BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Investigation pursuant to Senate Bill 380 to determine the feasibility of minimizing or eliminating the use of the Aliso Canyon natural gas storage facility located in the County of Los Angeles while still maintaining energy and electric reliability for the region.	Investigation 17-02-002

INFORMAL COMMENTS OF THE PUBLIC ADVOCATES OFFICE

MARION PELEO
Attorney

Public Advocates Office
505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-2130
Email: Marion.Peleo@cpuc.ca.gov

CHRISTIAN LAMBERT
CRYSTAL YEH
Analysts

Public Advocates Office
505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-1419
Email: Christian.Lambert@cpuc.ca.gov

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I. INTRODUCTION

On February 17, 2017, the California Public Utilities Commission (Commission) issued its *Order Instituting Investigation pursuant to Senate Bill 380 to determine the feasibility of minimizing or eliminating the use of the Aliso Canyon natural gas storage facility located in the County of Los Angeles while still maintaining energy and electric reliability for the region* (OII). On December 20, 2019, the Commission issued its *Assigned Commissioner's Phase 3 Scoping Memo and Ruling* (Phase 3 Scoping Memo), seeking to answer the question:

> How can the services presently provided by the Aliso Canyon field be met if the field were to be eliminated within the two planning horizons of 2027 and 2045? Scenarios analysis may include any mix of the following, in addition to other solutions: demand reduction and demand management programs that reduce demand incrementally beyond programs presently in place and/or assumed in the demand forecast; replacement of gas transmission pipelines or the construction of new gas transmission pipelines; and replacement electric generation resources that are carbon neutral or act to integrate renewable energy.[1]

Pursuant to additional direction in the *Administrative Law Judge's Ruling Noticing November 17, 2020 Workshop* (ALJ Ruling), issued October 21, 2020, the Public Advocates Office at the California Public Utilities Commission (Cal Advocates) provides these informal comments on the proposed assumptions and scenarios presented at the November 17, 2020 workshop.

II. SUMMARY OF RECOMMENDATIONS

Cal Advocates recommends the following changes to FTI Consulting, Inc.'s (FTI) proposed scenario analyses:

- FTI should exclude the Desert Star Energy Center from its PLEXOS modeling set;
- FTI should utilize 2045 as its final study year;

[1] Phase 3 Scoping Memo, pp. 3-4. Available at https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M322/K150/322150565.PDF.

- FTI should clarify the use of the Integrated Resource Planning (IRP) proceeding's Reference System Portfolio as part of the baseline for all scenarios;
- FTI should maintain only one of the two proposed scenarios that are based on IRP optimization or interconnection queuing, due to their apparent similarity. The remaining portfolio should focus on local electric resources that would be incremental to the Reference System Portfolio.
- FTI should identify a new investment option that maintains the rural locational attributes of resources identified in the Reference System Portfolio and examines the benefits and costs of new electric transmission that could deliver such rural resources into the Los Angeles Basin local capacity requirement area;
- FTI should adjust the 2013 weather year for likely changes;
- FTI should forgo consideration of more restrictive balancing rules for core customers;
- FTI should use the RESOLVE "Low" carbon cost trajectory to price carbon emissions;
- FTI should calculate and report the marginal cost per ton of abated carbon emissions, for comparison with RESOLVE's shadow pricing;
- FTI should use the IRP's forthcoming Common Resource Valuation Methodology to obtain benefit and cost categories, to the extent this methodology is available in time to inform FTI's analysis; and
- FTI should calculate and present separate benefit-cost analyses to clarify differences between the total society cost perspective and the ratepayers' perspective.

III. BACKGROUND

Senate Bill (SB) 380 (Pavley, 2016) requires the Commission "to determine the feasibility of minimizing or eliminating use of the Aliso Canyon natural gas storage facility located in the County of Los Angeles while still maintaining energy and electric reliability for the region" in a manner "consistent with the Clean Energy and Pollution Reduction Act of 2015 [SB 350] and Executive Order B-30-2015."[2] SB 350 (De Leon, 2015) is the state's landmark 2015 statute that required the Commission to undertake electric-side integrated resource planning (IRP). Under SB 350, the IRP's central goals

[2] Public Utilities Code Section 714(a).

originally included a 40 percent reduction in greenhouse gas emissions levels and a 50 percent renewables portfolio standard by 2030. Executive Order B-30-2015 established a goal of an 80 percent reduction in greenhouse gas emissions levels by 2050. SB 100 (De Leon, 2018) superseded SB 350, increased the renewables portfolio standard to 60 percent by 2030, and defined long-term state policy for the 2045 time-horizon.[3]

