

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**



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Application of Southern California Gas
Company (U904G), San Diego Gas & Electric
Company (U902), Pacific Gas and Electric
Company (U39G) and Southwest Gas
Corporation (U905G) to Establish Hydrogen
Blending Demonstration Projects.

Application 22-09-006
(Filed September 8, 2022)

**OPENING BRIEF OF ORANGE COVE UNITED AND
LEADERSHIP COUNSEL FOR JUSTICE AND ACCOUNTABILITY**

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Summary of Recommendations

Orange Cove United (“OCU”) and Leadership Counsel for Justice & Accountability (“LCJA”) respectfully recommend dismissing the Application of Southern California Gas Company (“SoCalGas”) et al. to Establish Hydrogen Blending Demonstration Projects (“Application”), particularly with respect to the pilot project in Orange Cove (the “Orange Cove Pilot”). The Commission should dismiss the Application because:

- The Orange Cove Pilot fails to comply with Commission direction regarding pilot design. It fails to comply with the clear direction in Ordering Paragraph 7 of Decision 22-12-057.
- The Orange Cove Pilots is not designed to address hydrogen blending knowledge gaps, would not be useful to decisionmakers, does not appropriately measure success, and does not consider reasonable, more effective, less harmful alternatives.
- The Orange Cove Pilot is exorbitantly expensive. It is not a prudent, just, or reasonable use of ratepayer funds and gas ratepayers would not receive a commensurate benefit.
- The Orange Cove Pilot is not safe. SoCalGas did not conduct a comprehensive risk assessment, does not have a comprehensive record of the pipelines in Orange Cove, does not include sufficient monitoring, and does not include emergency response plans.

- The Orange Cove Pilot is not equitable. It would negatively impact the residents of Orange Cove, a severely disadvantaged community. SoCalGas has failed to engage, inform, and receive the consent of residents. Residents of Orange Cove oppose the Pilot.

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Application of Southern California Gas Company (U904G), San Diego Gas & Electric Company (U902), Pacific Gas and Electric Company (U39G) and Southwest Gas Corporation (U905G) to Establish Hydrogen Blending Demonstration Projects.

Application 22-09-006
(Filed September 8, 2022)

**OPENING BRIEF OF ORANGE COVE UNITED AND
LEADERSHIP COUNSEL FOR JUSTICE AND ACCOUNTABILITY**

Pursuant to Rule 13.12 and the March 09, 2026 Email Ruling, OCU and LCJA submit this Opening Brief on the Application of SoCalGas. OCU and LCJA also support the Opening Brief filed by Sierra Club.

I. INTRODUCTION

SoCalGas proposes the Orange Cove Pilot that is wasteful, unsafe, and inconsistent with the Commission’s direction in D.22-12-057. The Orange Cove Pilot would cost up to \$60 million in ratepayer funds — an irresponsible sum given the ongoing “energy affordability crisis” characterized by “record-high arrearages and utility bills.”¹ It would also expose residents of Orange Cove, a severely disadvantaged environmental justice community with the highest asthma rates in Fresno County, to increased indoor air pollution and associated health impacts. Further, it may damage natural gas pipelines and residential appliances, putting residents’ safety at risk and giving rise to potential appliance repair costs. Finally, the corresponding benefits to

¹ D.24-12-074 at 2.

ratepayers and the public in the form of knowledge gained or emissions avoided are not commensurate with the cost and risks, if any such benefits exist at all.²

That is why OCU, an association of Orange Cove residents, strongly opposes this Pilot. The Commission must reject this dangerous and costly proposal.

II. PROCEDURAL AND LEGAL BACKGROUND

In February 2013, the Commission initiated R.13-02-008 to implement provisions of AB 1900.³ The scope of the proceeding did not include hydrogen.

In July 2018, the Commission issued the R.13-02-008 Phase 3 Scoping Ruling, wherein Commissioner Rechtschaffen wrote “[i]n accordance with Section 399.24 and with Executive Order B-48-18...it is my future intention to consider...the safe, cost-effective development of other renewable gases, such as renewable hydrogen.”⁴ Neither Section 399.24 nor Executive Order B-48-18 mention hydrogen blending.⁵

In November 2019, the Commission issued the R.13-02-008 Phase 4 Scoping Ruling, including consideration of hydrogen injection standards to the scope of the proceeding for the first time.⁶ The Commission ordered the Joint Utilities to submit an application that would include “a preliminary Renewable Hydrogen Injection Standard”

² As discussed below, the Orange Cove Pilot would not provide the Commission or the public with any new useful information. Further, though the Pilot potentially offers some de minimis emissions reductions of less than 2%, those reductions may be partially or entirely offset through hydrogen leaks, which can cause up to 37 times more warming than carbon dioxide. *See* OCU LCJA 1 Exhibits 1 of 3 at 6; Ex. EDF-01 at 7:14–17.

³ R.13-02-008, Order Instituting Rulemaking Into Biomethane Issues, Pipeline Open Access, and Related Enforcement Provisions at 2. Issued February 13, 2013.; A.B. 1900 (2012) (added section 399.24 to the Public Utilities Code).

⁴ R.13-02-008, Assigned Commissioner's Amended Scoping Memo and Ruling at 7. Issued July 5, 2018.

⁵ Pub. Util. Code § 399.24; Exec. Order B-48-18.

⁶ R.13-02-008, Assigned Commissioner's Scoping Memo and Ruling Opening Phase 4 of Rulemaking 13-02-008 at Ordering Paragraph (OP) 3. Issued November 21, 2019.

within 12 months,⁷ noting that “more technical expertise is needed to determine the maximum safe level of hydrogen blend in pipelines,” and ordered a study of hydrogen blending.⁸

In November 2020, the Joint Utilities filed A.20-11-004 in response to the Phase 4 Scoping Ruling. The Joint Utilities indicated that they were “not ready to propose renewable hydrogen injection standards because of knowledge and testing limitations”⁹ and proposed testing hydrogen blending in an isolated primarily polyethylene distribution system in the SoCalGas territory.¹⁰

In July 2021, the Commission dismissed A.20-11-004, concluding that the Application was incomplete,¹¹ expensive,¹² and not supplemental to existing studies.¹³

In July 2022, the Commission issued the UC Riverside Study, also known as the Hydrogen Blending Impacts Study. The study concluded that “there are knowledge gaps in several areas ... it is critical to conduct real world demonstration of hydrogen blending under *safe and controlled conditions*.”¹⁴ Knowledge gaps identified in this study include

⁷ *Id.* at OP 4.

⁸ *Id.* at 8 and 13-14.

⁹ A.20-11-004, Joint Application of Southern California Gas Company, (U 904 G), San Diego Gas & Electric Company (U 902 G), Pacific Gas and Electric Company (U 39 G), and Southwest Gas Corporation (U 905 G) Regarding Hydrogen-Related Additions or Revisions to the Standard Renewable Gas Interconnection Tariff at 5. Dated November 20, 2020.

¹⁰ *Id.* at 9

¹¹ A.20-11-004, Decision 21-07-005 Dismissing Application at FoF 23. Issued July 16, 2021.

¹² *Id.* at 10 “The Program may cost approximately \$31.8 million, plus additional unknown costs. Even though the Joint Utilities do not request rate recovery now, we must consider whether or not the Program, as proposed, has the likelihood of its costs being reasonable, and the resulting charges to ratepayers being just and reasonable. We also do this within our broad authority to supervise utilities in pursuit of optimal outcomes for ratepayers, stakeholders, utilities, and the state. As we explain below, we find that the Program, as proposed, has too many uncertainties that may not lead to optimal outcomes, and we dismiss the Application.”

¹³ *Id.* at Finding of Fact (FoF) 22.

¹⁴ SCG-07 at 4, 5, 36, 107-108, and 113 (emphasis added).

leak detection, hydrogen diffusion, and embrittlement of metals and other pipeline materials.¹⁵

In September 2022, the Joint Utilities filed A.22-09-006, proposing hydrogen blending pilot projects with blending levels between 5% and 20% and including a proposed blending hydrogen pilot on the UC Irvine campus.¹⁶

In December 2022, the Commission issued D.22-12-057 in R.13-02-008, which required evaluation of hydrogen blending from 0.1%-5%,¹⁷ directed the IOUs to file a Hydrogen Blending Compendium Report, and ordered the IOUs to file a new or amended application proposing hydrogen blending pilots. The Commission's requirements for the pilots included that they: take place in a closed system or mock-up;¹⁸ ensure the long-term safety of the California pipeline; prevent and detect hydrogen leaks; include hydrogen monitoring; avoid end user appliance malfunctions; include "rigorous testing protocols consistent with the UC Riverside Study,"¹⁹ and incorporate a system impact analysis.²⁰

¹⁵ *Id.* at 5, 36, 107-108, and 113.

¹⁶ A.22-09-006, Joint Application of Southern California Gas Company, (U 904 G), San Diego Gas & Electric Company (U 902 G), and Southwest Gas Corporation (U 905 G) at 9. Dated September 8, 2022.

¹⁷ The Commission also acknowledged risks associated with relatively low levels of hydrogen. The Commission relied on the UC Riverside study's finding that "[e]ven small amounts (1% by vol) of hydrogen have large effects" when it decided to maintain a trigger level of 0.1% for hydrogen as a constituent of concern. D.22-12-057 at 32. (quoting the UC Riverside Study's statement at 85 that "[e]ven small amounts (1% by vol) of hydrogen have large effects.").

¹⁸ *Id.* at Conclusion of Law (COL) 17.

¹⁹ *Id.* OP 7.

²⁰ *Id.* OP 10.

In March 2024, the Joint Utilities filed the Amended Application in A.22-09-006. That application included the proposed Orange Cove Pilot, described as the “Open System Project.”²¹

In February 2025, the Joint Utilities filed the Hydrogen Blending Compendium Report in response to OP 10 of D.22-12-057. Knowledge gaps identified in this report include reducing embrittlement, the impact on welding, permeation rates, and performance under simulated real world conditions.²²

In July 2025, several parties filed a Motion to Dismiss contending that the Application does not comply with the requirements in D.21-07-005 and D.22-12-057.²³ OCU/LCJA filed a response supportive of the elements of the Motion as applied to the Orange Cove Pilot.²⁴ In October 2024, the Commission denied the Motion to Dismiss on the ground that it was premature, deferring determination of the arguments in the Motion to Dismiss to a later stage of the proceeding.²⁵

In August 2025, the Commission held a Public Participation Hearing (PPH) in Orange Cove.²⁶ Of the 33 Orange Cove residents who provided public comments, 27 either opposed the Orange Cove Pilot or raised concerns about the safety or health impacts of the Pilot.

²¹ A.22-09-006, Joint Amended Application of Southern California Gas Company, (U 904 G), San Diego Gas & Electric Company (U 902 G), Pacific Gas and Electric Company (U 39 G), and Southwest Gas Corporation (U 905 G) to Establish Hydrogen Blending Demonstration Project at 13. Dated March 1, 2024.

²² SCG-08, Chapter-By-Chapter Summary of Hydrogen Blending Literature Review at 3-4, 10.

