SOUTHERN CALIFORNIA GAS COMPANY
SIERRA CLUB DATA REQUEST SC-SCG-02
A.22-09-006

DATE REQUESTED: OCTOBER 28, 2022
RESPONSE SUBMITTED: NOVEMBER 14, 2022

QUESTION 1:

SoCalGas' Response to Data Request SC-SCG-01, Question 2, refers to a hydrogen blending project that SoCalGas completed at its Engineering Analysis Center and Centralized Testing Facility. Regarding the project referenced in Response 2:

a. Please identify the make, model, and year of manufacture for each piece of equipment SoCalGas tested.

b. Please provide a detailed explanation of the project's design and procedures.

c. Please provide all documented data and results of the project (e.g., data sets, workpapers, reports).

d. How does SoCalGas define "compatible" in the statement, "Testing results showed that the appliances were compatible with up to 20% hydrogen blends"? Please identify any equipment modifications that were necessary to make equipment compatible with 20% hydrogen blends, for each piece of equipment that was not compatible with a 20% hydrogen blend in its original factory settings.

e. Did the project include air quality or emissions monitoring?
   i. If so, please provide all data related to air quality or emissions from the project.
   ii. If not, why not?

f. Response 2(b) states that the total project cost was approximately $40,000. Please provide a full breakdown of project costs.

RESPONSE 1:

a.

Appliance Type	Manufacturer	Model	Year
Range	Premier	Unknown	Unknown
Forced Air Unit	Rheem	RGPH-07NAMGR	1993
Wall Furnace	Williams	C509522	Unknown

b. SoCalGas objects to this request on the grounds that it is vague and ambiguous regarding the meaning of the term "detailed description."

Subject to and without waiving the foregoing objection, SoCalGas responds as follows:

The objective of the project was to build and operate a hydrogen blending system which feeds into simulated customer service and distribution environments. The system features a simulated residential home with appliances, and a simulated distribution system with several controlled underground leak locations. The purpose of this system is to provide a controlled environment for Gas Engineering, Customer Service, and Gas Operations to:

- Test and evaluate appliances and leak detection equipment
- Identify potential policy and procedure changes
- Perform training where possible

c. SoCalGas objects to this request on the grounds that it is overbroad, vague and ambiguous as to the meaning of the terms "documented data," "results of the project," and "reports" in relation to the hydrogen blending project at the Engineering Analysis Center. SoCalGas also objects to this request to the extent that it seeks documents that contain confidential information, including proprietary information relating to SoCalGas's research and development activities.

Subject to and without waiving the foregoing objection, SoCalGas responds as follows: SoCalGas interprets the term "reports" as only including final reports and does not include draft reports. Based on these interpretations, SoCalGas has already produced responsive workpapers as part of the Application (available at https://www.socalgas.com/sites/default/files/Workpaper_Supporting_Direct_Testimony_of_Kevin_Woo_WP-1_Ch2_Merged.pdf). Upon entering into a Non-Disclosure Agreement with Sierra Club, SoCalGas will subsequently produce responsive confidential documents.

d. SoCalGas objects to this request on the grounds that it calls for speculation and is unintelligible in that it assumes facts that do not exist concerning purported "equipment modifications."

Subject to and without waiving the foregoing objections, SoCalGas responds as follows: In the context of the subject statement, SoCalGas interprets the term "compatible" as meaning that the end-user equipment functioned as designed.

e. This project did not include air quality or emissions monitoring because they were not within scope of the project's objectives.

f. SoCalGas objects to this request on the grounds that it is vague and ambiguous as to the meaning of the term "full breakdown of project costs."

Subject to and without waiving the foregoing objection, SoCalGas responds as follows:

Parts and materials - $14,000
Labor (design, installation, testing, data collection) - $25,600

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QUESTION 2:

SoCalGas' Response to SC-SCG-01, Question 4(e) states that "type of infrastructure materials and components was one of multiple factors considered in project site selection." What other sites did SoCalGas consider for the Hydrogen Blending Demonstration Project?