Pursuant to SB 380, the Commission opened the OII into Aliso Canyon in February 2017 and scoped the OII into different phases. The Commission's Phase 3 Scoping Memo establishes a planning venue for the potential long-term retirement of the Aliso Canyon Natural Gas Storage Facility (Aliso Canyon):[4]

> The purpose of Phase 3 is to engage parties and an expert consultant in developing scenarios to examine resources and infrastructure, including renewable and low-carbon generation, energy efficiency, electric storage, demand response, and new gas transmission pipelines, that could be implemented to entirely replace the Aliso Canyon field within two different planning horizons: 2027 and 2045. The year 2027 marks 10 years following delivery of the letter from then-Energy Commission Chair Robert Weisenmiller to then-Commission President Michael Picker, requesting planning for closing the facility within 10 years. The year 2045 is aligned with the SB 100 (De Leon, 2018) policy goal for 100 percent of retail sales in California to be supplied by eligible renewables and zero-carbon resources.

The Commission ultimately retained FTI[5] to undertake the work of identifying scenario analyses to inform the potential long-term retirement of Aliso Canyon. The ALJ Ruling noticed a November 17, 2020, workshop for FTI to present its Aliso Canyon replacement scenarios and to seek stakeholder input.[6] At the workshop, FTI presented overviews of its electric generation modeling; its gas supply modeling for "baseline gas amounts

[3] While SB 380 referenced SB 350, the environmental standards and goals of SB 350 were superseded by SB 100 (De Leon, 2018). See Public Utilities Code Sections 399.15, 399.30, and 454.53.

[4] Phase 3 Scoping Memo, p. 3.

[5] FTI has partnered with Gas Supply Consulting for their work in the OII.

[6] ALJ Ruling, p. 3.

needed without Aliso Canyon," and its proposed scenarios for the potential replacement of Aliso Canyon.[7] FTI also presented a list of potential questions to guide parties' comments.[8]

IV. GENERAL DISCUSSION

A. Contextualizing the Phase 3 Scenario Analysis

The state's long-term planning regime offers important context for FTI's work in Phase 3 of the OII. The Commission undertakes long-term emissions reduction planning through a number of proceedings, most saliently including the IRP. The California Air Resources Board recommends ranges of emissions targets for the different sectors of the economy, which the IRP uses to translate the statutory goal of 40 percent emissions reductions into an emissions target for the electric sector. On the gas side, the Commission will be undertaking long-term planning later in 2021 under Track 2 of Rulemaking (R.) 20-01-007 (the Gas Planning OIR).[9]

The Phase 3 scenario analyses will prove most useful to stakeholders and the Commission if the scenario assumptions adhere to this greater planning regime.[10] Inconsistent assumptions would threaten the ability of the IRP and the Gas Planning OIR to appropriately incorporate the effects of any decision in this OII. While Aliso Canyon is a natural gas asset, the potential for local and/or system electric reliability shortfalls to manifest in the absence of Aliso Canyon inextricably links the Phase 3 scenario analyses to the state's larger body of electric-sector emissions reduction work. Without trustworthy assumptions across the entire planning regime, ratepayers have no assurance

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[7] *Aliso Canyon OII I.17-02-002 – Phase 3 Technical Workshop #1 Agenda.* Available at https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2020/I.17-02-002%20Phase%203%20Workshop%201%20Agenda.pdf.

[8] Available at https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2020/FTI%20Request%20for%20Input.pdf.

[9] *See* R.20-01-007, *Assigned Commissioner's Scoping Memo and Ruling*, April 23, 2020, p. 2.

[10] This regime also includes dockets at other agencies. The California Independent System Operator studies electric transmission needs that result from portfolios that the Commission adopts in the IRP. The California Energy Commission leads the multi-agency docket that plans for the SB 100 policy goal of reaching 100% of retail electricity sales from zero-carbon sources by 2045, and the California Air Resources Board leads a docket examining carbon neutrality pathways.

that the Commission and its sibling agencies will be able to identify, adopt, and implement the optimal co-determined gas-and-electric pathway to the long-term SB 100 goals.