²³ A.22-09-006, Joint Motion to Dismiss. Dated July 15, 2025.

²⁴ A.22-09-006, Orange Cove United and Leadership Counsel for Justice and Accountability Response to Joint Motion to Dismiss. Dated July 30, 2025.

²⁵ A.22-09-006, Administrative Law Judge’s Ruling Denying Motion to Dismiss. Dated October 28, 2024.

²⁶ See Reporter’s Transcript, Orange Cove, California, August 25, 2025. Dated September 2, 2025.

On February 2, 2026, SoCalGas, SDG&E, and SWG filed a still pending Petition for Modification in R.13-02-008.²⁷ That Petition requested that the Commission remove the requirement to operate a pilot for 0.1%-5% hydrogen blending because, the Petitioners asserted, research on hydrogen blending had reached a “tipping point” such that the Orange Cove Pilot was not necessary to address existing knowledge gaps.²⁸ Petitioners argued that not conducting the Orange Cove Pilot would result in “significant ratepayer savings.”²⁹ LCJA filed a response in opposition to the Petition.³⁰

III. FACTUAL BACKGROUND

A. The Orange Cove Pilot Will Likely Increase Indoor NOx Emissions.

Blending hydrogen into natural gas has the potential to increase indoor air pollutants, particularly nitrogen oxide (NOx).³¹ This potential increases in older appliances that were not designed to burn hydrogen or hydrogen blends, like those in Orange Cove.³² As stated by expert witness and Professor of Atmospheric Chemistry, Dr. Alastair Lewis, “little is known about the emissions response of older domestic appliances when hydrogen is added as co-fuel. However, “[e]missions of NOx [from hydrogen blending up to 20%] could plausibly double from poor performing pre-existing appliances within a community, with a risk of elevated NO₂ in households that were

²⁷ R.13-02-008, Petition for Modification of Decision 22-12-057 By Southern California Gas Company, San Diego Gas & Electric Company, and Southwest Gas Corporation. Dated February 2, 2026.

²⁸ *Id.* at 11.

²⁹ *Id.* at 3.

³⁰ R.13-02-008, Response by Leadership Counsel for Justice and Accountability to Petition for Modification of Decision 22-12-057 By Southern California Gas Company, San Diego Gas & Electric Company, and Southwest Gas Corporation. Dated March 5, 2026.

³¹ *See* OCU LCJA 1 at 3.

³² *Id.* at 9.

users of older gas boilers, heaters and gas stoves.”³³ This is because “[o]lder gas appliances that do not use fuel pre-mixing or lean-burn are more likely to experience higher NO_x emissions when hydrogen is added; these appliances may be disproportionately found in lower-income homes.”³⁴ Even more alarmingly, in the “worst-case” appliances, indoor NO_x emissions could be “2.5 times higher.”³⁵

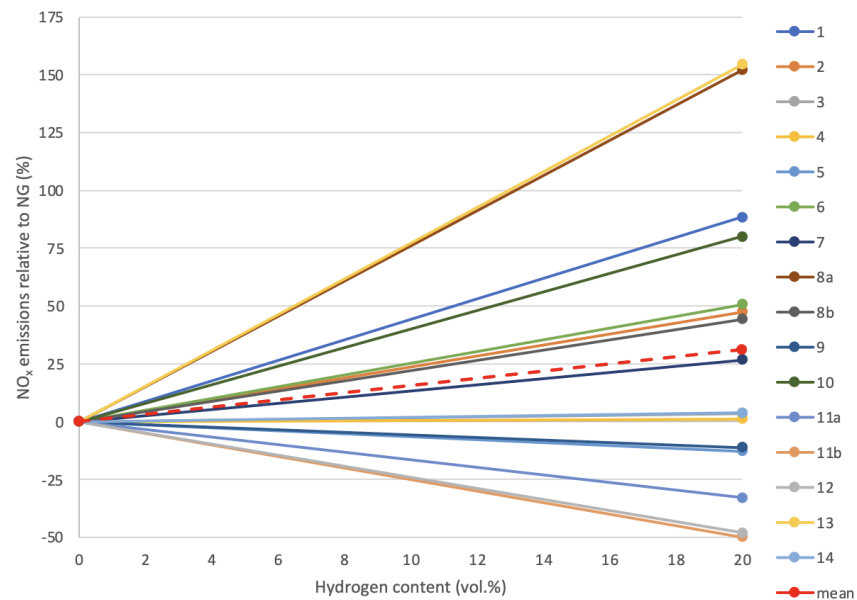


Figure 1 - NO_x Emission Chart³⁶

Case studies of gas appliances in Orange Cove homes indicate that appliances range in age from 10 to over 30 years old.³⁷ However, SoCalGas does not know the exact makes, models, ages, or conditions of residential appliances in Orange Cove.³⁸ The combination of older appliances and the 1984 median age of housing stock in Orange

³³ *Id.*

³⁴ *Id.*

³⁵ OCU LCJA 1 Exhibits 1 of 3 at 9.

³⁶ *Id.* Figure 1 shows data on NO_x emissions from Dr. Lewis’s literature review, relative to “a pure natural gas or methane base case.”

³⁷ OCU LCJA 4 Exhibits, Exhibit B, “Five Case Studies of Orange Cove Residents with Gas Appliances.”

³⁸ *See, e.g.* SCG-04 at 20-21; OCU LCJA 6, response 4.

Cove raises further concerns about “less-than-optimal ventilation, leading to concentrated indoor air pollutants” that will expose residents directly to combustion emissions.³⁹

It is thus the expert opinion of Dr. Lewis that the Orange Cove Pilot “does not include sufficient mitigations and or put monitoring in place” to address knowledge gaps related to indoor NOx emissions.⁴⁰

B. Any Increased Indoor NOx Will Increase Respiratory Harms.

Orange Cove has the highest asthma rate in Fresno County.⁴¹ Breathing elevated NOx concentrations, even over short durations, is associated with higher rates of asthma and other respiratory diseases, which can lead to increased susceptibility to infections, hospitalizations, and trips to emergency facilities.⁴² Research also indicates that increases in NOx exposure above a threshold of 6 parts per billion (ppb) is associated with a dose-dependent increase in risk of higher asthma severity scores, wheezing, night symptoms, and rescue medication use.⁴³ Importantly, the concentrations identified were all below the U.S. EPA’s standard, meaning NOx levels lower than the National Ambient Air Quality Standard (NAAQS) can contribute to asthma symptoms.⁴⁴

Further, the longer people are exposed to NOx, the greater their risk of adverse health effects becomes. According to Dr. Lewis, “[l]ong-term exposure to NO₂⁴⁵

³⁹ OCU LCJA 3 at 8.

⁴⁰ OCU LCJA 1 at 4.

⁴¹ OCU LCJA 3 at 5.

⁴² OCU LCJA 1 at 7.

⁴³ OCU LCJA 3 at 6.

⁴⁴ *Id.* See also OCU LCJA 3 Exhibits (EPA 1 hour NO₂ maximum concentration is 100 ppb; 1 year annual mean maximum concentration is 53 ppb.).

⁴⁵ OCU LCJA Exhibits 1 of 3 at 2, fn.1. (NOx refers to the sum of nitric oxide and NO₂. “Both NO and NO₂ are emitted from combustion. Once released to air most NO rapidly converts to NO₂. Air quality

(meaning over months to many years) is implicated in increases in both all-cause and respiratory mortality. There is good evidence for a causal relationship between long-term exposure to NO₂ and rates of community asthma development.”⁴⁶ Moreover, there is also “suggestive evidence for causal relationships [between long-term exposure to NO₂] with cardiovascular disease, and some evidence for impacts on metabolic disease, primarily diabetes, fertility, birth outcomes, and the nervous system.”⁴⁷

SoCalGas agrees that “the California Air Resources Board recognizes NO_x as an indoor air pollutant that can contribute to health impacts including asthma and other respiratory challenges.”⁴⁸

C. The Orange Cove Pilot Risks Damaging Appliances.

Hydrogen has a higher combustion temperature than natural gas, which can lead to “local overheating of components.”⁴⁹ Laminar combustion velocity is also increased with the addition of hydrogen to natural gas, posing a risk of flashbacks in household appliances.⁵⁰ Varied concentrations of hydrogen will have different implications on end use equipment and appliances,⁵¹ and some appliances may be “sensitive” to hydrogen blending.⁵² Older appliances are likely to be more susceptible to higher flame temperatures than more modern appliances, and older appliances are more often found in

standards are typically framed around NO₂, whereas emissions regulations at the flue or exhaust pipe often reference the sum of NO_x.”).

⁴⁶ OCU LCJA 1 at 8.

⁴⁷ OCU LCJA 1 at 8.

⁴⁸ OCU LCJA 6 at 2.

⁴⁹ SCG-07 at 8.

⁵⁰ *Id.*

⁵¹ *Id.* at 11.

⁵² *Id.* at 109

lower-income and elderly households.⁵³ Gas appliances sold in the United States are not required to demonstrate compatibility with hydrogen, whereas gas appliances sold in Europe are certified to tolerate a 23% hydrogen blend.⁵⁴

Studies have found risks to appliances with hydrogen blends below 5%.⁵⁵ The UC Riverside study recommended case-by-case studies of equipment to prevent negative impacts to appliances⁵⁶ and noted that increased hydrogen in the gas blend may require modification of residential appliances.⁵⁷ The Orange Cove Pilot does not include case-by-case studies or modification of residential appliances.⁵⁸

D. The Orange Cove Pilot Risks Damaging Gas Distribution Pipelines.

As SoCalGas has acknowledged,⁵⁹ hydrogen has the potential to embrittle steel pipe materials. Hydrogen embrittlement can cause accelerated fatigue crack growth and reduce mechanical strength and durability.⁶⁰ Despite this, “SoCalGas has not identified locations, frequencies, and protocols for monitoring or assessing steel materials for hydrogen embrittlement in the Orange Cove Distribution Project.”⁶¹ SoCalGas instead relies on research suggesting “there would not be significant impacts expected from the effects of embrittlement.”⁶² These risks are heightened by the age of steel materials in the

⁵³ OCU LCJA Exhibits 1 of 3 at 11.

⁵⁴ SC-01 at 19:19-22 (citing an Air-Conditioning, Heating & Refrigeration Institute report included as Attachment 12).

⁵⁵ See, e.g. Enbridge Low-Carbon Energy Project, cited in SCG-07, Table 2 at 2 (finding 2% to be the upper limit on for end use appliances.)

⁵⁶ SCG-07 at 132.

⁵⁷ *Id.* at 7.

⁵⁸ OCU LCJA 1 at 8; see also OCU LCJA 6, Response 11.

⁵⁹ OCU LCJA 6, Response 5.

⁶⁰ SCG-07 at 10, 127.

⁶¹ OCU LCJA 2 at 14-15.

⁶² OCU LCJA 6, response 5.

