SOUTHERN CALIFORNIA GAS COMPANY (SOCALGAS)
CAL ADVOCATES-SCG-A2209006-001
(DR-001) UCI
DATE REQUESTED: July 1, 2025
RESPONSE DUE: July 21, 2025

QUESTION 1:

a) What specific knowledge gap(s) does SoCalGas' pilot project address that are not covered in the Hydrogen Blending Impact Report and Hydrogen Blending Compendium Report? How would the findings of SoCalGas' Closed Project complement the research summarized in those reports?

b) How will any additional knowledge, contributed by SoCalGas' Closed Project, be useful to utility operators and state policy makers?

c) How will SoCalGas define and measure the success of SoCalGas' Closed Project? How will SoCalGas' Closed Project's progress toward the desired outcome be reported to the Commission?

d) What, if any, alternative approaches were considered for studying the specific problem being addressed by SoCalGas' Closed Project?

e) Why was this specific site and experimental design of SoCalGas' Closed Project chosen?

f) Were alternative sites and designs considered?

g) How does SoCalGas plan to collect and document the ultimate findings from these pilot projects? In addition, how will these results be documented, validated, and shared with stakeholders and the Commission?

h) What would be needed to move from a pilot project to full implementation if the pilot project was successful?

RESPONSE 1:

SoCalGas objects to this request's prefatory instruction seeking the identity of "the person providing the answer to each data request and his/her contact information" as irrelevant and not reasonably calculated to lead to the discovery of admissible evidence. SoCalGas also objects to such instruction because the response to the data request is not testimony.

Without waiving and subject to these objections, SoCalGas responds as follows:

a. The proposed UCI demonstration project offers a valuable opportunity to gather more information on hydrogen-natural gas blending specific to an existing California and US-based medium pressure pipeline system; to assess different pipe materials, joining methods, and sealing materials under live operating conditions. The demonstration will also validate the effectiveness of leak detection technologies and evaluate the real-world performance of common commercial gas appliances utilizing a hydrogen-natural gas blend. Appliances for space and water heating are very common in commercial settings, so analyzing their operational and emissions profiles under longer term, live conditions is valuable. While the Hydrogen Impact Study and Hydrogen Blending Compendium Report did evaluate boilers, the majority of these lab tests or demonstrations occurred in European environments or modeling scenarios.[1] Pursuing a hydrogen blending demonstration project under California-specific climate conditions and with burner conditions required to meet emissions standards in local South Coast Air Quality Management District rules will help better understand localized operations in real-time conditions. Lastly, both the Hydrogen Impacts Study and Compendium Report identified the need for demonstrations in California specific conditions under real world conditions.[2]

   The demonstration will support the development of tailored operating procedures and emergency response protocols for a typical SoCalGas distribution system using hydrogen-natural gas blends, supporting the promotion of safety, reliability, and readiness as we move toward renewable hydrogen to support decarbonization.

   This focus on field validation and operational readiness develops information further beyond published reports.

b. SoCalGas objects to this request on the grounds that it calls for speculation regarding the extent to which results from the project may be useful to utility operators and state policy makers. Without waiving and subject to this objection, SoCalGas responds as follows:
   The UC Irvine demonstration has been coordinated with respect to the other Joint Utilities Projects, to minimize redundancy while simultaneously gathering necessary data to support a statewide hydrogen blending standard compatible with the varied gas system infrastructure and end-user equipment and applications. Information gathered within this demonstration would contribute to informing utility operators and state policymakers to determine if existing frameworks are sufficient or require

[1] Hydrogen Blending Compendium Report, Literature Review, at 58, 59,62, 64, 68

[2] Id, Literature Review at 3; Hydrogen Blending Impacts Study at 5; available at https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M493/K760/493760600.PDF

modification to implement hydrogen blending at 5-20% concentrations into the gas distribution system.