RESPONSE 2:

SoCalGas objects to this request on the grounds that it seeks information that is beyond the scope of permissible discovery contemplated by Rule 10.1 of the Rules of Practice and Procedure of the California Public Utilities Commission to the extent it seeks the production of information that is neither relevant to the subject matter involved in the pending proceeding nor is likely reasonably calculated to lead to the discovery of admissible evidence within the scope of this proceeding.

Subject to and without waiving the foregoing objection, SoCalGas responds as follows:

No other sites were considered. Additional considerations included strength of partner and willingness to collaborate, ability to isolate a section of the distribution system to conduct controlled experiments, and site availability and access for the required duration of study. In recognition that it would be unlikely to find a project partner and site that met all considerations and additionally included all common infrastructure materials, the proposed project site was selected so that a reasonable base of distribution infrastructure materials would be under study, and that the Applicants' (SoCalGas, SDG&E, and Southwest Gas) respective projects would be complimentary with respect to diversity of materials.

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QUESTION 3:

SoCalGas' Response to SC-SCG-01, Question 4(e) explains generally that there is a wide range of "materials and components within the gas infrastructure" and that "additional laboratory research" may fill knowledge gaps around materials and components that may not be present in the Hydrogen Blending Demonstration Projects. Please identify all materials and components that SoCalGas is aware of that are common in the gas distribution system, but which are not present in its Hydrogen Blending Demonstration Project site.

RESPONSE 3:

SoCalGas objects to this request to the extent it seeks the production of information that is neither relevant to the subject matter involved in the pending proceeding nor is likely reasonably calculated to lead to the discovery of admissible evidence within the scope of this proceeding. SoCalGas further objects to this request on the grounds that it calls for speculation.

Subject to and without waiving the foregoing objection, SoCalGas responds as follows:

A survey of pipeline and pipeline component specifications within the proposed scope of the Project will be compiled during the planning and design phases. The proposed Project scope includes pipeline mains and services no larger than 8-inch nominal diameter. Common pipeline components such as pressure control fittings, tees, and ells have been identified in a preliminary survey of the proposed scope. However, other common pipeline equipment such as compressors and pressure regulator station components are not within the proposed scope. Some of these components contain soft materials with manufacturer-specific chemical makeup. Additionally, the pipelines within the Project were installed between the 1960s and 1980s, whereas SoCalGas operates many vintages of pipelines dating back to before World War II.

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QUESTION 4:

SoCalGas' Response to SC-SCG-01, Question 6(a) states: "This project electrolyzer will utilize grid electricity provided by UC Irvine aligned with the Regents of the University of California Sustainable Practices Policy," with a citation to the UC Sustainable Practices Policy document. Please identify the specific provision of this policy document that is relevant to the pilot project's grid electricity needs. For instance, do SoCalGas or its partners at UC Irvine intend to purchase Renewable Energy Credits to offset purchased electricity, as provided for in Procedure B(3)(b)(v) of the policy document?

RESPONSE 4:

SoCalGas objects to this request to the extent that it mischaracterizes its relationship with UCSD as a "partnership" in the legal sense. The request also calls for speculation regarding whether UCSD intends to purchase Renewable Energy Credits.

Subject to and without waiving the foregoing objection, SoCalGas responds as follows:

SoCalGas has no bearing or responsibility in UC Irvine's implementation of the UC Sustainability Practices Policy, Section B, page of the following link:
https://policy.ucop.edu/doc/3100155/SustainablePractices.

QUESTION 5:

Testimony Chapter 2, pages 9–10 states that the electrolyzer used to produce hydrogen will use “water and electricity.” What times of day does SoCalGas intend to operate the electrolyzer on grid electricity, and at what capacity factor in each hour?

RESPONSE 5:

Electrolyzer operation schedule has not yet been determined and will be considered during detailed planning and design phases.

QUESTION 6:

Testimony Chapter 2, Table 2, on page 13, states that leak surveys would be conducted "monthly; and as needed for customer service calls." Please identify all leak detection equipment that SoCalGas is considering using in the leak surveys.

RESPONSE 6:

Specific leak detection equipment considerations will take place during the planning and development phases of the Project.

