

In the context of AB-9 lines 5-7, SDG&E defines “scalable” as a technology that can be used and/or implemented on a large utility sized scale.

⁶ Analysis of Hydrogen in California for Senate Bill 1075 Report, California Air Resource Board, Available at: <https://ww2.arb.ca.gov/sites/default/files/2025-02/sb-1075-workshop-022525-presentation-e3.pdf>

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SDG&E notes that the term “scalable” is not further referenced in any other Testimony or the Application.

QUESTION 47:

SDG&E Testimony at AB-11 states that “Since the completion of the Project in 2023, SDG&E has made a concerted effort to share its learnings and demonstrate the role that hydrogen can play in decarbonizing power generation. Examples of outreach include facility tours for other electric and gas utilities, such as Pacific Gas & Electric Company (“PG&E”), Southern California Gas Company (“SoCalGas”), Southern California Edison Company (“SCE”) and Los Angeles Department of Water and Power; public agencies such as the Port of San Diego and North County Transit District; faculty and staff from California public universities; a local Tribal government; elected officials; and many others. SDG&E is committed to offering tours and sharing learnings to relevant stakeholders to educate them on the role hydrogen can play in reliable and decarbonized energy systems.” Provide all information and data that SDG&E provided to these entities through the tours, or through follow-up written communications with these entities regarding the Project.

SDG&E RESPONSE TO QUESTION 47:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 47:

With respect to the requests for copies of information and data that SDG&E provided to entities through tours and/or follow-up communications, SDG&E objects to this request under Rule 10.1 of the Commission’s Rules of Practice and Procedure to the extent the request for “all information and data” seeks the production of information that is neither relevant to the subject matter involved in the pending proceeding nor is reasonably calculated to lead to the discovery of admissible evidence. SDG&E further objects to this request on the basis providing “all information and data” is overly burdensome. Subject to and without waiving the foregoing objections, SDG&E responds as follows:

Please see attached documents:

- Palomar Energy Center Tour Guide.docx
- Palomary Hydrogen Systems Tour_Utility Tours.pptx
- Palomar Hydrogen Systems Tour.pptx

Information and data was also provided to entities that toured the facility orally and in response to questions and live dialogue during the tours.. SDG&E does not represent that these documents reflect a comprehensive and complete set of information and data provided in outreach efforts.

QUESTION 48:

SDG&E Testimony at AB-11 states that “SDG&E is also collaborating with faculty at the University of California Irvine Combustion Laboratory to develop a data collection framework for the hydrogen blending aspect of the Project, including emissions and system performance. The goal is to collect and disseminate meaningful data and compare results with other projects that use blended hydrogen for power generation.”

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QUESTION 48a:

Provide all data and communications since the start of 2019 between SDG&E and faculty and staff of the University of California Irvine related to the Project.

SDG&E RESPONSE TO QUESTION 48a:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 48a:

With respect to the requests for all data and communications since the start of 2019 between SDG&E and University of California Irvine (UCI), SDG&E objects to this request under Rule 10.1 of the Commission's Rules of Practice and Procedure to the extent "all data and communications" seeks the production of information that is neither relevant to the subject matter involved in the pending proceeding nor is reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving the foregoing objections, SDG&E responds as follows:

Per the testimony of Ari Beer and Pooyan Kabir and Kevin Counts, communications with UCI are related to data collection framework for the hydrogen blending aspect of the Project. SDG&E reserves the right to supplement this response.

SDG&E 7/14 SUPPLEMENTAL RESPONSE TO QUESTION 48a:

SDG&E has communicated with UCI faculty however the individual who was in direct communications has left the company in late 2025, and the role has not been filled yet. The UCI faculty was on campus for a tour of the facility on November 13, 2025. SDG&E is awaiting a decision on the application to formally start engaging with UCI faculty for collaboration on hydrogen combustion at the turbine.

SDG&E provided email communication on November 13, 2025, in a separate document.

QUESTION 48b:

Provide all other data and communications since the start of 2019 between SDG&E and faculty and staff of the University of California Irvine regarding hydrogen.

SDG&E RESPONSE TO QUESTION 48b:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 48b:

Please see response to 48a.

SDG&E 7/14 SUPPLEMENTAL RESPONSE TO QUESTION 48b:

Please see response to 48a.

QUESTION 49:

SDG&E Testimony at AB-13 states that "Displacing a material amount of natural gas with a clean firm fuel, such as hydrogen, will be needed to reach California's emissions goals and maintain electric grid reliability."

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QUESTION 49a:

Provide any data that SDG&E has that supports the statement the clean firm fuels “will be needed.”

SDG&E RESPONSE TO QUESTION 49a:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 49a:

Data related to clean firm fuels is supported by the following references noted throughout the testimony of Ari Beer:

- BloombergNEF, Hydrogen Economy Outlook
- Senate Bill 423, Emerging Renewable and Firm Zero-Carbon Resources Report: Assessment of Firm Zero-Carbon Resources to Support a Clean, Reliable, and Resilient California Grid
- Senate Bill 423 Firm Zero-carbon Resources Update
- R.25-06-019, 26-27 Transmission Planning Process RESOLVE Modeling Results (September 30, 2025)
- Chapter V: Section 1-4
- 2021 SB 100 Joint Agency Report Summary Achieving 100% Clean Electricity in California: An Initial Assessment, (Updated, September 3, 2021)
- CPUC IRP Zero-Carbon Technology Assessment: Final Report (September 2022)

QUESTION 49b:

Regarding the statement, define “material amount.”

SDG&E RESPONSE TO QUESTION 49b:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 49b:

SDG&E defines “material amount” as the amount required to reach the State’s 2045 energy goals per Senate Bill 100.