SoCalGas's Closed system project will focus on operational data collection and validating existing research under California specific operational conditions. *See* Table 3, below, from Chapter 1 testimony for the areas of focus for SoCalGas' proposed data collection plan for the Closed System Project:[3]

Table 3: Preliminary Data Collection Plan

	Objective	Frequency	Pre-Demo	During Demo	Post-Demo
Odorant sampling	Confirm hydrogen does not affect efficacy of current natural gas odorant	Monthly	✓	✓	
Leak surveys	Safety checks; repair any leaks prior to starting demo; determine if hydrogen blends affect leakage from fittings, valves, etc.	Monthly; And as needed for customer service calls	✓	✓	✓
Leak survey equipment	Evaluate performance of new leak survey equipment	Monthly; And as needed for customer service calls		✓	
Heating value measurement	Monitor and Analyze changes to heating value of gas supplied	Monthly	✓	✓	
Customer meters	Compare data from customer meters and blending skid data to evaluate accuracy	Monthly		✓	✓
Customer equipment evaluation	Confirm equipment is working properly; validate gas interchangeability	Monthly; And as needed for customer service calls	✓	✓	✓
Customer equipment	Perform measurement on emissions from	Monthly	✓	✓	

[3] Corrected Revised Prepared Direct Testimony of Blaine Waymire on behalf of SoCalGas (SoCalGas's Hydrogen Blending Demonstration – Closed System Project) (Chapter 1R) at 12.

checks for emissions	heating and cooking equipment				

c. SoCalGas defines success of the Closed System Project by completion of the proposed demonstration, completion of a final report that contains data collected in alignment with the Data Collection Plan, and continued engagement within the UCI Community.
Success will be measured in the following ways:
- Completion of the proposed demonstration project
- Completion of the final report containing data collected from the demonstration project
- Implementation of the American Petroleum Institute's Recommended Practice 1173 (API RP 1173) Pipeline Safety Management System (PSMS) Plan-Do-Check-Act approach throughout the project life cycle.
- Continued community engagement throughout the demonstration project cycle, including engagement with first responders
- Construction, commissioning, and operation of the demonstration equipment
- Hands-on experience for workforce and end-users
- Completion of the data collection plan, which includes scoping with an independent third party and collection of data in alignment with the approved plan.
- Research to help advise the creation of a statewide hydrogen injection standard[4]

d. SoCalGas interprets "approach" in this instance to mean the decision to perform a hydrogen blending demonstration in a live, isolated portion of the medium pressure natural gas distribution system. To this end, other approaches were not considered. SoCalGas interpreted the requirements set out in D.22-12-057, and recommendation from UC Riverside to mean blending to an actual portion of the natural gas distribution system in a controlled area. Other sites were considered, as outlined below.

[4] *Id.* at 1.

e. The proposal to blend to the ARC was closely coordinated with UCI facilities personnel and was selected based on the facility's consistent gas load, location, ability to isolate from other campus buildings and residences, pipeline components, and end use equipment [5]Various sites for the hydrogen production, compression, storage, and blending equipment have been considered. As shown in the transition from Chapter 1 Testimony, to Corrected Revised Testimony, the equipment site has moved from the police campus parking lot to a site just south of the ARC. The design was evaluated once a site was considered. The design was chosen to size hydrogen production and storage vessels for sufficient hydrogen blends of up to 20% based on historical gas volume for the selected end-use. The design components of an electrolyzer, hydrogen storage vessel, and solar array were primarily sized to produce enough electricity for production of clean renewable hydrogen to meet a 20% hydrogen blend at max flow conditions.

f. SoCalGas worked closely with UCI staff in order to review and ultimately select potential sites for the end use of the hydrogen blend, the location of the hydrogen production, storage, and blending facility, and the solar array. End use sites considered include: UCI's ARC, UCI's Central Plant, Engineering Buildings, and Art Studios. Sites for the hydrogen blending equipment were considered once an end user was selected. During this process, the Campus Police Parking lot, American Heart Health Association parking lot, and the site adjacent to the ARC, where the equipment is currently proposed to be sited, were considered.

   The design of the UCI project proposed incorporation of clean renewable hydrogen produced on-site for use within the demonstration. Four preliminary site designs were considered, all of which had varying sizing of an electrolyzer and hydrogen storage. The primary difference in designs revolved around different hydrogen storage sizing, electrolyzer sizes, and inclusion of solar. The placement of the solar array has considered various sites once the equipment was agreed to be moved to the site south of the ARC. It is preliminary proposed to be sited at the Verano 8 parking structure.[6]

g. The preliminary data collection plan can be found in Chapter 2 testimony in Table 3, and Exhibit 2A. SoCalGas will contract an independent party as directed to finalize a research plan for assessment, measurements, monitoring, and reporting.[7]

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[5] UCI, *Recommendations for the Proposed Hydrogen Blending Demonstration @ UCI* (February 14, 2024) at Exhibit G, *available at:* https://uci.edu/hydrogen/uci-h2-project-report.pdf.

[6] *Id.* at 6.