The statutory language also mandates such coordination of the Phase 3 assumptions and scenarios with the larger planning regime. SB 380 requires the Commission's determination in the OII of "the feasibility of minimizing or eliminating use" of Aliso Canyon to "be consistent with the Clean Energy and Pollution Reduction Act of 2015 [SB 350] and Executive Order B-30-2015."[11] Cal Advocates, therefore, commends the steps FTI has taken to incorporate IRP assumptions into FTI's work. The recommendations offered below, in response to the specific FTI questions, outline areas where additional alignment could improve the usefulness of FTI's scenario analysis.

B. Timing and the Potential Role of New Infrastructure

FTI's first proposed scenario involves new gas transmission pipelines to replace Aliso Canyon.[12] As Cal Advocates recently stated in the Gas Planning OIR, the changing nature of gas demand heightens the risk of stranding new capital investments on the gas system.[13] Gas system assets, such as new pipelines or wells, have useful lives that may extend the better part of a century. Meanwhile, gas throughput is expected to remain fairly flat, threatening the affordability of gas rates and increasing the risk of stranding assets as the gas customer base erodes. The California Energy Commission's SB 100 docket includes gas-side analysis showing that lower-cost pathways to the state's long-term emissions reductions goals would dramatically accelerate this trend.[14]

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[11] Public Utilities Code Section 714(a).

[12] November 17, 2020, FTI "Phase 3 Overview" presentation, p. 64. Available at https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2020/FTI%20Research%20Presentation.pdf.

[13] R.20-01-007, *Public Advocates Office Comments Regarding Workshop Report and Staff Recommendations,* November 2, 2020, pp. 1-2.

[14] Aas, Dan et al. *The Challenge of Retail Gas in California's Low-Carbon Future: Technology Options, Customer Costs, and Public Health Benefits of Reducing Natural Gas Use.* California Energy Commission: Energy Research and Development Division. April 2020.

When asked directly during a question-and-answer period at the November 17, 2020 workshop, if new gas pipelines would indeed face a high risk of stranding, FTI dismissed the question by noting that *any* utility asset could become stranded. FTI should take seriously the prospect that new gas transmission assets face unique stranding risks that implicate ratepayers' interests. The Commission should avoid unnecessary investment in new gas system assets that could cease to be used and useful after only a fraction of their average service lives have passed. The Commission should also consider the unsustainable rate impacts that would result from the combination of increasing capital-related costs and declining sales. If higher rates ever manifested, they would cast doubt on the ability of the Commission's ratemaking to absorb the costs of new gas transmission over the assets' average service lives.

While gas transmission assets are long-term in nature, it is unclear if the hypothetical Aliso Canyon retirement is a long-term problem. FTI's own presentation materials clarify that the electric reliability problems associated with the hypothetical retirement of Aliso Canyon decline over time. FTI's preliminary finding is that the electric generation shortfall in the most critical hour of the winter peak day would be 4,216 megawatts (MW) in 2027 and 2,600 MW in 2035. On average, this is a decline of 202 MW per year.[15] Over the entire winter peak day, FTI found curtailment levels of 56,000 megawatt-hours (MWh) in 2027, declining to 33,000 MWh in 2035.[16]

If these trends were to continue in a linear fashion, the electric generation shortfalls in 2045 could be too small to justify ratepayers' investment in new gas pipeline or storage capacity that was sized to meet the 2027 or 2035 needs. Moreover, the California Energy Commission's SB 100 gas work suggests these trends may accelerate en route to the SB 100 2045 goals.[17] It is also possible that the shortfall could disappear if the underlying weather year were appropriately adjusted to account for likely climate

[15] November 17, 2020, FTI "Phase 3 Overview" presentation, p. 60.

[16] November 17, 2020, FTI "Phase 3 Overview" presentation, p. 47.

[17] Aas, Dan et al. *The Challenge of Retail Gas in California's Low-Carbon Future: Technology Options, Customer Costs, and Public Health Benefits of Reducing Natural Gas Use.* California Energy Commission: Energy Research and Development Division. April 2020. See p. 35.

change impacts pursuant to California's Fourth Climate Change Assessment (see Section V.D, below). The Governor's November 2019 letter to the Commission on Aliso Canyon specifically requests that FTI's work incorporate such "assumptions about declining natural gas demand pursuant to state climate change targets."[18] The Commission should remain open to the possibility that long-term trends alone – that is, a "no further action" scenario – could provide the most optimal Aliso Canyon retirement option for ratepayers.