QUESTION 50:

SDG&E Testimony at AB-13 states that “SDG&E must comply with various requirements, such as following the Renewable Portfolio Standard (“RPS”), ensuring Resource Adequacy (“RA”), and GHG reduction requirements, and cannot rely solely on intermittent renewables coupled with storage. It must also plan for decarbonized firm capacity.”

QUESTION 50a:

List specific references to the regulatory requirements limiting SDG&E’s use of “intermittent renewables coupled with storage.”

SDG&E RESPONSE TO QUESTION 50a:

SDG&E will address this question in its supplemental response.

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SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 50a:

SDG&E will address this question in its supplemental response.

SDG&E 7/2 SUPPLEMENTAL RESPONSE TO QUESTION 50a:

SDG&E is required to incorporate clean firm resources into its portfolio per both the regulatory and statutory requirements per the following:

- D. 26-02-057 – requires at least one-quarter of the 6,000MW of new, statewide procurement come from resources that have attributes that align with clean firm resources and/or long duration storage
- Pub Util 380 – requires resources that provide reliability attributes that may not always be satisfied by intermittent renewables
- Pub Util 454.52 – requires reliability assessments to ensure grid can meet short-, mid-, and long-term needs.
- Pub Util 454.54 – additional reliability requirements and support for resource diversity

QUESTION 50b:

List specific references to the regulatory requirements stating that load serving entities “must also plan for decarbonized firm capacity.”

SDG&E RESPONSE TO QUESTION 50b:

SDG&E will address this question in a supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 50b:

SDG&E will address this question in a supplemental response.

SDG&E 7/2 SUPPLEMENTAL RESPONSE TO QUESTION 50b:

SDG&E is required in the Integrated Resource Planning (IRP) to discuss “Clean Firm Power Planning” per the following regulatory requirements:

- D. 21-06-035
- D. 23-02-040
- D. 23-06-029
- D. 24-02-047

Without clean firm options, maintaining reliability will require significant overbuilding of these weather and time-of-day-dependent resources paired with a substantial investment in storage options. This considerable investment would ultimately come at a high cost to ratepayers. SDG&E has seen evidence of this potential pattern in its current IRP modeling cycle. These realities make clean firm power options essential to developing the reliable grid of the future while maintaining affordability.

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QUESTION 51:

SDG&E Testimony at AB-13 states that “SDG&E’s 2022 Integrated Resource Planning (“IRP”) shows that significant procurement will be needed to meet state goals and reliability.” Provide an unredacted copy of SDG&E’s 2022 IRP.

SDG&E RESPONSE TO QUESTION 51:

At this time, SDG&E is unable to share the unredacted copy of the 2022 IRP, due to confidentiality concerns. However, the public version of the 2022 IRP provides sources that support the “significant procurement” reference above. Under D.21-06-035, the Commission directed all load serving entities (LSEs) to undertake incremental electric system reliability procurement between 2023-2026, which totals 11,500 megawatts (MW) of additional incremental Net Qualifying Capacity (NQC).⁷ SDG&E’s total share of the procurement requirements was 361 MWs over that time period.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 51:

SDG&E will address this question in a supplemental response.

SDG&E 6/30 SUPPLEMENTAL RESPONSE TO QUESTION 51:

Please note that the attachments referenced in this response are confidential in full and contain “Protected Materials” (i.e., trade secret, market sensitive, or other confidential and/or proprietary information) as determined by SDG&E in accordance with the provisions of D. 06-06-066 and subsequent decisions and subject to a Nondisclosure Agreement. The confidentiality declaration of Matt O’Connell is provided herewith.

Please see the requested confidential documents produced herewith;

- Attachment A Revenue Requirements and Bundled System Average Rates (CONFIDENTIAL)
- FINAL R2005003_CONFIDENTIAL_SDGE IRP.pdf
- Sdge_rdtv3_30mmt_preferred_conforming_na_confidential_v1.xlsm
- Sdge_rdtv3_25mmt_preferred_conforming_na_confidential_v1.xlsm

QUESTION 52:

SDG&E Testimony at AB-34 states that “Running our targeted Project now... preserves the lowest-cost retrofit path to decarbonize existing gas fleets.” With regards to that statement:

QUESTION 52a:

Define the “lowest-cost retrofit path.”

SDG&E RESPONSE TO QUESTION 52a:

SDG&E will address this question in its supplemental response.

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 52a:

SDG&E defines “lowest-cost retrofit path” as the most cost-effective approach with minimal modifications to infrastructure to reach the State’s 2045 energy goals per Senate Bill 100.

⁷ 2022 Individual Integrated Resource Plan of San Diego Gas & Electric Company (U 902 E), Public Version, pg. 65.

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QUESTION 52b:

Provide the analyses that determined the “lowest-cost retrofit path.”

SDG&E 6/29 SUPPLEMENTAL RESPONSE TO QUESTION 52b:

SDG&E objects to this question on the basis it mischaracterizes testimony. Subject to and without waiving the foregoing objections, SDG&E responds as follows:

See response to 52a. In addition, as explained in the lines following the testimony quoted in Question 52, the demonstration project will help elucidate operating limits, reliability, and emissions impacts for a pathway *to prolong the lifetime of existing generation assets already paid for while meeting SB 100 goals*. When the testimony states that undertaking the project now "preserves the lowest-cost retrofit path to decarbonize," it means that retrofitting certain existing, functional facilities and infrastructure is more cost-effective than constructing new facilities or recommissioning decommissioned ones to achieve the State's mandated decarbonization objectives. This demonstration provides learnings and preserves the option to retrofit an existing facility like PEC, which already incorporates hydrogen into its operations.

END OF REQUEST