Orange Cove pipeline, as steel weakens over time.⁶³ Several miles of steel pipe in Orange Cove date back to 1946.⁶⁴ Degradation of pipeline steel as a result of hydrogen is caused by conditions of pipeline material, environment, and tensile stress.⁶⁵

The Orange Cove distribution system also contains an unknown amount of Aldyl-A pipe materials dating back to the late 1960s.⁶⁶ Aldyl-A is five times more permeable to hydrogen gas than methane, susceptible to premature cracking, and has not been tested in hydrogen blending demonstration projects.⁶⁷ SoCalGas has not completed a comprehensive inventory of pipeline materials in Orange Cove and does not plan to.⁶⁸

IV. DISCUSSION

A. The Orange Cove Pilot Does Not Comply With D.22-12-057.⁶⁹

1. The Orange Cove Pilot is in an “Open Portion” of the Natural Gas Distribution System Rather Than a “Closed System.”

D.22-12-057 incorporated guidance from the U.C. Riverside study⁷⁰ directing the Utilities to propose hydrogen blending pilot projects that are “either a closed system or in a mock-up of a real-world system.”⁷¹

⁶³ See, e.g. SC-01 Att 14; SCG-07.

⁶⁴ SCG-04 at 7.

⁶⁵ SC-01 Att 14 at 36.

⁶⁶ SCG-04 at 9.

⁶⁷ OCU LCJA 2 at 3.

⁶⁸ See *Id.* at 2-4; OCU LCJA 6, Response 14.

⁶⁹ Scoping Ruling, Issue 1a.

⁷⁰ See SCG-07, at 4-5, 132-33 (including guidance that pilots take place in a “section of the infrastructure that is isolated or is custom-built” and that “it is critical to conduct real world demonstration of hydrogen blending under safe and controlled conditions.”).

⁷¹ D22.12.057 at 62, OP 17.

Flouting this requirement, the Orange Cove Pilot, which SoCalGas entitled the “Open System Project,”⁷² involves injecting hydrogen into an “open portion” of the Orange Cove distribution system.⁷³ Consequently, according to SoCalGas’s own representations in the Amended Application and the Prepared Testimony of its own proffered expert, the proposed Orange Cove pilot is neither a “closed system” nor a “mock-up of a real-world system.” In contrast, the Hydrogen Blending Compendium Report identifies a “need for demonstration projects that can *simulate* the conditions and environments of California’s natural gas infrastructure.”⁷⁴ As such, the Orange Cove Pilot is inconsistent with the operative Commission decision and cannot be approved.

2. The Orange Cove Pilot Threatens the Long-Term Safety of the California Pipeline.

Pursuant to D.22-12-057 and the Scoping Memo, pilot projects must ensure the long-term safety of the California pipeline.⁷⁵ The Orange Cove Pilot does not satisfy this requirement. First, the Pilot is of insufficient duration to gauge long-term impacts to the California pipeline, lasting 18 months with only 5 months at a 5% blend.⁷⁶ Accordingly it is inadequate to inform the Commission. Second, SoCalGas has not proposed sufficient metrics to measure the long-term impact of a 5% hydrogen blend on materials in the Orange Cove distribution system, disregarding the Commission’s concern that hydrogen

⁷² A.22-09-006, Joint Amended Application of Southern California Gas Company, (U 904 G), San Diego Gas & Electric Company (U 902 G), Pacific Gas and Electric Company (U 39 G), and Southwest Gas Corporation (U 905 G) to Establish Hydrogen Blending Demonstration Projects at 13. Dated March 1, 2024.

⁷³ *Id.*; see also SCG-02 at 1 (SoCalGas acknowledges that the proposed Orange Cove pilot “will be held in an open portion of the natural gas distribution system”) and SCG-02 at p. 3 (SoCalGas states it will “blend into an entire community.”)

⁷⁴ *Id.* at 3 (emphasis added).

⁷⁵ D.22-12-057 at 27.

⁷⁶ SCG-02 at 14.

blending could produce “delayed undetected effects.”⁷⁷ SoCalGas does not explain how a 5-month period of hydrogen blending will impact nearly century-old⁷⁸ pipeline materials, how it will detect and measure impacts, how such impacts will affect adjoining infrastructure, or how it plans to address these issues. SoCalGas instead handwaves away these substantiated concerns and summarily concludes that because hydrogen blending has not led to catastrophic failures in other parts of the world, it will be safe in California.

However, SoCalGas has acknowledged hydrogen’s potential to embrittle steel pipe materials,⁷⁹ which threatens California’s pipeline. The presence of Aldyl-A pipe materials in the Orange Cove distribution system further compounds these risks. Aldyl-A is more permeable to hydrogen gas than methane and more susceptible to premature cracking, and therefore has an even greater potential for delayed and undetected effects than steel.⁸⁰ Notably, Aldyl-A pipe materials have not been tested in other hydrogen blending demonstration projects.⁸¹ Studies also warn that each blending project must “be assessed on a case-by-case basis” to account for system-specific concerns and characteristics to prevent leakage. SoCalGas has not performed such an assessment on the presence of Aldyl-A in the Orange Cove system, instead dismissing concerns with its “expectation” that a 5% blend is generally safe.⁸²

⁷⁷ D.22-12-057 at 29.

⁷⁸ SC-01 Att 26, response 8; *see also* OCU LCJA 4 Exhibit B at 10.

⁷⁹ SCG-04 16-17; OCU LCJA 6, response 5; *see also* section III.D.

⁸⁰ OCU LCJA 2 at 2-3.

⁸¹ *Id.*

⁸² SCG-04 at 19.

Regardless of whether SoCalGas “expects” a 5% hydrogen blend to pose additional risk to Aldyl-A material,⁸³ Commission direction and the UC Riverside Study are clear that rigorous material testing before beginning the Project and after its completion is necessary to determine impacts to pipeline materials. SoCalGas does not mention material testing generally except for reactive testing that “may” occur after a leak is detected, or perhaps “if an opportunity arises” at the conclusion of the Pilot.⁸⁴

Because the duration of the Orange Cove Pilot is too short to draw any conclusions about long-term safety to the pipeline, and because SoCalGas does not adequately explain how it will detect and respond to potential embrittlement and leaks, it is inconsistent with D.22-12-057.

3. The Orange Cove Pilot Does Not Include a Full Reporting of the Pipeline Materials in Orange Cove.

The U.C. Riverside Study requires “prescriptive rigorous metallurgical and plastic analysis” to be performed before blending begins, and “proactively and reactively *afterward* to fill identified research gaps.”⁸⁵ Further, to satisfy OPs 7f and 7g, SoCalGas must identify all materials in the system, including accounting for the possibility of unknown materials.⁸⁶

The Orange Cove Pilot does not satisfy these requirements because it does not include a proactive and comprehensive inventory of the pipeline materials and components in the Orange Cove system. Although SoCalGas states that it has “extensive

⁸³ *Id.*

⁸⁴ OCU LCJA 2 at 2-4.

⁸⁵ *Id.* at 2, citing SCG-07. (Emphasis added).

⁸⁶ OCU LCJA 2 at 6.

data on materials, pipe size, installation year, operating pressure, mileage, and detailed meter data,” for Orange Cove it has only provided “the approximate total length and presence of various materials.”⁸⁷ Further, SoCalGas fails to compare this inventory to that of California’s natural gas infrastructure, missing an opportunity to fill an identified research gap. The Orange Cove Pilot should be rejected because it does not include the total length of unknown pipe, broken down by year installed and the total length of all other materials in the Orange Cove system, in addition to hydrogen tolerance levels and potential impacts.⁸⁸

Moreover, in a Commission report on Aldyl-A,⁸⁹ SoCalGas indicated the presence of at least 1.65 miles of Aldyl-A pipe in the Orange Cove System, with approximately 1.13 miles of this pipe being installed before 1985, and therefore likely carrying a higher risk of slow crack growth.⁹⁰ It is possible there is more Aldyl-A pipe in the Orange Cove System than disclosed because the same CPUC report noted uncertainty in SoCalGas’s Aldyl-A inventory, indicating a far larger category of mains and service lines with unknown materials.⁹¹ SoCalGas has not provided a comprehensive inventory of Orange Cove pipeline materials, so the Orange Cove system could contain a “non-zero amount of unknown materials,” the effects on which cannot be reliably monitored.⁹² Because SoCalGas does not prescribe rigorous pipeline analysis prior to blending, it likewise cannot demonstrate that leaks will not occur, particularly in Aldyl-A pipe.

⁸⁷ OCU LCJA 6, Response 14.

⁸⁸ OCU LCJA 2 at 11.

⁸⁹ OCU LCJA 2 Exhibits, “Hazard Analysis and Mitigation Report,” June 11, 2014.

⁹⁰ *Id.* at 2-4.

⁹¹ *Id.* at 3.

⁹² OCU LCJA 2 at 3.

Without detailed material information in conjunction with post-project leak surveys and material analysis, SoCalGas cannot determine the impact on California's pipeline, as required by D.22-12-057. According to Pipeline Research Council International (PRCI), there is no established percentage, by volume, of hydrogen that can be blended into an existing natural gas pipeline system without first evaluating existing defects, partial pressure, pressure cycling, and the stress level of components.⁹³ Different compositions of steels are affected differently by hydrogen blends. For example, "steel grades containing Ni in additions above 0.5 are not recommended for use with hydrogen gas."⁹⁴ However, in response to a data request from OCU/LCJA asking SoCalGas to "detail all materials and their locations in the pipeline in Orange Cove," SoCalGas responded that it "does not actively track the specific strength of steel materials installed"⁹⁵ in its distribution system, instead referring Parties to the codes and standards in place at the time of installation.⁹⁶

Without tracking material strength or performing a pre-project evaluation of system components, SoCalGas cannot determine the safety or efficacy of the Project as required by D.22-12-057. This is particularly true given the presence of Aldyl-A pipe in Orange Cove.

4. The Orange Cove Pilot Does Not Adequately Monitor or Prevent Leaks or Propose Rigorous Leak Testing Protocols Consistent With the UC Riverside Study.

⁹³ *Id.* at 4; *see also* SCG-07 at 5 and 115.

⁹⁴ SCG-07 at 11.

⁹⁵ OCU LCJA 6, response 14.

⁹⁶ *Id.*

D.22-12-057 requires any proposed pilot to “demonstrate that the applicant can reliably detect leakage of any hydrogen, methane, or hydrogen/methane blends and include rigorous testing protocols consistent with the UC Riverside Study.”⁹⁷ Among other recommendations, the UC Riverside study recommends that hydrogen blending pilot projects “update existing inspection, leak detection, maintenance and repair procedures to mitigate the potential risk factors due to hydrogen’s broader flammability range, low ignition energy, and high flame velocity.”⁹⁸

Preventing leakage is necessary to ensure the Pilot does not pose health or safety risks to residents or worsen the climate crisis, considering hydrogen is a potent climate-warming gas.⁹⁹ Safety is a major concern with hydrogen blending, mainly due to hydrogen’s significantly lower ignition energy than natural gas, meaning it is highly sensitive to ignition, in addition to other properties that make it more hazardous than natural gas.¹⁰⁰ According to the UC Riverside Study, “the primary concern is the probability of ignition in the case of large gas blend leaks or gas blend accumulation in confined spaces.”