V. RESPONSES TO FTI QUESTIONS

A. Question 1: Is our approach to modifying the Phase 2/IRP datasets reasonable?

Cal Advocates recommends FTI remove the Desert Star Energy Center from its PLEXOS modeling set. The Commission authorized the 2026 decommissioning schedule of this plant in Decision (D.) 19-09-051, pursuant to terms in the site lease of the plant,[19] and Cal Advocates has recommended in the IRP that the electric resource portfolios be updated to incorporate this retirement.[20] At 485 MW, the Desert Star Energy Center is a large resource, and its inclusion in the dataset could challenge the integrity of FTI's PLEXOS outputs.

B. Question 3: Is our selection of 2027 and 2035 as the years to analyze reasonable? If not, is there a preferred option?

Cal Advocates recommends FTI use 2045 as the final study year of its scenario analysis. As described above in Section IV.A, above, SB 380 requires the Commission's determination in the OII of "the feasibility of minimizing or eliminating use" of Aliso Canyon to "be consistent with the Clean Energy and Pollution Reduction Act of 2015 and Executive Order B-30-2015."[21] SB 100, the successor statute to SB 350, increases the

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[18] November 18, 2019, Letter of Governor Gavin Newsom to Commission President Marybel Batjer. Available at https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2019/Nov%2018%202019%20Letter%20to%20President%20Batjer.pdf.

[19] D.19-09-051, *Decision Addressing the Test Year 2019 General Rate Cases of San Diego Gas & Electric Company and Southern California Gas Company*, p. 6.

[20] R.20-05-003, *The Public Advocates Office Comments on Portfolios to Be Used in the 2021-2022 Transmission Planning Process,* November 10, 2020, pp. 6-11.

[21] Public Utilities Code Section 714(a).

renewables portfolio standard for 2030 that SB 350 established, and it creates new state policy objectives for 2045.[22] Accordingly, the IRP and the California Energy Commission's SB 100 docket utilize 2030 and 2045 as planning horizons. SB 350, SB 100, Executive Order B-30-2015, the IRP, and California Energy Commission's SB 100 docket are all silent on 2035, so the usefulness of this alternative study year to inform the planning underway in these other dockets would be relatively limited.

FTI's presentation materials show that its rationale for the 2035 study year is that unspecified "CPUC orders suggest a preference to analyze investments in gas assets."[23] Cal Advocates is unaware of any Commission orders that establish such a preference. The Phase 3 Scoping Memo presents gas transmission as one of many possible alternatives, among which the Scoping Memo designates no preference: "[s]cenarios analysis **may** include any mix of the following, in addition to other solutions…" (emphasis added).[24] SB 380 offers no direction on the matter. The Governor's November 2019 letter only states, "[t]he expert evaluation should examine specific resources to replace demand for the facility."[25]

FTI's selection of 2035 in place of 2045 appears to stem from an overly literal reading of the Phase 3 Scoping Memo, which holds that Aliso Canyon retirement should be assumed "**within** the two planning horizons of 2027 and 2045".[26] FTI's apparent reading of the word *within* to mean *no later than* is unambiguously contradicted by another statement in the Phase 3 Scoping Memo that clarifies, "The year 2045 is aligned with the SB 100 (De Leon, 2018) policy goal for 100 percent of retail sales in California to be supplied by eligible renewables and zero-carbon resources."[27]

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[22] Public Utilities Code Section 454.53.

[23] November 17, 2020, FTI "Phase 3 Overview" presentation, p. 64.

[24] Phase 3 Scoping Memo, pp. 3-4.

[25] November 18, 2019, Letter of Governor Gavin Newsom to Commission President Marybel Batjer.

[26] Phase 3 Scoping Memo, pp. 3-4 (emphasis added).

[27] Phase 3 Scoping Memo, p. 3.

When asked during a question-and-answer period during the November 17, 2020, workshop, about the use of 2035 in lieu of 2045, FTI affirmed that the two years are generally dissimilar. Indeed, the Energy Commission's consultant's (Energy and Environmental Economics, Inc. (E3)) SB 100 gas-side work shows that the energy landscape could change dramatically over that ten-year span. Cal Advocates is most concerned with E3's findings that high building electrification pathways to the state's 2045 goals would be $5 to $20 billion lower-cost per year, as compared to scenarios with higher renewable natural gas in place of building electrification.[28] Such findings are concerning because these enormous savings, most of which would accrue to ratepayers, would come at the cost of rendering the looming gas rate spiral intractable. Absent mitigation, the Energy Commission's consultant estimates that gas rates could increase from $3 per therm in the 2030s to $19 per therm in 2050 (2018 dollars).[29]