QUESTION 7:

SoCalGas' Response to SC-SCG-01, Question 17, states that SoCalGas considers the customer appliances present in the buildings that will be connected to the project to be representative of the types of appliances found in commercial and residential buildings in the service area. However, SoCalGas' Response to Question 18(e) states that "blended gas will not be entering the individual housing units."

a. How is the Hydrogen Blending Demonstration Project representative of multi-family residential buildings with gas-burning appliances inside individual housing units?

b. How is the Hydrogen Blending Demonstration Project representative of single-family homes with gas-burning appliances located inside of the home?

RESPONSE 7:

a. SoCalGas objects to the request on the grounds that it mischaracterizes and misstates SoCalGas's response to SC-SDGE-01, Question 17 and Questions 18(d). This request is also vague and ambiguous by conflating and appearing to equate as the same or similar the phrases "multi-family residential buildings" and "individual housing units."

   Subject to and without waiving the foregoing objections, SoCalGas responds as follows:

   Identified equipment within the proposed scope, such as boilers and dryers, commonly serve multiple units within a multi-family residential building. For example, instead of an individual water heater for each specific housing unit, a single boiler would provide hot water to all units.

b. SoCalGas objects to the request on the grounds that it mischaracterizes and misstates SoCalGas's response to SC-SDGE-01, Question 17 and Questions 18(d). This request is also vague and ambiguous by conflating and appearing to equate as the same or similar the phrases "single-family homes" and "individual housing units."

   Subject to and without waiving the foregoing objections, SoCalGas responds as follows:

Identified cooking equipment within the proposed scope, such as the ranges and ovens, are similar to residential cooking appliances commonly found in single family residences.

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QUESTION 8:

According to the UC Irvine website (selecting "Kitchens" at https://housing.uci.edu/mesa-court/), in the Mesa Court residential buildings, "a small kitchen is in every hall and tower for preparing late-night snacks or other treats. The kitchen is furnished with a stove, oven, full-size refrigerator, and microwave." Please identify which, if any, of these kitchen appliances operate on gas.

RESPONSE 8:

SoCalGas objects on the ground that this request is vague and ambiguous by relying on a reference to generalized information about kitchen appliances on a third-party website. Furthermore, SoCalGas objects on the grounds that the request seeks information that outside of SoCalGas's knowledge and is premised upon facts or knowledge in the possession of a third-party and, therefore, may be outside the scope of this proceeding.

Subject to and without waiving the foregoing objections, SoCalGas responds as follows:

Gas-fired ovens and stoves were identified in the preliminary equipment survey.

QUESTION 9:

Testimony Chapter 2, page 5 list types of equipment that will receive the hydrogen blend, including "ovens, furnaces, water heaters, dryers, and boilers." Please provide all equipment lists SoCalGas has received from UC Irvine related to the hydrogen blending demonstration project.

RESPONSE 9:

A preliminary survey of connected gas equipment that would receive blended gas includes:

Equipment Type	Qty
Boiler	7
Water Heater	5
Dryer	5
Griddle	3
Fryer	2
Range	5
Oven	5
Tilt skillet	1
Steamer	1
Furnace	3
Misc	10

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QUESTION 10:

Please provide all contracts, memoranda of understanding, and other agreements that SoCalGas has entered into related to the hydrogen blending demonstration project, including all agreements with UC Irvine, contractors such as the Gas Technology Institute, and/or other entities.

RESPONSE 10:

See Exhibit A to Application, available at https://www.socalgas.com/sites/default/files/Exhibit_A_UCI_SoCalGas_MOU.pdf. There are no other responsive documents.

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QUESTION 11:

Please provide all presentations SoCalGas has delivered related to the hydrogen blending demonstration project, including presentations to UC Irvine, the City of Irvine, and any other entities.

RESPONSE 11:

SoCalGas objects to this request on the grounds that it calls for speculation and assumes facts that do not exist. This request is also vague and ambiguous as to the term "presentations." The request is also overbroad, and SoCalGas further objects to this request to the extent it seeks documents that are protected by the attorney-client privileged and/or attorney work product doctrine.