Despite this concern, the Orange Cove Pilot violates the requirement to adequately monitor for leaks or prevent leakage. SoCalGas’s preliminary data collection plan merely provides that leak surveys will be completed “post-demo,”¹⁰¹ but fails to explain how those surveys will be conducted, when, for how long, and by whom.¹⁰² SoCalGas does

⁹⁷ D.22-12-057 at 22-23.

⁹⁸ SCG-07 at 114.

⁹⁹ OCU LCJA 1 at 3.

¹⁰⁰ SCG-07 at 7.

¹⁰¹ SCG-02 at 14.

¹⁰² *Id.* (SoCalGas will work with an “independent third party” to gather data).

not provide any information regarding plans to survey, analyze, or otherwise test the integrity of pipeline materials in Orange Cove other than stating it will perform leak surveys at the conclusion of the Pilot to “verify no additional leaks have developed.”¹⁰³ Such verification fails to adequately monitor leaks or assess other impacts of hydrogen blending on pipeline materials.

SoCalGas also proposes to perform surveys of pipe connections to appliances only by customer request.¹⁰⁴ The proposal to survey leaks in customers’ homes and businesses only when they call for an inspection fails to meet the rigor of the UC Riverside Study and is not meaningfully different from existing safety protocols for the natural gas system.

Likewise, SoCalGas does not describe rigorous hydrogen leak testing protocols that are “consistent with leak testing and reporting elements” from the UC Riverside Study. The UC Riverside Study provided analysis of calculated gas loss for high-density polyethylene pipe, summaries of the number of miles of mains and services in California, and leaks from distribution mains by cause. To meet the rigor of the UC Riverside Study and comply with OP 7, SoCalGas must perform similar, quantitative analyses for the Orange Cove System of pipeline materials, leaks, gas loss, and leakage rates. This rigor should include performing leakage surveys at more frequent intervals in addition to performing leakage surveys shortly after each increase in hydrogen concentrations during the project.¹⁰⁵

¹⁰³ SCG-02 at 14.

¹⁰⁴ SCG-04 at 13. To even request an inspection, however, customers must be aware of blending, aware of the utility’s offer to conduct inspections, and aware of additional risks associated with hydrogen.

¹⁰⁵ OCU LCJA 2 at 9.

In the absence of quantitative metrics, SoCalGas apparently relies on the use of odorant to identify leaks. As stated by professional engineer and pipeline safety expert Clayton Bodell, “relying on the sense of smell of employees or the public does not meet the rigor of the UC Riverside Study,”¹⁰⁶ nor does it conform to Decision requirements. Additionally, odorant leakage rates differ from those of hydrogen, which has an “exceptionally high molecular diffusivity.”¹⁰⁷ Dr. Lewis similarly notes, “the addition of an odorant is not a technical strategy to create knowledge or insight into diffuse hydrogen leakage of relevance to quantify potential greenhouse gas and climate impacts.”¹⁰⁸ SoCalGas states it will conduct “four consecutive weekly odor intensity tests,”¹⁰⁹ but does not indicate when these tests will occur, if they will be conducted after each material increase in hydrogen concentration, where downstream odorization sampling points are located, or what odorant sampling equipment will be used. Furthermore, SoCalGas does not ensure the odorant is effective with a hydrogen blend, stating only that its monthly tests will confirm odorant efficacy.¹¹⁰

SoCalGas also fails to provide documented historical and baseline leakage rates for the Orange Cove System mains, service lines, and customer-owned piping, and thus cannot adequately monitor or prevent leaks. Clayton Bodell determined, “[w]ithout an established baseline leakage rate, confirming performance of the Orange Cove

¹⁰⁶ OCU LCJA 2 at 9.

¹⁰⁷ OCU LCJA 1 at 6.

¹⁰⁸ OCU LCJA 1 at 6.

¹⁰⁹ SCG-02, Exhibit 2A.

¹¹⁰ *Id.*

Distribution Project during the blending would be qualitative in nature” and lack the rigor required by both the UC Riverside Study and D.22-12-057.

Establishing a baseline leak rate creates a foundation for the performance of the Orange Cove System based on historical and current operations, to which future performance with blended hydrogen gas can be performed. If SoCalGas were to establish a baseline leak rate, including the rate at which new leaks have historically developed and their severity, it would then be able to “establish year-to-year, or 18-month based periods upon which to quantitatively compare leaks and customer complaints before and after blending operations, and after each nominal increase in hydrogen concentration in the Orange Cove System.”¹¹¹

Even assuming SoCalGas documents a comprehensive “understanding of historical and baseline leak rates, performing leak surveys with unspecified leak detection equipment with unknown methane and hydrogen detection capabilities, even when performed more frequently, does not provide adequate data upon which to validate performance of the Orange Cove Project.”¹¹² Even if SoCalGas were to perform extensive baseline material testing, a project length of 18 months with only 5 of those months measuring the effects of a 5% hydrogen blend is not long enough to assess the long-term impacts or “monitoring and reporting of all mechanical characteristics of hydrogen blends in the natural gas stream.”¹¹³

¹¹¹ OCU LCJA 2 at 4.

¹¹² OCU LCJA 2 at 4-5.

¹¹³ OCU LCJA 2 at 14, citing D.22-12-057 Appendix A at 69.

The UC Riverside Study provides that blending hydrogen, “even at very small concentrations, would require modifications to existing integrity management systems, including monitoring and maintenance schedules and practices.”¹¹⁴ The Orange Cove Pilot does not comply with this requirement. Instead, SoCalGas provides that it will “implement safety protocols in accordance with *existing* safety codes and standards.”¹¹⁵ Similarly, SoCalGas’s proposition to only meet existing California and federal minimum leak survey and detection requirements does not meet the rigor required by the UC Riverside Study.¹¹⁶ The Study states, “to reduce the probability of ignition, modifications to existing leak detection and leak repair procedures” are required.¹¹⁷ SoCalGas states it “will perform enhanced leak detection protocols” but the extent of those leak detection protocols is described only as more frequent leakage surveys compared to the existing California and federal regulations.¹¹⁸ SoCalGas must identify leak detection equipment and its capabilities, and must update corresponding procedures.¹¹⁹ The Orange Cove Project does not identify any hydrogen detection standards or equipment and only *offers* customer equipment surveys and tests, the same approach used for all customers.¹²⁰

SoCalGas’s reliance on existing procedures is inadequate to ensure safety and effectiveness of the Orange Cove Pilot and fails to comply with D.22-12-057.¹²¹

¹¹⁴ *Id.* at 7.

¹¹⁵ SCG-02 at 16 (emphasis added).

¹¹⁶ SCG-07 at 7 (“At the very least, injection of hydrogen in the natural gas system, even at very small concentrations, would require modifications to existing integrity management systems, including monitoring and maintenance schedules and practices.”).

¹¹⁷ *Id.*

¹¹⁸ SCG-04 at 14.

¹¹⁹ OCU LCJA 2 at 4-5.

¹²⁰ SCG-02 at 16 and 17.

¹²¹ Joint Motion to Dismiss at 16. Dated July 15, 2025.

Consequently, SoCalGas cannot adequately monitor or prevent leaks, and does not address any knowledge gaps regarding leakage rates.

5. Orange Cove Pilot Does Not Adequately Detect, Avoid, or Mitigate End User Appliance Malfunctions.

To adequately detect and avoid end use appliance malfunctions, a baseline inventory of user appliances is necessary. The UC Riverside Study determined that 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.”¹²² Contrary to the UC Riverside Study¹²³ and Commission direction,¹²⁴ SoCalGas does not know what appliances are present in Orange Cove homes, cannot determine whether such appliances are compatible with a hydrogen blend, and accordingly cannot proactively detect or avoid appliance malfunctions. In its response to LCJA’s Data Request, SoCalGas replied that it expects the homes, businesses, and public buildings in Orange Cove to contain appliances of various makes, models, ages and conditions, yet “has not conducted a full inventory of appliances to further understand the array of makes, models, ages, or conditions.”¹²⁵

Older appliances are likely to be more susceptible to the effects of hydrogen than modern appliances¹²⁶ and blending hydrogen can either increase or decrease NOx emissions depending on the age of appliances. SoCalGas does not know the age or

¹²² SCG-07 at 4.

¹²³ *Id.* at 4 and 126.

¹²⁴ D.22-12-157 at 27. (“the pilot projects must be designed to evaluate...whether blending fuel use will result in end user appliances.”)

¹²⁵ OCU LCJA 6, response 4.

¹²⁶ OCU LCJA Exhibits 1 of 3 at 11.

condition of end use appliances in Orange Cove and has no plans to obtain this information.¹²⁷ Based on the median home age and case studies of gas appliances in Orange Cove, however, it is apparent that ages and conditions of end-use appliances vary, and include older appliances that may be particularly ill-suited to hydrogen blending.¹²⁸

Because SoCalGas does not know the makes, models, ages, or conditions of end-use appliances in Orange Cove, it is critical that it have a robust and comprehensive plan to evaluate and monitor customer equipment to ensure safety and efficacy of blending hydrogen. It does not. SoCalGas's preliminary data collection plan states customer equipment will only be evaluated "as needed for customer service calls."¹²⁹ SoCalGas further provides that the frequency of customer equipment checks for emissions is to be determined by an unspecified "comprehensive customer survey."¹³⁰ Customers will also be provided with unspecified contact information "to use should they experience difficulties with their appliances."¹³¹ This approach is no different than the courtesy inspections and customer service SoCalGas provides to all customers.

Moreover, SoCalGas states that the Orange Cove project will measure NOx "from select end-use equipment to monitor the emission performance" at a yet-to-be-determined frequency.¹³² SoCalGas has not explained at any point in this proceeding which homes or end-use appliances will be monitored, and which will go unmonitored, despite this issue

¹²⁷ See, e.g. SCG-04 at 20-21; OCU LCJA 6, response 4.

¹²⁸ See OCU LCJA 4, Exhibit B.

¹²⁹ CADV-02, response 5.

¹³⁰ *Id.*

¹³¹ SCG-02 at 21.

¹³² *Id.* at 23; see also SC-01 Att 26, response 15a ("Specific test methods for monitoring emissions have not yet been determined . . .").

being clearly raised in the Joint Motion to Dismiss.¹³³ According to Dr. Lewis, “a key delivery requirement [of this project] should be a monitoring scheme that provides assurance that no resident will see a reduction in their ambient air quality during the pilot.”¹³⁴ The monitoring and control of local emissions is inherently intertwined with the environmental impacts on customers because “local emissions” associated with the Project have the potential to worsen the pollution burden in Orange Cove.¹³⁵ Considering Orange Cove’s status as a disadvantaged community, it is all the more important for SoCalGas to implement rigorous emissions monitoring and reporting requirements.

SoCalGas’s failure to assess the inventory of customer appliances also contravenes the Decision’s guidance to avoid the possibility of delayed effects to end-use appliances. Without a thorough assessment of end-use appliance ages or plans to survey these appliances for malfunction before, during, and after hydrogen blending, SoCalGas cannot show that the Orange Cove project will avoid appliance malfunctions.