[7] *Id.* at 24.

h. SoCalGas cannot presuppose what the Commission or other stakeholders would require to transition to full implementation, which SoCalGas interprets to mean blending more broadly in the California natural gas system. However, SoCalGas anticipates that there will be a proceeding, similar to or within the Biomethane Proceeding (R.13-02-008), that establishes standards and requirements relative to safety, facility integrity, and operations for hydrogen injected into the common carrier natural gas pipeline system. This is commonly referred to as a "System-Wide Hydrogen Injection Standard".[8] This may be similar to D.14-01-034, which adopted injection standards for safely injecting biomethane into the common carrier pipeline system.

[8] D.22-12-057 at 37.

QUESTION 2:

a) What is the detailed cost breakdown for SoCalGas' Closed Project, including equipment, monitoring, safety system, and administration?

b) What specific benefits will gas ratepayers receive from investment in SoCalGas' Closed Project?

c) What cost-sharing arrangements have been made or pursued with potential non-ratepayer beneficiaries of this research?

d) How will cost overruns be handled?

RESPONSE 2:

SoCalGas objects to this request's prefatory instruction seeking the identity of "the person providing the answer to each data request and his/her contact information" as irrelevant and not reasonably calculated to lead to the discovery of admissible evidence. SoCalGas also objects to such instruction because the response to the data request is not testimony.

Without waiving and subject to these objections, SoCalGas responds as follows:

a. SoCalGas provided a level 5 cost estimate as it pertains to these demonstration projects, that is completed in accordance with AACEi recommended practices. The current cost estimate does not break down project costs by "equipment, monitoring, safety systems, and administration", specifically. Detailed cost estimate breakdowns can be found in Work paper 1R accompanying Chapter 1R testimony.[9]

[9] Refer to Workpaper Supporting the Direct Testimony of Blaine Waymire, Chapter 1R (WP-1 Revised).

b. SoCalGas Closed System Project proposes to use clean renewable hydrogen sourced from a dedicated solar array. This will contribute to greenhouse gas reductions from end-use equipment during the demonstration period and increased use of renewable energy resources. At the conclusion of the demonstration project, SoCalGas intends to donate the Solar Array to UC Irvine to continue providing renewable energy to their microgrid. The renewable energy assets added to their onsite microgrid will reduce emissions from other resources for the remainder of the equipment useful life. Further, the demonstration projects aim to advise the creation of a statewide hydrogen injection standard for the natural gas pipeline system.[10] Should the demonstration projects lead to an injection standard, ratepayers would see benefits through widespread GHG emission reductions and increased transport of renewable fuels through existing natural gas pipeline assets. This investment will further the State's understanding on how the state can continue to decarbonize our existing $15 billion gas system.

c. SoCalGas responded to a similar question in a data request for Sierra Club on October 12, 2022. Please see response to Question 12 of their data request, which is available on the SoCalGas website:[11]

> Please refer to A.22-09-006, Joint IOU Hydrogen Blending Demonstration Application Page 11.
>
> APPLICANTS' REASONABLE ATTEMPTS TO USE EXISTING COMMISSION FUNDS AND FROM OTHER SOURCES
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> In D.21-07-005, the Commission directed Applicants to make reasonable attempts to use existing Commission-authorized funding and other funds, including the CEC R&D Program and federal funding, to the extent possible. First, Applicants are unaware of Commission authorized funding for hydrogen blending pilot projects. Similarly, Applicants could not have secured funding from the CEC R&D Program. Although the CEC has issued two hydrogen blending solicitations, they were focused on the power generation and industrial sectors; these solicitations have also explicitly excluded "hydrogen blending in live pipelines due to the lack of a pipeline hydrogen injection standard in California." Applicants are also unaware of any federal funding opportunities for live blending pilot projects in natural gas pipelines; the existing federal funds under the Infrastructure Investment and Jobs Act of 2021 (IIJA) are focused on fostering the development of clean hydrogen hubs, advancing equipment manufacturing and recycling, and improving the efficiency of electrolysis.

[10] Corrected Revised Prepared Direct Testimony of Blaine Waymire on behalf of SoCalGas (SoCalGas's Hydrogen Blending Demonstration - Closed System Project) (Chapter 1R) at 1.

[11] SoCalGas, *SoCalGas Response to Sierra Club Data Request SC-SCG-01* (October 12, 2022), *available at:* https://www.socalgas.com/sites/default/files/2025-06/Sierra_Club_DR_SC-SCG-01_A.22-09-006_Response_FINAL.pdf.