During a question-and-answer period at the November 17, 2020, workshop, FTI also stated that studying 2035 would be more "actionable" than studying 2045.[30] Given the current lack of clarity regarding the true long-term need of replacement resources (see Section IV.B, above), actionability may not necessarily serve ratepayer interests. The 2035 study year may cause FTI's scenario analysis to over-emphasize long-term infrastructure solutions to challenges that may be near-term in nature. Actionability is not a useful criterion for ratepayers in and of itself, nor does the lack of clear actionability reduce the usefulness of the Commission's 2045 planning in other venues, such as the IRP.

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[28] Aas, Dan et al. *The Challenge of Retail Gas in California's Low-Carbon Future: Technology Options, Customer Costs, and Public Health Benefits of Reducing Natural Gas Use.* California Energy Commission: Energy Research and Development Division. April 2020. See p. 4.

[29] Aas, Dan et al. *The Challenge of Retail Gas in California's Low-Carbon Future: Technology Options, Customer Costs, and Public Health Benefits of Reducing Natural Gas Use.* California Energy Commission: Energy Research and Development Division. April 2020. See p. 51. Discussion versions of the Energy Commission's gas-side work were cited by Gridworks in its August 2019 publication, *California's Gas System in Transition: Equitable, Affordable, Decarbonized, and Smaller,* available at https://gridworks.org/wp-content/uploads/2019/09/CA_Gas_System_in_Transition.pdf. See p. 2 for the $19/therm estimate.

[30] November 17, 2020, FTI "Phase 3 Overview" presentation, p. 8.

Understanding the unique challenges associated with the 2045 study year is the first step to effective long-term planning that can resolve those challenges. Accordingly, FTI should move to a 2045 study year. Doing so will align the Phase 3 scenario analysis with the remainder of the state's long-term planning regime and provide more useful insight into the work that will be required to address the hypothetical retirement of Aliso Canyon in any pathway to the state's long-term greenhouse gas emissions reduction goals.

C. Question 6: Is the composition of the four investment options[31] that are specified reasonable? If not, is there an option that is preferred for further analysis?

Cal Advocates questions whether the proposed investment options provide the highest analytic value for the Commission's Aliso Canyon determinations. At least three of the proposed investment portfolios fail to appreciate the role of the IRP in the scope of Phase 3. The Phase 3 Scoping Memo envisions that the IRP Reference System Portfolio resources adopted in D.20-03-028 will form part of a "baseline" for FTI's scenario analysis.[32] Cal Advocates supports this approach, because divergence from the Reference System Portfolio implies a decrease in the cost-effectiveness and/or the system reliability attributes of any electric resource alternative(s).

In contrast, FTI's proposed investment portfolios appear to exclude explicit consideration of the Reference System Portfolio as a baseline, excepting option 3: the Demand Response/Storage Mix that would be "optimized by the IRP analysis."[33] The other proposed investment options should be reconfigured to incorporate the Reference System Portfolio as a baseline expectation of future electric-side investments in new resources. Because those resources would comprise baseline expectations, each investment option should address resources or other interventions that provide

[31] The Commission's and FTI's Phase 3 materials and workshop discussions variously used "investment option," "portfolio," and "scenario." Cal Advocates uses these interchangeably, varying based on the source material.

[32] Phase 3 Scoping Memo, p. 5 and Appendix A.

[33] November 17, 2020, FTI "Phase 3 Overview" presentation, p. 64.

incremental attributes beyond those of the Reference System Portfolio buildout. To assume otherwise would diminish the value of the scenario analysis, due to the duplication of IRP work that has already identified the mix of electric resources that can provide for the state's emissions reductions goals while preserving system reliability.

The scenarios should also be meaningfully discrete. The third (Demand Response/Storage, optimized per the IRP) and the fourth ("Pro Rata" based on interconnection queuing) proposed options are too similar to each other to provide meaningfully distinct analytic results. Solar and storage resources dominate the IRP Reference System Portfolio buildout, as they dominate the interconnection queue. The IRP Reference System Portfolio buildout's share of "other" resources – primarily wind – is likewise comparable to the aggregated "other" share of the interconnection queue.[34] Finally, the IRP explicitly took the interconnection queue into account when mapping the Reference System Portfolio's new storage resources to busbars.[35] FTI should therefore remove the interconnection queue-based portfolio option.