The Orange Cove Pilot also fails to include adequate plans to mitigate resulting damage to residential appliances. SoCalGas has no plans to offset costs or otherwise ameliorate community concerns regarding appliance warranties that may be voided due to hydrogen blends. SoCalGas states that existing appliance certifications will remain valid throughout the Project, but fails to consider whether appliance warranties, home warranties, or insurance policies will continue to cover end-use appliances once a

¹³³ Joint Motion to Dismiss at 22. Dated July 15, 2025.

¹³⁴ OCU LCJA 1 at 4.

¹³⁵ See Joint Motion to Dismiss at 20. Dated July 15, 2025.

hydrogen blend is introduced.¹³⁶ Further, when SoCalGas states that it does not anticipate its Pilot will impact the condition of gas appliances in Orange Cove, it disclaims in a footnote that such statements do “not constitute a warranty or guarantee of appliance performance.”¹³⁷

SoCalGas unsuccessfully attempts to mitigate these insufficiencies by encouraging customers to participate in existing customer assistance and energy efficiency programs so “aging and faulty appliances can be replaced with safe, functional, and more energy efficient ones.”¹³⁸ This suggestion fails to satisfy Ordering Paragraph 7c for three reasons. First, although every resident in Orange Cove will have hydrogen blended into their homes, not every resident is eligible for participation in energy efficiency programs.¹³⁹ Second, one such energy efficiency program, the Energy Savings Assistance (ESA) Program, does not replace all household appliances or have any mechanism to ensure functionality with a hydrogen blend.¹⁴⁰ Finally, the offer to encourage customers to participate in a program neither satisfies SoCalGas’s obligation to avoid end use appliance malfunctions nor provides the Commission with meaningful information to fill

¹³⁶ SCG-04 at 20. *See* Reporter’s Transcript, Orange Cove, California, August 25, 2025. Joan Conner Buller PPH at 231-235. *See also* Estela Juarez PPH at 245-248.

¹³⁷ SCG-06 at 8, fn.15.

¹³⁸ SCG-05 at 9.

¹³⁹ Eligibility for these programs is based on income or participation in public assistance programs. Without detailed information on the income level, household size, or age and condition of appliances in Orange Cove, SoCalGas cannot determine with certainty that residents are in fact eligible for its energy efficiency programs, or whether participation in the ESA program would ensure appliance functionality.

¹⁴⁰ OCU LCJA 6, response 11.iii and 11.iv. (The ESA program does not repair or replace stoves or ranges and only repairs or replaces operating furnaces and water heaters “based on certain criteria including age and/or efficiency rating of the appliance and household gas usage during winter months.”).

existing knowledge gaps on the impact of hydrogen blends on various end-use appliances.¹⁴¹

Because the Orange Cove Pilot fails to detect or effectively mitigate damage to residential appliances or appliance malfunction, it does not comply with D.22-12-057.

6. Orange Cove Pilot Does Not Take Into Account Parties' Comments and Further Stakeholder Input.

As the only pilot project that intends to blend hydrogen into customers' homes and businesses in an entire city, it is critical that SoCalGas incorporate parties' comments and further stakeholder input. SoCalGas fails to do either.

a) Parties' Comments

Parties' opposition to this Project falls in at least three camps: (1) concerns over safety and efficacy;¹⁴² (2) concerns that the Project is not cost effective;¹⁴³ and (3) lack of stakeholder engagement.¹⁴⁴ As discussed more thoroughly throughout, the Orange Cove Pilot is neither safe nor effective due to its various failures in monitoring, reporting, and evaluating the impact of hydrogen blends. SoCalGas makes broad, summary claims that it is committed to safety,¹⁴⁵ yet provides no detail evidencing this commitment and has failed to provide a comprehensive inventory of all infrastructure components, customer appliances, and associated industrial processes, despite repeated urging by parties and

¹⁴¹ SoCalGas inappropriately attempts to shoehorn the ESA program into a method of ensuring appliance functionality. Although providing modern energy efficient appliances, which may or may not be compatible with hydrogen, could potentially ensure appliance function, that is not guaranteed. Moreover, it will not provide the Commission with data that is not currently available.

¹⁴² EDF-01; SC-01; SC-02; OCU LCJA 1, OCU LCJA 2, OCU LCJA 3; WTF-01.

¹⁴³ EDF-01 at 11; SC-01; SC-02; WTF-01; UCAN-01; SBUA-01; CADV-01.

¹⁴⁴ SC-01 at 57; OCU LCJA 1 at 9-10.

¹⁴⁵ See, e.g. SCG-02 at 15.

stakeholders.¹⁴⁶ In this regard, SoCalGas fails to adequately consider parties' comments on safety and efficacy.

Second, SoCalGas does nothing to address parties' concerns over the cost effectiveness of the Orange Cove Pilot. Almost all parties have expressed skepticism over the use of nearly \$60 million in ratepayer funds to fund a project that neither conforms to regulatory requirements nor meets the rigor called for by the UC Riverside Study.¹⁴⁷ Moreover, in its Petition for Modification in R.13-02-008, SoCalGas acknowledges that the Orange Cove Pilot is the most expensive of the proposed pilots and that not moving forward with it would result in "significant ratepayer savings."¹⁴⁸ However, SoCalGas failed in its Application to propose measures to save ratepayer funding, instead increasing the original budget by \$3-6 million.¹⁴⁹

SoCalGas has only responded to parties' concerns with a sweeping statement that it "has and will continue to consider parties' comments and stakeholder input."¹⁵⁰ This statement, coupled with continued inattention and inaction toward parties' comments, demonstrates SoGalGas's practice of failing to incorporate party feedback.

b) Stakeholder Input

D.22-12-057 announced several stakeholder engagement requirements, including the development of a "detailed stakeholder engagement plan."¹⁵¹ The Commission

¹⁴⁶ See OCU LCJA 1 at 6; OCU LCJA 2 at 5; SBUA-01 at 7; CADV-01 at 4; SC-01 Att 26, question 15.

¹⁴⁷ See, e.g. UCAN-01, SBUA-01, CADV-01, Response by Leadership Counsel for Justice and Accountability to Petition for Modification of Decision 22-12-057 By Southern California Gas Company, San Diego Gas & Electric Company, and Southwest Gas Corporation. Dated March 5, 2026.

¹⁴⁸ R.13-02-008; Petition for Modification of Decision *supra* note 28 at 3.

¹⁴⁹ See SCG-06 at 19.

¹⁵⁰ SCG-02 at 24.

¹⁵¹ D.22-12-057 at 64.

specifically required that stakeholder engagement plans “detail how stakeholder input will be considered for incorporation into pilot project design and execution.”¹⁵² This requirement aligns with the UC Riverside Study’s recommendation to “engage stakeholder groups including community and environmental organizations, industry, government, academia, and the general public to provide perspectives on hydrogen blending,” and “address technological, societal, economic, and safety concerns, and build consensus” on hydrogen issues.¹⁵³

SoCalGas describes its plans for stakeholder engagement in its application. Its proposal is to generally “keep community members abreast of project updates.” It proposes to hire a CBO to host a small number of meetings “to share updates, conclusions, and findings.” SoCalGas provides that it will create an unspecified method for “stakeholders to get in touch about the project.”¹⁵⁴ Finally it proposes to develop a dedicated means of communicating with stakeholders that provides easy accessibility for stakeholders to get in touch about the project.”¹⁵⁵ This is not a “detailed stakeholder engagement plan” because it lacks any detail about how SoCalGas will ensure and measure this engagement, nor does it demonstrate how it will differ from SoCalGas’s failure to engage stakeholders thus far.

Further, although SoCalGas has provided a timeline of its various stakeholder engagement activities completed to date, it has failed to indicate how stakeholder feedback has been considered or incorporated, if at all, into the Application or how its

¹⁵² D.22-12-057 at 61.

¹⁵³ SCG-07 at 6, 134.

¹⁵⁴ SCG-02 at 19.

¹⁵⁵ *Id.*

plan will evolve throughout the duration of the Pilot. It merely explains that it has taken steps and will continue to take steps to share information with stakeholders without explaining what information SoCalGas has shared or will share, the source of that information, or how “stakeholder input will be considered for incorporation into project design and execution.”¹⁵⁶

SoCalGas must propose a detailed plan for stakeholder engagement that, at a minimum, provides meaningful recourse for any individual customer who would be forced to participate in the Pilot despite reasonable concerns.¹⁵⁷ This clear requirement of D.22-12-057 was also raised in the Joint Motion to Dismiss, but SoCalGas has failed to show compliance with this requirement. While SoCalGas states it “hosted a community engagement event to discuss hydrogen blending demonstrations and field questions from residents,”¹⁵⁸ it is unclear what, where, or when this event was or how SoCalGas “fielded” residents’ questions. SoCalGas has further stated that it has heard “significant feedback” which it “*may* incorporate to propose modifications to the proposed Orange Cove Project once it is authorized.”¹⁵⁹ Deferring the decision to possibly incorporate feedback at some unspecified point in the future neither furthers nor takes stakeholder input into account and is thus violative of Commission Direction.

Finally, the Orange Cove Pilot is largely opposed by residents, a group of which is a party to this proceeding. Orange Cove United’s opposition to the Project and the

¹⁵⁶ D. 22-12-057 at 38, 65.

¹⁵⁷ See Joint Motion to Dismiss at 18. Dated July 15, 2025.

¹⁵⁸ SCG-02 at 25.

¹⁵⁹ OCU LCJA 6, response 8(d) (emphasis added).

Utility's failure to meaningfully consider its feedback and concerns is addressed below in sections IV.D.6 and IV.E.1.

7. The Orange Cove Pilot Does Not Include a Hydrogen Blending System Impact Analysis.

SoCalGas fails to propose a methodology for performing a system impact analysis, stating it will develop a methodology for performing this analysis upon completion of the project.¹⁶⁰ However, it also does not propose the testing and data analysis required to inform the methodology used to develop the analysis. Further, according to Clayton Bodell, SoCalGas provides a list of six items for the proposed methodology, all of which represent data that is currently available.¹⁶¹ Because this data is already available, SoCalGas can prepare the required methodology for performing a hydrogen blending system impact analysis that meets the requirements of OP 7i prior to starting hydrogen blending and is required to do so as part of this proceeding.

Additionally, as discussed above,¹⁶² SoCalGas must identify and rigorously evaluate Aldyl-A in its hydrogen blending impact analysis, as this material has not yet been demonstrated through available research as being able to safely transport hydrogen blends.¹⁶³ A blending system impact analysis should, at a minimum, detail all unresearched materials and rigorously test and document these materials and their performance during and after exposure to blended hydrogen of various concentrations to

¹⁶⁰ SCG-02 at 25.

¹⁶¹ OCU LCJA 2 at 7.

¹⁶² See section IV.A.2 and 3, *supra*.