Therefore, Applicants did not have other available funding for their proposed Projects.

d. SoCalGas interprets “cost overruns” to mean costs that are incurred that exceed the amount approved by the CPUC. In this instance, “cost overruns” would be handled dependent on the cost recovery mechanism approved in the Joint IOU Hydrogen Blending Application. The Joint IOUs currently request a two-way balancing account in their application.[12]

[12] A.22-09-006 at 16.

QUESTION 3:

a) What comprehensive risk assessment has been conducted:
(i) for SoCalGas' Closed Project;

(ii) for the specific hydrogen blend percentages attempted in SoCalGas' Closed Project; and

(iii) for each segment of the California gas infrastructure for which the pilot project was designed?

b) Beyond monitoring, what automated safety systems and shutdown protocols are in place for SoCalGas' Closed Project?

c) What baseline testing of infrastructure integrity has been and will be completed prior to pilot project implementation?

d) How have emergency response plans been updated specifically for hydrogen incidents at SoCalGas' Closed Project?

e) What specific outreach has been conducted with communities potentially affected by each pilot project and how has informed consent been documented?

f) How does SoCalGas plan to monitor and assess hydrogen embrittlement of the gas components within SoCalGas' Closed Project?

RESPONSE 3:

SoCalGas objects to this request's prefatory instruction seeking the identity of "the person providing the answer to each data request and his/her contact information" as irrelevant and not reasonably calculated to lead to the discovery of admissible evidence. SoCalGas also objects to such instruction because the response to the data request is not testimony.

Without waiving and subject to these objections, SoCalGas responds as follows:

a. SoCalGas objects to this request because it seeks information substantially similar to Questions 1,2, 5, and 6 in Appendix B to the Scoping Memo issued on June 12, 2025 with a current due date of August 11, 2025. SoCalGas will provide a response on such date.

b. A completed control philosophy of the site will be generated during the 60% design phase of the project and will include a complete cause and effect matrix that would detail out emergency shutdowns and controls. While not a finalized or complete list of controls, these are some of the automated safety systems and shutdown protocols that are planned for the open system project:

    1. Fire detection monitoring which would isolate all of the production equipment including hydrogen storage, shutdown any hydrogen production, stop compression, and return the community to 100% natural gas. SoCalGas will be alerted immediately and will send out a technician and will create a call out to the fire department.
    2. Gas detection monitoring for hydrogen, natural gas, and blended gas. If an alarm is triggered for a gas leak, the system will go into a shutdown mode, isolating equipment, stopping hydrogen production and returning the pipeline system to 100% natural gas. SoCalGas will be alerted immediately and will send out a technician to the site to fully remedy the issue before putting the site back into service.
    3. A drift in blend percentage that shows that the system is not blending to the correct blend percentage will result in the hydrogen injection line immediately shutting down and converting the community back to 100% natural gas. SoCalGas will be alerted immediately and will send out a technician to the site to fully remedy the issue before putting the site back into service.

c. Prior to the introduction of hydrogen, SoCalGas will conduct an asset review and inspection, and will baseline the demonstration area with natural gas.[13] The following baseline testing will be performed prior to the demonstration, as outlined in Table 3 of Chapter 2 Testimony:[14]
    - Odorant Sampling to confirm current efficacy of the gas
    - Leak Surveys of the pipeline system to verify the pipeline system is free of leakage prior to the demonstration, or repair any leaks present
    - Heating Value Measure to create a baseline of the existing natural gas
    - Customer equipment evaluation to confirm equipment is free of leakage, in working order, and determine a baseline of existing equipment emission profile.

[13] Corrected Revised Prepared Direct Testimony of Blaine Waymire on behalf of SoCalGas (SoCalGas's Hydrogen Blending Demonstration - Closed System Project) (Chapter 1R) at 11.

[14] *Id.* at 12-13.

d. Emergency response procedures for the Closed System project will be created during the detailed engineering design phase. This is required because many of the response documentation will require a completed design and control narrative for the site, which will be completed during the design phase of the project. SoCalGas plans to have third-party industry experts support with the creation and review of the emergency response plans for this project.

e. SoCalGas values its relationship with UC Irvine and its role in the Irvine community and is committed to maintaining open and ongoing communication with students and stakeholders throughout the demonstration project.

The proposed project has received approval from the Provost and UCI faculty review committee comprising of experts, including distinguished professors in materials science, civil and environmental engineering, and chemistry to move forward with the project based on the safety and the scientific value of the demonstration. This committee fully evaluated SoCalGas' proposed demonstration and recommended several steps to enhance the safety, transparency and accountability throughout the project's duration.