FTI should also clarify the incremental analytic value of the remaining portfolio. Cal Advocates suggests that a more useful portfolio would focus on local electric reliability in the Los Angeles Basin and any other relevant local capacity requirement areas. The IRP has not examined such local reliability concerns.[36] Likewise, the California Independent System Operator (CAISO) has only recently undertaken technical studies of the potential for batteries to reduce gas-fired generation utilization in local capacity requirement areas and/or sub-areas. Those technical studies are silent on matters of cost-effectiveness. FTI, therefore, should consider the usefulness of a portfolio that examines the economics of local electric-side solutions to any capacity shortfall. The most obvious method to ensure this portfolio is incremental to the Reference System

[34] See D.20-03-028 for projected resource growth within the CAISO area, for comparison to the November 17, 2020, FTI "Phase 3 Overview" presentation, p. 62.

[35] Energy Division, *Methodology for 2019 IRP Resource-to-Busbar Mapping*, March 30, 2020, p. 4. Available at https://www.cpuc.ca.gov/General.aspx?id=6442464144.

[36] For more, see R.20-01-007, *Public Advocates Office Comments in Response to Assigned Administrative Law Judge's Ruling Seeking Comments*, August 14, 2020, p. 5.

Portfolio would be to site resources in different transmission zones from their Reference System Portfolio locations – e.g., to site new battery resources in the Los Angeles Basin rather than at rural solar fields.[37]

For a replacement of the interconnection queue-based investment option, FTI should identify a new investment portfolio of electric transmission solution(s) that could reduce the local capacity requirement of the Los Angeles Basin and any other local capacity areas that would be adversely affected by the hypothetical Aliso Canyon retirement. Despite the likely high cost, electric transmission solution(s) have the potential to compete against the new gas system investments that would be considered under the first proposed investment option. However, electric transmission assets would not face a comparable risk of stranding. This investment option would be incremental to the IRP's Reference System Portfolio, as the IRP does not examine the question of whether any transmission projects could alleviate long-term local reliability needs. In contrast to the recommended portfolio discussed above, this portfolio would generally preserve the locational attributes of new electric resources, pursuant to the Reference System Portfolio.

Due to the idiosyncratic nature of transmission projects, the Commission should consider if it may be useful or necessary to obtain cost information from the CAISO through its Transmission Planning Process. In the IRP, Cal Advocates recently recommended the Commission consider transferring a policy-driven portfolio to the CAISO for its 2021-2022 Transmission Planning Process so as to gather such cost information.[38] The tentative timeline proposed by FTI[39] would likely mean that only

[37] Identifying new modeled retirement years for specific gas-fired electric generation units that currently depend on Aliso Canyon may change the timing of the Reference System Portfolio buildout, but it may not necessarily change the resource mix itself with respect to the attributes of system reliability, renewables integration, or emissions reductions. Analysis that primarily ends up informing only the timing of the buildout would be insufficient to justify the portfolio option, since the IRP itself could approximate the timing effects by simply changing the retirement assumptions of the modeled resource aggregations.

[38] R.20-05-003, *The Public Advocates Office Comments on Portfolios to Be Used in the 2021-2022 Transmission Planning Process,* November 10, 2020, pp. 14-16.

[39] November 17, 2020, FTI "Phase 3 Overview" presentation, p. 68.

preliminary data would be available for FTI's scenario analysis. The Commission should nonetheless consider that final Transmission Planning Process results could be valuable inputs to both the IRP and Track 2 of the Gas Planning OIR, as both proceedings' planning efforts will need to incorporate the effects of any decision in Phase 3 of this OII.

D. Question 7: Please identify any of the specific assumptions or inputs discussed during the workshop or provided in the supporting materials that are unreasonable or that should be replaced with a preferred alternative.

In a question-and-answer period during the November 17, 2020, workshop, FTI clarified that it selected 2013 as the weather year for the one-in-ten peak winter load day. FTI should adjust the weather year to account for likely changes, pursuant to California's Fourth Climate Change Assessment.

FTI's presentation materials also show that FTI assumes that "more restrictive imbalance rules" could merit further examination.[40] Cal Advocates recommends FTI exclude consideration of more restrictive balancing rules for core customers. D.19-08-002 required Southern California Gas Company and San Diego Gas & Electric Company core customers to balance to actuals, effective April 1, 2020. This requirement is already more restrictive than the historical practice of forecast balancing, and it is unclear what form additional restrictions might take. In addition, the Commission is monitoring this change "to ensure that core customers are not significantly impacted."[41] Further restrictions on core balancing are unnecessary and would interfere with the Commission's ability to mitigate any significant impact that may arise.