¹⁶³ OCU LCJA 2 at 7-8.

ensure the safety of the Orange Cove System and the California pipeline. The Orange Cove Pilot does not meet this requirement.¹⁶⁴

8. The Orange Cove Pilot Improperly Defers The Development Of An Independent Research Plan.

D.22-12-057 requires pilot applications to contain an independent research plan “for assessment, measurement, monitoring, and reporting through an independent party, which must be engaged in such activities during the development, construction, operational life, and decommissioning of the pilot project.”¹⁶⁵ In response to this direction, SoCalGas states, without explanation, that it will begin to solicit bids from an independent party to complete the independent research plan *after* the Application has been approved. As the independent research plan was not included in the Application, it does not comply with D.22-12-057.

B. The Orange Cove Pilot Is Not Useful Or Well Designed¹⁶⁶

1. The Orange Cove Pilot Will Not Address Knowledge Gaps.¹⁶⁷

The Hydrogen Impact Report and Hydrogen Blending Compendium Report identified knowledge gaps, as described in section II above. The Orange Cove Pilot will not address the knowledge gaps identified in the UC Riverside Study. Clayton Bodell determined that “SoCalGas does little to substantively identify which recommendations or gaps identified in UC Riverside Study the Orange Cove Distribution Project is meant to address.”¹⁶⁸ Bodell concludes that “there is not a single recommendation from the UC

¹⁶⁴ *Id.*

¹⁶⁵ D.22-12-057 at 70.

¹⁶⁶ Scoping Ruling, Issue 2.

¹⁶⁷ Scoping Ruling, Issues 2a and 2b.

¹⁶⁸ OCU LCJA 2 at 10.

Riverside Study’s recommendations that is specifically identified or substantively detailed by SoCalGas.”¹⁶⁹ Rather, the only identified knowledge gap is “a general characterization of the Orange Cove Distribution Project as a large scale or ‘real world’ demonstration for ‘blending under real world conditions over extended periods and demonstrat[ing] mitigation strategies to address safety and performance issues.’”¹⁷⁰ A hypothetical pilot could be designed to measure, for example, the effect of “weather induced temperature changes,”¹⁷¹ “specific leak mechanisms through joints, threads, cracks, and pinhole defects,”¹⁷² or “hydrogen diffusion and embrittlement processes in metals, alloys, and other materials used in the natural gas infrastructure,”¹⁷³ The Orange Cove Pilot does not include mechanisms to make these measurements and thus would not address these knowledge gaps.

Similarly, the Orange Cove Pilot will not address the identified gaps in the Hydrogen Blending Compendium Report. Again, the Orange Cove Pilot is not designed to measure “Various steel pipe surface treatments...effects on reducing hydrogen embrittlement in steel pipelines,”¹⁷⁴ “blended hydrogen’s impact on steel pipe welding and inherent defects,”¹⁷⁵ or “permeation rates pertaining to hydrogen-natural gas blends in real world operating temperatures and pressures,”¹⁷⁶

¹⁶⁹ *Id.*

¹⁷⁰ *Id.*

¹⁷¹ SCG-08 at 5.

¹⁷² *Id.* at 113.

¹⁷³ *Id.*

¹⁷⁴ SCG-08 Chapter-By-Chapter Summary of Hydrogen Blending Literature Review at 4.

¹⁷⁵ *Id.*

¹⁷⁶ *Id.* at 10.

Moreover, the Orange Cove Pilot fails to provide any useful information regarding issues of significant concern to the public and Orange Cove Residents. First, it fails to study “the likely effects on changes to indoor or outdoor NO₂ air pollution.”¹⁷⁷ More specifically, “[t]he pilot project does not include sufficient mitigations and/or put monitoring in place to address these knowledge gaps.”¹⁷⁸ Second, “the pilot project may not be sufficiently constrained observationally to determine whether from a greenhouse gas perspective blending hydrogen for heating is an improvement over the continued use of pure natural gas, or indeed any other low carbon counterfactual.”¹⁷⁹ Third, the pilot lacks “[q]uantification of diffuse hydrogen leakage,” which is “essential knowledge that should be generated by a pilot if the climate related impacts and benefits of the trial are to be quantified.”¹⁸⁰

In its petition for modification in Rulemaking 13-02-008, Southern California Gas Company (“SoCalGas”), San Diego Gas & Electric Company (“SDG&E”), and Southwest Gas Corporation contend that the Orange Cove pilot project is no longer necessary because it will not “address knowledge gaps.”¹⁸¹ OCU/LCJA agree, although for different reasons. The Orange Cove Pilot pilot will not address knowledge gaps because it is poorly designed and recklessly sited.

The Orange Cove Pilot would not provide useful information to utility operators or state policy makers. Dr. Lewis identifies that “new knowledge of both aspects of

¹⁷⁷ OCU LCJA 1 at 4.

¹⁷⁸ *Id.*

¹⁷⁹ *Id.* at 5.

¹⁸⁰ *Id.* at 6.

¹⁸¹ R.13-02-008; Petition for Modification of Decision *supra* note 28 at 3.

hydrogen leakage should be covered in a pilot, and both are of high relevance to Operators and policymakers.”¹⁸² “For a pilot to contribute additional knowledge of wider use to operators and policymakers requires direct observations of air quality and hydrogen leakage at the residence level and of older appliances, something that is an essential pre-requisite to ensuring no harms arise within any home in the pilot.”¹⁸³

In sum, The Orange Cove Pilot would not generate new useful information. In D.21-07-005, the Commission dismissed A.20-11-004 in part because it was not supplemental to existing studies.¹⁸⁴ The Commission should dismiss the Orange Cove Pilot for the same reasons.

2. The Orange Cove Pilot’s Measurement of Success is Overly Narrow¹⁸⁵

According to SoCalGas, success will be measured by completion, commissioning, and operation of the project, drafting a final report, implementation of “American Petroleum Institute’s Recommended Practice 1173 (API RP 1173) Pipeline Safety Management System (PSMS) Plan-Do-Check-Act approach;” continued community engagement; gaining hands-on experience for workforce and end-users; completion of the data collection plan; and research to help advise the creation of a statewide hydrogen injection standard.”¹⁸⁶

This definition and measurement of success for the Orange Cove Pilot is overly narrow. First, the definition of success excludes the experience of Orange Cove residents.

¹⁸² OCU LCJA 1 at 5-6.

¹⁸³ *Id.* at 6-7.

¹⁸⁴ D.21-07-005 FoF 22.

¹⁸⁵ Scoping Ruling, Issue 2c.

¹⁸⁶ CADV-02, response 1(c).

As described in section IV.A.6., *supra*, SoCalGas has failed to meaningfully engage the community. However, even if its community engagement were robust, the definition of success would be insufficient because it fails to capture the impact of the pilot on residents. There is no consideration for the net impact of hydrogen blending on indoor air quality, respiratory health conditions, or customer experience and satisfaction. SoCalGas's deferral of the development of a data collection plan is insufficient to ensure these vital issues are incorporated in the definition of success.

Second, there is no metric of success directly related to ensuring resident safety. Reference to the API RP 1173 approach is insufficient. The Orange Cove Pilot presents a variety of risks to the residents of Orange Cove, ranging from localized to systemic and from short-term to long-term. There are many impacts short of catastrophic failure that should be contemplated here. An appropriate definition and measurement of success would account for these risks and incorporate associated metrics designed to assess the success of the project.

3. The Orange Cove Pilot Does Not Adequately Consider Alternatives.¹⁸⁷

As an initial matter, SoCalGas fails to consider alternatives that would modify prior pilot proposals to address the reasons the Commission did not approve those proposals. First, in A.20-11-004, Joint Utilities proposed to test hydrogen blending in an isolated primarily polyethylene distribution system in the SoCalGas territory.¹⁸⁸ The

¹⁸⁷ Scoping Ruling, Issue 2d.

¹⁸⁸ A.20-11-004 at 9.

Commission dismissed this Application because it was incomplete,¹⁸⁹ expensive,¹⁹⁰ and not supplemental to existing studies.¹⁹¹ However, SoCalGas fails to consider an alternative to the Orange Cove Pilot where it would test hydrogen blending in an isolated portion of its gas system, in a manner that addresses the basis on which the Commission dismissed A.20-11-004. Second, in its original application in A.22-09-006, SoCalGas proposed to blend hydrogen into a significant portion of the UC Irvine Campus.¹⁹² This application sparked significant pushback from the students of UC Irvine and broader public.¹⁹³ In the revised application, SoCalGas scaled back the UC Irvine pilot to a single building as the “closed system,” but also added the Orange Cove Pilot as the “open system” pilot.¹⁹⁴ Since then, the Orange Cove Pilot has experienced similar public pushback.¹⁹⁵ Yet, the application considers neither this foreseeable pushback nor alternatives that would avoid it.

¹⁸⁹ A.20-11-004, Decision 21-07-005 Dismissing Application at FoF 23. Issued July 16, 2021.

¹⁹⁰ *Id.* at 10.

¹⁹¹ *Id.* at Finding of Fact (FoF) 22.

¹⁹² A.22-09-006, Joint Application of Southern California Gas Company, (U 904 G), San Diego Gas & Electric Company (U 902 G), and Southwest Gas Corporation (U 905 G) at 9. Dated September 8, 2022.

¹⁹³ A.22-09-006, Sierra Club Protest to Application of Southern California Gas Company, (U 904 G), San Diego Gas & Electric Company (U 902 G), Pacific Gas and Electric Company (U 39 G), and Southwest Gas Corporation (U 905 G) to Establish Hydrogen Blending Demonstration Projects at 8, fn. 30. (See Brooke Staggs, After protests, SoCalGas scales back plans to test hydrogen energy at UC Irvine, The Orange County Register (Mar. 13, 2024), <https://www.ocregister.com/2024/03/13/after-protestssocalgas-scales-back-plans-to-test-hydrogen-energy-at-uc-irvine/>; Letter from Orange County and UC Irvine Stakeholders to Public Officials, Re: SoCalGas hydrogen/gas blending experiment at UC Irvine (Mar. 9, 2023), <https://wpdash.medianewsgroup.com/wp-content/uploads/2023/03/Coalition-letter-toIrvine-reps-re-UCI-hydrogen-blending-project-3-9-2023.pdf>)

¹⁹⁴ A.22-09-006, Joint Amended Application of Southern California Gas Company, (U 904 G), San Diego Gas & Electric Company (U 902 G), Pacific Gas and Electric Company (U 39 G), and Southwest Gas Corporation (U 905 G) to Establish Hydrogen Blending Demonstration Project at 13. Dated March 1, 2024.

¹⁹⁵ Reporter’s Transcript, Orange Cove, California, August 25, 2025. Dated September 2, 2025.

SoCalGas also fails to consider an alternative where it tests for specific knowledge gaps while minimizing cost and risk to the public. SoCalGas should present a less costly alternative where it conducts testing in an isolated mock-up of the real world. SoCalGas claims that it has already operated blending in mock-ups of a real world system.¹⁹⁶ However, the projects SoCalGas references do not reflect areas of concern in the real world, especially a case-by-case of a variety of older appliances representative of the appliances used by ratepayers, along with an evaluation of impacts on Aldyl-a pipelines. The isolated environment would also allow SoCalGas to test for indoor NOx and other indoor air pollution as well as pipeline leakage and embrittlement, without exposing people to the unnecessary health risks detailed above in section III.B., *supra*.