SoCalGas and UCI continue to collaborate on a proactive community engagement plan to inform students, faculty, and stakeholders about the demonstration project. The comprehensive communications and community engagement plan includes:

- Sharing project overviews and safety fact sheets with students, faculty and the community
- Hosting dedicated project webpages on SoCalGas.com and UCI.edu
- Meeting with student organizations, including Associated Students UCI, Student Advisory Committee, and Sustainable and Justice for Future UCI students
- Conducting briefings with various leadership organizations across the campus, including the Anteater Recreation Center, housing, Environment, Health & Safety, Police and fire
- Attended faculty advisory committee meetings to brief members on the project scope
- Staffing informational booths at community events
- Publishing project information and updates in UCI publications and news outlets
- Providing briefings for local and state elected officials
- Offering educational sessions for first responders and facilities staff

SoCalGas remains committed to working closely with UCI to share timely information about the project with the UCI community and public officials.

f. The Medium Pressure distribution system operates at a maximum pressure of 60 psig, with the system involved in the demonstration project having a set pressure of 45 psig. In these systems, there is very little pressure cycling and low stress levels, mitigating the risk of pipeline impacts from potential hydrogen embrittlement.

   To further enhance safety, SoCalGas is proposing to conduct more frequent leak surveys.[15] These surveys will help detect any early signs of material degradation or leaks during the demonstration period.

[15] *Id.* at 13.

QUESTION 4:

In its Chapter 1 Revised Testimony, SoCalGas discusses its method to monitor hydrogen leaks:

"The project will be designed to minimize and monitor leakage for hydrogen, methane, and a hydrogen/methane blend with sensors, remote alerts, and other detection systems. Hydrogen production and storage will have 24/7 continuous monitoring." Chapter 1, Table 5 at 22.

No such continuous monitoring or remote alarms are mentioned in Chapter 1 Revised Testimony for segments of pipe outside the hydrogen production and storage areas.

a) What is the frequency of monitoring for hydrogen leaks along:
(i) The Hydrogen production and storage facility?
(ii) The pipeline carrying the hydrogen blend?
(iii) The end user appliances at the Anteater Recreation Center?

b) Why is SoCalGas opting for continuous monitoring of hydrogen leaks in its production and storage areas but not along the pipeline or at the end user appliances at the Anteater Recreation Center?

c) How frequently will hydrogen monitoring equipment be placed, or how many miles between pieces of hydrogen monitoring equipment is needed, to maintain continual leak monitoring of the SoCalGas' Closed Project?

RESPONSE 4:

SoCalGas objects to this request's prefatory instruction seeking the identity of "the person providing the answer to each data request and his/her contact information" as irrelevant and not reasonably calculated to lead to the discovery of admissible evidence. SoCalGas also objects to such instruction because the response to the data request is not testimony.

Without waiving and subject to these objections, SoCalGas responds as follows:

a. SoCalGas outlines monitoring frequency in Chapter 1 Testimony:
(i) The Hydrogen Production, Blending, and Storage facility will be monitored for leaks on a continuous basis (i.e. 24/7)[16]

[16] *Id.* at 16.

(ii) SoCalGas' distribution pipeline system will be surveyed for leaks on a monthly basis, and as needed for customer call.[17]

(iii) End user appliances will be inspected prior to the introduction of hydrogen.[18] After that, surveys will be conducted on a monthly basis[19]

SoCalGas is proposing to perform monthly leak surveys to evaluate traditional leak survey equipment and leak survey procedures to advise current operational procedures, if widespread blending were to be adopted. However, final leak detection methodologies have not been identified. These will be coordinated with an independent third party.[20] As such, continuous monitoring may be adopted if fiber optic leak detection is ultimately chosen. Nonetheless, SoCalGas would like to maintain monthly leak surveys for validation of traditional leak survey methodologies to advise existing California leak detection practices.

b. SoCalGas has proposed continuous, remote monitoring surrounding the hydrogen blending, production, and storage facility. SoCalGas is not currently proposing continuous monitoring on the distribution system involved in the demonstration. Leak detection protocols for the distribution pipeline system and end-uses being considered for the Closed System project are outlined in Exhibit 1A. These potentially include Portable Gas Detectors, ground vehicle, fiber optic technologies, and mass balance methodologies.[21] If fiber optic technologies were pursued, then continuous monitoring would be in place for portions of the pipeline system, while still maintaining monthly inspections with traditional leak detection equipment. SoCalGas will also install indoor gas detection monitors where indoor equipment is housed, contributing to continuous monitoring.[22] As noted above, SoCalGas still has interest in pursuing traditional leak survey methodologies to advise existing leak detection practices for broader system roll out.