E. Question 10: How should we value reductions in carbon emissions in Workstream 2?

In keeping with the IRP inputs and assumptions, FTI should use the RESOLVE "Low" carbon cost trajectory, which is based on the 2019 Integrated Energy Policy Report Preliminary Nominal Carbon Price Projections.[42] In addition, FTI should

[40] November 17, 2020, FTI "Phase 3 Overview" presentation, p. 65.

[41] D.19-08-002, p. 17.

[42] Energy Division, *Inputs & Assumptions: 2019-2020 Integrated Resource Planning,* February 2020, pp. 86-87. Available at ftp://ftp.cpuc.ca.gov/energy/modeling/Inputs%20%20Assumptions%202019-

calculate and report the marginal cost per ton of abated carbon emissions of each scenario for each study year. This data can then be compared against RESOLVE's greenhouse gas shadow pricing[43] to help inform the Commission's decision-making.

F. Questions 11-12: Aside from reductions in the cost of delivered energy, what benefits should we capture in the Workstream 2 analysis of the investment options? Aside from the capital and financing costs to build new infrastructure, what costs should we capture in our Workstream 2 analysis of the investment options?

The suite of benefits and costs should generally align with the benefits and costs typically included in Commission evaluations of procurement options. In the IRP, Commission staff and Cal Advocates have recommended moving to a "Common Resource Valuation Methodology"[44] (CRVM) in service of a new "broad procurement framework."[45] The schedule of deliverables related to the CRVM development is unknown at this time, but procedural activities may be forthcoming. FTI should incorporate any CRVM developments that may become available in 2021. In the absence of the CRVM, Cal Advocates recommends that FTI evaluate the minimum benefit and cost categories of system capacity costs, local capacity premia, ancillary services, renewables portfolio standard attributes, and emissions reductions.[46] FTI should exclude debt equivalence costs.

FTI should also calculate and present separate benefit-cost analyses from the ratepayer and total societal cost perspectives. Savings at the total societal level may or may not accrue to ratepayers, and costs from one perspective may even be benefits from

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2020%20CPUC%20IRP%202020-02-27.pdf.

[43] The shadow price represents the marginal investment cost per ton of abated carbon emissions. The greenhouse gas shadow price is available on RESOLVE's Results Viewer, tab, "raw_ghg," Column D, for the default study years 2026, 2030, and 2045.

[44] R.20-05-003, *Staff Proposal for Resource Procurement Framework in Integrated Resource Planning,* November 2020, p. A-74. Available at https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M351/K577/351577337.PDF.

[45] R.20-05-003, *Assigned Commissioner's Scoping Memo and Ruling,* September 24, 2020, pp. 8 and 12.

[46] If the scenarios incorporate the Reference System Portfolio, it may be reasonable to forgo analysis of flexible capacity needs, as these may be subsumed by the system reliability attributes of the resource mix.

the other. For example, FTI's questions characterize "reductions in the cost of delivered energy" as a benefit. With respect to replacement electric resources, reductions in the clearing price of electricity may constitute a cost to ratepayers, to the extent that ratepayers rely on energy revenues from the CAISO markets to offset capacity costs. Furthermore, ratepayers may or may not have any claim to the energy benefits of a contracted resource, depending on the contract design.

G. Question 13: If the data provided at the CPUC website are insufficient, please indicate which datasets should be added.

Cal Advocates requests that the hydraulic model referred to in the workshop be provided. Cal Advocates intends to comment on the hydraulic model at the appropriate time.[47]

VI. CONCLUSION

Cal Advocates respectfully requests that the Commission consider the recommendations identified herein.

Respectfully submitted,

/s/ MARION PELEO

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MARION PELEO
Attorney

Public Advocates Office
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102
Telephone: (415) 703-2130
E-mail: Marion.Peleo@cpuc.ca.gov

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[47] *See* Investigation 17-02-002, *Administrative Law Judge's Ruling Entering Into The Record Energy Division's Economic Analysis Report, Requesting Comment*, November 2, 2020, p. 1 ("The production cost modeling and the hydraulic modeling report will be released this Fall with a schedule for comments and subsequent procedural steps.").