C. The Orange Cove Pilot Is Not Prudent.¹⁹⁷

Ratepayers would not benefit from the Orange Cove Pilot, which carries an exorbitant price tag of between \$53.6¹⁹⁸ and \$60 million¹⁹⁹ in ratepayer funding. These costs are not just or reasonable,²⁰⁰ especially at a time when SoCalGas customers are experiencing an “affordability crisis.”²⁰¹ As in related proceedings, the Commission “should not approve a project that may lead to unjust and unreasonable rates and impact rate affordability.”²⁰² In a pending petition for modification, SoCalGas correctly notes that withdrawing the Orange Cove Pilot would result in “significant ratepayer savings”²⁰³ The

¹⁹⁶ OCU LCJA 6, response 13(a).

¹⁹⁷ Scoping Ruling, Issue 3.

¹⁹⁸ SCG-03 at 2.

¹⁹⁹ See SCG-06 at 19.

²⁰⁰ Pub. Util. Code § 451.

²⁰¹ D.24-12-074 at 2.

²⁰² *Id.* at 1056.

²⁰³ Petition for Modification, *supra* note 28 at 3.

Commission should deny the Orange Cove Pilot to realize significant ratepayer savings and avoid exacerbating the ongoing affordability crisis.

This is particularly true because gas ratepayers would not receive a commensurate benefit — and may not receive any benefit at all — from the Orange Cove Pilot. For reasons discussed elsewhere in this brief, the Pilot would not gather useful data or fill knowledge gaps regarding hydrogen blending.²⁰⁴ Further, and crucially, the Pilot would only minimally reduce CO2 emissions while increasing NOx emissions, investing tens of millions in infrastructure that is harmful to public health.²⁰⁵ “Pouring millions of ratepayer dollars into research projects that can neither answer the questions they are intended to address nor accomplish the specific objectives the Commission set forth three years ago is not a necessary, just, or reasonable use of resources”²⁰⁶ Moreover, the Commission should not require gas customers to subsidize hydrogen blending, in line with Commission precedent against cross-subsidization.²⁰⁷

D. The Orange Cove Pilot is Not Safe²⁰⁸

1. The Orange Cove Pilot Would Increase Indoor NOx And Associated Health Impacts.

As discussed in section III.A., *supra*, supported by the testimony of Dr. Lewis, hydrogen blending carries significant risk of increasing indoor NOx emissions from older residential appliances, including stoves, water heaters, and furnaces. This is because

²⁰⁴ See Section IV.B.1.

²⁰⁵ See OCU LCJA 1 Exhibits 1 of 3 at 6

²⁰⁶ Joint Motion to Dismiss at 27. Dated July 15, 2025.

²⁰⁷ See, D.85-10-050 CoL 1 (“The subsidy the presently exists between PG&E’s electric and gas departments should be eliminated.”) See also D.19-08-009 at 34-35. (Determining that replacing gas service with electric service should be funded by electric ratepayers.)

²⁰⁸ Scoping Ruling, Issue 4.

“[o]lder gas appliances that do not use fuel pre-mixing or lean-burn are more likely to experience higher NOx emissions when hydrogen is added; these appliances may be disproportionately found in lower-income homes.”²⁰⁹ It is undisputed that NOx is a dangerous pollutant,²¹⁰ and Dr. Ryan Sinclair testified that breathing elevated NOx concentrations over even short durations is associated with higher rates of asthma and other respiratory diseases, which can lead to increased susceptibility to infections, hospitalizations, and trips to emergency facilities.²¹¹ Alarming, Orange Cove has the highest asthma rate in Fresno County,²¹² meaning that exacerbation of asthma symptoms is a particularly high risk if the Orange Cove Pilot is approved.

While SoCalGas could have eliminated or mitigated these risks by replacing older appliances that are not capable of burning hydrogen blends without increasing indoor NOx, it is not proposing to do so. This is why Dr. Lewis concluded that the Orange Cove Pilot “does not include sufficient mitigations and or put monitoring in place” to address knowledge gaps related to indoor NOx emissions.²¹³

As the Orange Cove Pilot puts residents at risk of exposure to higher indoor NOx pollution, and because NOx is associated with negative health impacts, the Orange Cove Pilot is not safe and must be rejected.

2. The Orange Cove Pilot Does Not Include A Comprehensive Risk Assessment.²¹⁴

²⁰⁹ *Id.*

²¹⁰ OCU LCJA 6 at 2.

²¹¹ OCU LCJA 1 at 7.

²¹² OCU LCJA 3 at 5.

²¹³ OCU LCJA 1 at 4.

²¹⁴ Scoping Ruling, Issue 4a.

SoCalGas concedes that it did not conduct a comprehensive risk assessment for the Orange Cove Pilot.²¹⁵ Further, SoCalGas does not provide details of its Distribution Integrity Management Projects (DIMP) or “any other detailed risk assessment for the Orange Cove Distribution Project.”²¹⁶ Rather, SoCalGas relies on the DIMP of medium pressure pipeline²¹⁷ and other research.²¹⁸ SoCalGas asserts that a comprehensive risk assessment is not necessary based on its opinion that hydrogen blending up to 5% is safe.²¹⁹ This unsupported and incorrect²²⁰ opinion cannot substitute for a comprehensive risk assessment. As analyzed by Clayton Bodell, SoCalGas “does not provide a comprehensive risk assessment for the three identified areas of concern in the Scoping Memo and Ruling.”²²¹ Existing studies do not conclude hydrogen blending at any level is presumptively safe.²²² Further, a key purpose of these pilots is to gather additional information for the Commission to determine if hydrogen blending is safe.²²³

SoCalGas’s failure to complete a comprehensive risk assessment, especially when this project would involve the nonconsensual²²⁴ participation of nearly every resident of Orange Cove, is by itself sufficient for the Commission to reject the Orange Cove Pilot.

²¹⁵ SCG-04 at BW-34; *see also* SC-01 Att 26, SoCalGas Response to Sierra Club DR-05, Response 4. (“SoCalGas has not performed its own evaluation on risks of supplying blended gas to equipment in this condition because these same protocols would be in place during the demonstration to promote the safe use of appliances and mitigate any risk.”).

²¹⁶ OCU LCJA 2 at 12.

²¹⁷ SCG-04 at 33.

²¹⁸ *Id.* at 33-34.

²¹⁹ *Id.* at 34.

²²⁰ *See* section IV.A.2., *supra*.

²²¹ OCU LCJA 2 at 12 (citing Scoping Ruling, Issue 4a).

²²² R.13-02-008, Response by Leadership Counsel for Justice and Accountability to Petition for Modification of Decision 22-12-057 By Southern California Gas Company, San Diego Gas & Electric Company, and Southwest Gas Corporation, Attachment A-1. Dated March 5, 2026.

²²³ D.22-12-057 at 34.

²²⁴ SCG-06 at 16-17.

3. The Orange Cove Pilot Does Not Include Sufficiently Detailed Automated Safety Systems or Shutdown Protocols.²²⁵

SoCalGas claims that in the event of a leak or other issues with the hydrogen equipment, “the hydrogen system will go into a shutdown mode, isolating equipment, stopping hydrogen production, and returning the pipeline system to 100% natural gas.”²²⁶ However, SoCalGas’s proposal lacks sufficient detail. The application fails to include “a performance standard for hydrogen detection at the hydrogen production and blending facilities,” “the number and location of hydrogen detectors,” or “the concentrations of hydrogen in the hydrogen production area that will trigger and alarm or shutdown of hydrogen production and blending facilities,”²²⁷ Deferring specifications, including “equipment type, model, location, and alarm thresholds” until after approval is insufficient.²²⁸ “Without any detail from SoCalGas, the Commission and the public cannot be assured that the automated safety systems and shutdown are designed, operated, maintained, and testing in accordance with some standard practice that provides an appropriate level of safety.”²²⁹

4. Orange Cove Pilot Does Not Include Sufficient Baseline Testing of Infrastructure Integrity²³⁰

As discussed above in section IV.A.3., SoCalGas has not comprehensively identified all materials in the Orange Cove system and therefore cannot demonstratively

²²⁵ Scoping Ruling, Issue 4b.

²²⁶ *Id.*

²²⁷ OCU LCJA 2 at 13.

²²⁸ SCG-04 at 14.

²²⁹ OCU LCJA 2 at 13.

²³⁰ Scoping Ruling, Issue 4c.

prove any integrity impacts after blending operations begin or measure the performance of the pilot.²³¹

5. The Orange Cove Pilot Does Not Include Adequate Emergency Response Plans.²³²

SoCalGas admits that it does not have any emergency response plans updated specifically for hydrogen incidents.²³³ This, despite the fact that “[t]he planned location of the hydrogen production area is located within dozens of feet of two principal roads...within approximately 150 feet of the nearest home, 775 feet of an elementary school, 2,000 feet of the middle school, and 2,500 feet of the high school.”²³⁴ And also despite the fact that SoCalGas plans to pipe hydrogen into every home and building with a gas appliance in Orange Cove. Given the proximity of the pilot to the public, and the risk of leaks and ignition,²³⁵ deferring the development of specifically updated emergency plans is, by itself, sufficient grounds to dismiss SoCalGas’s application.

6. Orange Cove Pilot Does Not Include Adequate Community Outreach Or Informed Consent.²³⁶

SoCalGas asserts that it has conducted extensive outreach and that “community feedback has generally been “positive or neutral.”²³⁷ This is incorrect. When Orange

²³¹ OCU LCJA 2 at 14.

²³² Scoping Ruling, Issue 4d.

²³³ SCG-02 at 16; SCG-04 at 38.

²³⁴ OCU LCJA 2 at 13.

²³⁵ *See id.* at 11 (noting the presence of Aldyl-A as a key risk factor for leaks). *See also* SCG-07 at 7 and 11. (“The primary concern is the probability of ignition in the case of large gas blend leaks.”; “The main concern with pipelines comprising of polyethylene is permeability to hydrogen, which may result in leakage of gaseous hydrogen.”)

²³⁶ Scoping Ruling, Issue 4e.

²³⁷ OCU LCJA 6, response 8(c).

Cove residents had the opportunity to speak directly to the Commission during the August 25, 2025 Public Participation Hearing, their feedback was overwhelming negative, not “positive or neutral.” Of the 33 speakers from Orange Cove, 27 expressed significant concerns or outright opposition to the Orange Cove pilot.²³⁸ Many residents had significant unanswered questions regarding the project.²³⁹ Several residents had learned about the project very recently and from sources other than SoCalGas.²⁴⁰ The record of the Public Participation Hearing demonstrates both the failure of SoCalGas’s outreach and its fundamental misunderstanding of Orange Cove residents’ concerns and opposition.

Moreover, and just as concerning, SoCalGas admits that it has not sought or received informed consent to conduct the Orange Cove Pilot from residents or businesses.²⁴¹ Specifically, SoCalGas admits that “[n]o individual agreements or written indemnifications have been made with residents or commercial establishments.”²⁴² SoCalGas also provided minimal information to the City.²⁴³ Blending hydrogen poses risks to Orange Cove residents that a reasonable person would consider material. The

²³⁸ Reporter’s Transcript, Orange Cove, California, August 25, 2025. Dated September 2, 2025.