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[17] *Id.* at 12.

[18] *Id.* at 11.

[19] *Id.*, Exhibit 1A: Preliminary Data Collection Plan.

[20] *Id.* at 24.

[21] *Id.*, Exhibit 1A: Preliminary Data Collection Plan.

[22] *Id.*, at 16

QUESTION 5:

In its Chapter 1 Revised Testimony, SoCalGas discusses its Project Design and use of new pipe for its Closed Project:

"New Steel Pipe: Approximately 1,400 feet of steel pipe will be installed from the outlet of the blending skid to the interconnection point of the PE pipeline located on California Avenue. Because there is no steel infrastructure in this portion of campus, SoCalGas will be installing new steel pipe to emulate a mixed material demonstration." Chapter 1 Revised Testimony, at 9.

a) Please describe how this "new steel pipe" is representative of SoCalGas' existing gas distribution system.

b) Will PG&E be sourcing any of its pipe for its Closed Project from its existing natural gas system?

RESPONSE 5:

SoCalGas objects to this request's prefatory instruction seeking the identity of "the person providing the answer to each data request and his/her contact information" as irrelevant and not reasonably calculated to lead to the discovery of admissible evidence. SoCalGas also objects to such instruction because the response to the data request is not testimony.

Without waiving and subject to these objections, SoCalGas responds as follows:

a. "New steel pipe" is being installed within the UCI demonstration in order to create a mixed-material demonstration project. The new steel pipe material installed within the UCI demonstration will be representative of at least the last decade of steel infrastructure and of steel assets anticipated for installation in coming years. Please note, SoCalGas has not selected final materials for the demonstration project. This would come in Phase 1, during detailed engineering design phases. However, SoCalGas will choose a pipe material that is common within its system and industry standards for demonstration purposes.

b. SoCalGas interprets this question to mean "Will SoCalGas be sourcing any of its pipe for its Closed System Project from its existing natural gas system?" SoCalGas does not intend to source steel material from its existing natural gas system.

QUESTION 6:

In Chapter 1 of its Revised Testimony, SoCalGas cites a safe blending project for end use appliances with blend percentage of up to 20% hydrogen:

"Another hydrogen blending demonstration has proven successful in the United Kingdom with Phase 1 of the HyDeploy hydrogen blending trial (HyDeploy Trial) at Keele University, which blended up to 20% hydrogen in a private distribution gas system and fed 100 homes and 30 university buildings for 18 months, concluding in March 2021.16 The project demonstrated that hydrogen blends of up to 20% can be safely delivered to and used by customers without changes to the gas system or end-use equipment."

This exceeds the blend percentage determined safe for end use equipment without modification in the University of California, Riverside Study (UCR Study) which stated:

"This systemwide blending injection scenario becomes concerning as hydrogen blending approaches 5% by volume. As the percentage of hydrogen increases, end-use appliances may require modifications, vintage materials may experience increased susceptibility, and legacy components and procedures may be at increased risk of hydrogen effects." UCR Study, at 7.

Ordering Paragraph 7c of Decision D.22-12-057 requires that the pilots, "Avoids end user appliance malfunctions".

If end user appliances malfunction due to SoCalGas' Project:

a) How will SoCalGas compensate those affected?

b) Does SoCalGas suspect these costs would be borne by ratepayers?

RESPONSE 6:

SoCalGas objects to this request's prefatory instruction seeking the identity of "the person providing the answer to each data request and his/her contact information" as irrelevant and not reasonably calculated to lead to the discovery of admissible evidence. SoCalGas also objects to such instruction because the response to the data request is not testimony.

Without waiving and subject to these objections, SoCalGas responds as follows:

c. As outlined in Exhibit 1B, SoCalGas has agreed that they will establish specific terms of the project at a later date.[23]

d. SoCalGas objects to this request because it calls for speculation with respect to whether SoCalGas "suspects" that the costs, if incurred, will be borne by ratepayers. Subject to and without waiving this objection, SoCalGas responds as follows: SoCalGas is unable to "suspect" whether those costs will be borne by ratepayers because SoCalGas and UC Irvine have not entered into indemnity agreements.

[23] *Id.*, Exhibit 1B: Amended and Restated Memorandum of Understanding.