Subject to and without waiving the foregoing objection, SoCalGas responds as follows:

SoCalGas interprets this request as asking for presentations with UC Irvine, the City of Irvine, and any other similar entities. SoCalGas will produce all presentations it made to UC Irvine. It made no presentations to the City of Irvine or other similar entities.

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QUESTION 12:

Please provide all emails to and from University of California Irvine employees and representatives related to the hydrogen blending demonstration project.

RESPONSE 12:

SoCalGas objects to this request because it is unduly burdensome and oppressive, overly broad, seeking documents that are irrelevant and not reasonably calculated to lead to the discovery of admissible evidence. SoCalGas further objects to this request to the extent that it seeks documents that contain confidential information, including proprietary, market sensitive information disclosed during contractual negotiations, employee's names and contact information, and customer information. SoCalGas further objects to this request on the ground that it seeks information outside of SoCalGas's possession, custody, or control by seeking emails only between UC Irvine employees and representatives. This request is also vague and ambiguous because, as written, it appears to only seek emails sent and received between UC Irvine employees and representatives, not including SoCalGas personnel and representatives.

Subject to and without waiving these objections, SoCalGas responds as follows:

Upon entering into a Non-Disclosure Agreement with Sierra Club, SoCalGas will subsequently produce documents that are reasonably responsive to the (1) planning, design, construction, and commissioning, (2) testing and demonstration, and (3) decommissioning, equipment removal, and system restoration of the demonstration project. The production will be limited to documents dated on or before September 8, 2022, the date the Application was filed. SoCalGas also notes that, in responding to this question, it provided this question to the current business unit personnel most likely to have information relevant to this response. SoCalGas's response relies on the memories of individuals and therefore may not capture the emails referred to in this question. SoCalGas further interprets the term "emails" to not include electronic meeting invitations, i.e., Outlook Calendar Invites.

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QUESTION 13:

Has SoCalGas quantified the greenhouse gas emissions impacts it projects to result from the hydrogen blending project? If so, please provide all documents analyzing or projecting greenhouse gas emissions impacts (reductions or additions) related to the project.

RESPONSE 13:

SoCalGas objects to this request on the grounds that it calls for speculation and the request seeks irrelevant information not reasonably calculated to lead to the discovery of admissible evidence.

Subject to and without waiving the foregoing objection, SoCalGas responds as follows:

No.

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QUESTION 14:

Please provide all emails between SoCalGas and CEC staff regarding the development of the hydrogen blending demonstration project.

RESPONSE 14:

No emails exist between SoCalGas and CEC staff regarding the development of the hydrogen blending demonstration project.

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QUESTION 15:

Please provide all emails between SoCalGas and UC Riverside staff regarding the development of the hydrogen blending demonstration project.

RESPONSE 15:

No emails exist between SoCalGas and UC Riverside staff regarding the development of the hydrogen blending demonstration project.

QUESTION 16:

SoCalGas' Response to SC-SCG-01, Question 11(b) states that SoCalGas presented at a March 2021 CEC workshop. According to the workshop notice https://efiling.energy.ca.gov/GetDocument.aspx?tn=236955, the workshop was related to an upcoming release of a grant funding opportunity under the CEC's 2020-2021 Natural Gas R&D Program Budget Plan. Did SoCalGas apply for funding for hydrogen blending research in this process? If not, why not? If yes, please provide the application and any communications from the CEC regarding SoCalGas' application.

RESPONSE 16:

This is in reference to two CEC GFOs that were ultimately released:

1) CEC GFO 21-503 (https://www.energy.ca.gov/solicitations/2021-09/gfo-21-503-examining-effects-hydrogen-end-use-appliances-large-commercial). The Gas Technology Institute is the awarded applicant, with SoCalGas providing support.
2) CEC GFO 21-507 (https://www.energy.ca.gov/solicitations/2022-01/gfo-21-507-targeted-hydrogen-blending-existing-gas-network-decarbonization). University of California Los Angeles is the awarded applicant, also with SoCalGas providing support.

Both project solicitation instructions stipulate no live blending in pipelines, which excludes the use of CEC funds for this proposed demonstration project.