²³⁹ See *id.*, e.g., Joan Conner Buller PPH at 231-235; See Estela Juarez PPH at 245-248; See Erika Gutierrez PPH at 251-256; See Jimmy Antuna PPH at 289-290; See Nancy Villegas PPH at 296-297; See Alexa Francia PPH at 302-303; See Celia Tirado PPH at 304-307; Claudia Angulo PPH at 317-320; See Wualter Roldan PPH at 334-337.

²⁴⁰ See *id.* Leticia Mendoza PPH at 312-314; See Heliveth Mancilla PPH at 321-323; See Jeanette Roldan PPH at 330-333; See Teresa Ramirez PPH at 339-341.

²⁴¹ The Commission has not adopted a definition of informed consent, but is wise to inquire about it in the context of pilot projects. (Scoping Ruling, Issue 4e) In the medical context, “[i]nformed consent must include a verbal explanation” of someone’s “right to refuse or accept” what is proposed.” It must include disclosure of “information a reasonable person...would consider material to a decision to accept or refuse.” (Cal. Code Regs. Tit. 9, § 784.29 (a) and (b).)

²⁴² SCG-06 at 16-17.

²⁴³ OCU LCJA 4 at 2.

desire for such information is apparent from the comments of Orange Cove residents during the Public Participation Hearing. While residents that will be impacted by the Orange Cove Pilot have consented to a natural gas line on their property, they have not consented to the delivery of a hydrogen blend that increases risk of indoor pollution and appliance malfunctions. Nor has SoCalGas provided information to the public about these risks, information any reasonable person would find material in determining whether to accept or deny consent.

Therefore, the Commission should dismiss the Orange Cove Pilot given the lack of community outreach and informed consent.

7. The Orange Cove Pilot Does Not Adequately Monitor And Assess Embrittlement.²⁴⁴

SoCalGas acknowledges that “hydrogen has the potential to embrittle steel pipeline materials.”²⁴⁵ Despite this, “SoCalGas has not identified locations, frequencies, and protocols for monitoring or assessing steel materials for hydrogen embrittlement in the Orange Cove Distribution Project.”²⁴⁶ SoCalGas instead relies on research suggesting “there would not be significant impacts expected from the effects of embrittlement.”²⁴⁷ SoCalGas’s passive approach to assessing hydrogen embrittlement exposes Orange Cove residents to unnecessary risk and undermines the purpose of the hydrogen blending pilots of filling knowledge gaps.

²⁴⁴ Scoping Ruling, Issue 4f.

²⁴⁵ OCU LCJA 6, response 5.

²⁴⁶ OCU LCJA 2 at 14-15.

²⁴⁷ OCU LCJA 6, response 5.

E. The Orange Cove Pilot Is Not Equitable And Would Create Negative Community Impact.²⁴⁸

1. The Orange Cove Pilot Does Not Adequately Justify How The Project Location Was Selected.²⁴⁹

Despite SoCalGas's contention that Orange Cove was "carefully selected"²⁵⁰ and an "ideal candidate for a hydrogen blending project based on feasibility criteria"²⁵¹ SoCalGas presents little information as to the criteria it purportedly used to select Orange Cove. First, as discussed above in section IV.A.3., SoCalGas does not provide a detailed accounting of the materials or their locations within Orange Cove. Further, SoCalGas provided no information about the "sample of gas appliances" it indicated was a key factor in selecting Orange Cove. In fact, SoCalGas admits that it "has not conducted a full inventory of appliances in the community to further understand the array of makes, models, ages, or condition."²⁵² Further, SoCalGas presents no information about the gas appliances or their usage outside of speculation based on the dates of service line installation in homes. This may be because SoCalGas has collected no data on the gas appliances and their uses in Orange Cove, as indicated by its failure to provide such data, as well as SoCalGas's statement that it intends to offer a courtesy inspection to Orange Cove residents only when they request one.

²⁴⁸ Scoping Ruling, Issue 5.

²⁴⁹ Scoping Ruling, Issue 5a.

²⁵⁰ SCG-06 at 7. ("With respect to residential appliances, this is due to the variety of home construction years and gas uses/purposes in the city. The homes in Orange Cove have service line dates of installation ranging from 1946-2022 and are composed of both single and multifamily residential dwellings. In addition, average gas usage in the Orange Cove community is close to average residential usage across the SoCalGas territory, suggesting similar usage patterns in the community.")

²⁵¹ OCU LCJA 6, response 12.

²⁵² OCU LCJA 6, response 3.

Moreover, there are indications that the gas appliances and their usage in Orange Cove may not be representative of residential and commercial customers throughout California. Namely, Orange Cove is a severely disadvantaged community, with a high vulnerability score on the CalEnviroScreen 4.0 and a sensitive population based on HealthFresnoCounty.²⁵³ Residents in lower income households are more likely to have older homes and older, poorer performing appliances.²⁵⁴ Orange Cove thus does not appear to be representative of the state as a whole. Without actual data (as opposed to speculation), SoCalGas has an insufficient basis for its claim that the gas appliances and their usage in Orange Cove, a rural disadvantaged community, is representative of gas appliances and their usage throughout the state.²⁵⁵

Residents of Orange Cove have a different understanding of how Orange Cove was selected, especially after learning that SoCalGas scaled back the UC Irvine pilot in response to student and community protests:

- “These universities and major cities realized how dangerous this project can be and harmful to the community, so they shut down the project. So, what did they do next? They came to Orange Cove.”²⁵⁶
- “Orange Cove historically has been a passive farm-working community with little to no education and that's why I feel we were targeted.”²⁵⁷

²⁵³ OCU LCJA 3 at 4-5; OCU LCJA 6 at 1.

²⁵⁴ OCU LCJA 1 at 9.

²⁵⁵ Orange Cove United and Leadership Counsel for Justice and Accountability’s Rebuttal of Response of Southern California Gas Company to Appendix B of Assigned Commissioner’s Scoping Memo and Ruling at 4-6. Dated September 10, 2025.

²⁵⁶ Reporter’s Transcript, Orange Cove, California, August 25, 2025. Alexi Roldan, PPH at 286-288. Dated September 2, 2025.

²⁵⁷ *Id.* Alma Figueroa PPH at 293-294.

- “Now, let's talk about fairness. Why Orange Cove? Why a small working-class largely that, you know, has — where many people already struggle with high medical bills or poor infrastructure? And this project is being tested on us, not in any other big cities.”²⁵⁸
- “Orange Cove is a small working class, mostly Latino community. Wealthier cities like Irvine said no to projects like this. Yet here we are being asked to accept it. This is not fair...You guys chose a low-income community for a reason.”²⁵⁹

As SoCalGas offers little justification for the location of the pilot, and because the pilot would expose residents of a disadvantaged community to increased risks, its location is not justified.

2. The Orange Cove Pilot Does Not Include Measures To Ensure Equitable Distribution Of Risks And Benefits.²⁶⁰

The Orange Cove Pilot would force the residents of Orange Cove to bear substantial risk with minimal benefits. Orange Cove is a disadvantaged, majority Latinx community, with a very low-income population.²⁶¹ As described throughout, blending hydrogen poses substantial risks to the health, safety,²⁶² financial security,²⁶³ and infrastructure²⁶⁴ of Orange Cove. The Orange Cove Pilot will provide no direct benefit to the residents of Orange Cove.

²⁵⁸ *Id.* Francisco Gonzalez PPH at 327-330.

²⁵⁹ *Id.* Jeanette Roldan PPH at 330-333.

²⁶⁰ Scoping Ruling, Issue 5b.

²⁶¹ OCU LCJA 3 at 7.

²⁶² *See* section III.A. and B., *supra*.

²⁶³ *See* section III.C., *supra*.

²⁶⁴ *See* section III.D., *supra*.

3. The Orange Cove Pilot Does Not Include Adequate Community Stakeholders Participation In The Planning Process.²⁶⁵

As described above in sections IV.A.6 and IV.D.6, SoCalGas's community outreach has been wholly inadequate.

4. The Orange Cove Pilot Does Not Include Adequate Ongoing Community Engagement During Implementation.²⁶⁶

As detailed in section IV.A.6.b, the Commission in D.22-12-057 directed utilities to create a "detailed stakeholder engagement plan."²⁶⁷ SoCalGas failed to do so and does not comply with Commission direction.

5. The Orange Cove Pilot Does Not Adequately Address The Impacts On Environmental And Social Justice Communities.²⁶⁸

As discussed in section IV.E.1-2, Orange Cove is an environmental and social justice community, and the Orange Cove Pilot would expose residents to significant risks. Moreover, the Orange Cove Pilot would undermine the Environmental and Social Justice Action Plan ("ESJ Action Plan").²⁶⁹

First, ESJ Action Plan, Goal 1 is to "[c]onsistently integrate equity and access considerations throughout CPUC proceedings and other efforts." The Commission has done well to include community concerns and impacts in the scope of this proceeding as well as to hold a public participation hearing in Orange Cove. However, as described in

²⁶⁵ Scoping Ruling, Issue 5c.

²⁶⁶ Scoping Ruling, Issue 5d.

²⁶⁷ D.22-12-057 OP 28.

²⁶⁸ Scoping Ruling, Issue 5e.

²⁶⁹ California Public Utilities Commission, Environmental & Social Justice Action Plan Version 2.0. Dated April 7, 2022.

section IV.D.6 and IV.E.1, there is substantial community opposition to the Orange Cove Pilot that the Commission should integrate into its decision regarding the Pilot.

Second, ESJ Action Plan, Goal 2 is to “[i]ncrease investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health.” The Orange Cove Pilot would degrade local air quality²⁷⁰ and public health,²⁷¹ weighing against approval.

Third, ESJ Action Plan, Goals 5 is to “[e]nhance outreach and public participation opportunities for ESJ communities to meaningfully participate in the CPUC’s decision-making process and benefit from CPUC programs.” OCU has effectively participated in this proceeding for over two years. Residents have provided comments at the Public Participation Hearing and engaged in every stage of the CPUC’s decision-making process in this proceeding since SoCalGas included the Orange Cove Pilot in its Amended Application. Failure to meaningfully consider this engagement would deter other communities from participating in CPUC proceedings in the future.

Fourth, ESJ Action Plan, Goal 6 is to “[e]nhance enforcement to ensure safety and consumer protection for ESJ communities.” As described throughout these comments, SoCalGas has proposed wholly inadequate safety protections.²⁷² Approval of the Orange Cove Pilot would set a terrible precedent for pilot projects, especially those sited in ESJ communities.

²⁷⁰ See section III.A., *supra*.

²⁷¹ See section III.B., *supra*.

²⁷² See sections III.A. III.B. III.D., IV.A.2., IV.A.4., IV.D. and IV.E., *supra*.

V. CONCLUSION

For the foregoing reasons, the Commission should not approve SoCalGas's application for a hydrogen blending pilot project in Orange Cove.

Dated: May 4, 2026

Respectfully submitted,

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