

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Public Utilities Commission of the State of California Docket Nos. EL02-60-018

Complainant,

v.

Sellers of Long-Term Contracts to the California
Department of Water Resources

Respondents.

California Electricity Oversight Board EL02-62-017

Complainant

v.

Sellers of Long-Term Contracts to the California
Department of Water Resources

Respondents.

INITIAL DECISION

(Issued November 25, 2025)

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STEPHANIE L. NAGEL, Presiding Administrative Law Judge

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TABLE OF ABBREVIATIONS

AEO	Annual Energy Outlook
ALJ	Administrative Law Judge
ATWACC	After-Tax Weighted Average Cost of Capital
CalPX	California Power Exchange
CAISO	California Independent System Operator
CAPM	Capital Asset Pricing Model
CCGT	Combined cycle gas turbine
CDWR	California Department of Water Resources
CEC	California Energy Commission
CEOB	California Electric Oversight Board
COB	California-Oregon Border
Commission FERC	Federal Energy Regulatory Commission
CPUC	California Public Utilities Commission
DCF	Discounted Cash Flow
EIA	U.S. Energy Information Administration
EOD	End of day
EPSA	Electric Power Supply Association
FPA	Federal Power Act
IOUs	Investor-owned utilities
IPP	Independent power producer
JSF	Joint Stipulation of Uncontested Facts
LRMC	Long-run marginal cost
MBR	Market-based rate
MMCP	Mitigated market clearing price
MW	Megawatt
MWh	Megawatt-hour
Negotiation Period	January 17, 2001, through July 6, 2001
NYMEX	New York Mercantile Exchange
OOM	Out-of-Market
O&M	Operations and maintenance
Other Shell Contracts	Contracts executed with Shell between

	June 20, 2001, and December 31, 2002, for terms of one year or longer and for deliveries of on-peak power to NP15 or SP15
PG&E	Pacific Gas and Electric Company
PV	Palo Verde nuclear power station
RA	Resource Adequacy
Refund Period	October 2, 2000, through June 20, 2001
ROE	Return on equity
SDG&E	San Diego Gas & Electric
SCE	Southern California Edison Company
Shell Contract	Power purchase contract entered into between the CDWR and Coral on May 21, 2001
Shoulder months	November, December, March, April, and May in the Shell Contract
Summer Period	May 1, 2000, through October 1, 2000
Trial Staff	Commission Trial Staff
Wildflower Peaking Units	Five 43 MW gas-fired combustion turbines
WSPP	Western Systems Power Pool
6x16	On peak hour blocks of energy
7x24	Around the clock hour blocks of energy

I. INTRODUCTION

1. After almost twenty-five years of litigation involving numerous parties, this initial decision is intended to resolve a single issue related to one contract. In Opinion No. 587,¹ the Federal Energy Regulatory Commission (Commission or FERC) established hearing procedures to determine if the rates arising from the power purchase contract entered into between the California Department of Water Resources (CDWR) and Coral Power, L.L.C. (Coral) on May 21, 2001 (the Shell Contract) are just and reasonable. After careful consideration of the totality of the evidence, the undersigned concludes that the rates are not just and reasonable. The following is a summary of the undersigned's conclusions in this matter:

2. In summary, for all the reasons set forth herein, the undersigned concludes generally that the record supports the following conclusions:

- Shell's market-based rate authority does not warrant a separate presumption of justness and reasonableness for the Shell Contract absent the *Mobile-Sierra* presumption.
- The record does provide an appropriate framework to determine whether the Shell Contract rate is unjust and unreasonable.
- Modified Benchmarks 1 and 5 provide an appropriate framework to determine whether the Shell Contract rate is unjust and unreasonable. Modified Benchmark 7 is appropriately used for advisory purposes.
- Benchmarks 2-4, and 6 are not appropriate benchmarks for determining whether the Shell contract rate is just and reasonable.
- The California Parties are not required to use cost of service principles to demonstrate that the Shell Contract rate is unjust and unreasonable.
- A preponderance of the evidence in the record demonstrates that the Shell Contract rates are unjust and unreasonable.
- The record does provide a framework to determine a just and reasonable rate results in a range of just and reasonable rates between \$70.07MWh and

¹ *Pub. Utils. Comm'n of Cal. v. Sellers of Long-Term Contracts to the Cal. Dep't of Water Res.*, 185 FERC ¶ 61,197, at PP 2, 441, ordering para. (c) (2023) (Opinion No. 587).

\$73.91/MWh. The Commission should select the rate at the top of the range, \$73.91/MWh.

- Refunds should be ordered for the 15-month statutory refund period with interest charged in the manner the Commission has defined.

3. This short summary of the undersigned's major findings does not include all the determinations made within the Initial Decision. The undersigned's findings on each contested issue should be referred to individually below. If there is any perceived conflict between this summary and the body of the Initial Decision, the latter controls.

II. FACTUAL AND PROCEDURAL HISTORY

A. The Participants

4. The California Parties, the complainants in this proceeding, are composed of the following: the People of the State of California ex rel. Rob Bonta, Attorney General;² the Public Utilities Commission of the State of California (CPUC); Pacific Gas and Electric Company (PG&E); and Southern California Edison Company (SCE).

5. Shell Energy North America (U.S.), L.P. (Shell) is the respondent to the California Parties' complaint. At the time it negotiated and executed the Shell Contract, Shell was known as Coral.³ CDWR and Coral executed the Shell Contract on May 24, 2001.⁴

6. Commission Trial Staff (Trial Staff) represents the public interest in Commission proceedings set for hearing and settlement procedures.⁵

² The California Electric Oversight Board (CEOB) is the complainant in one of the two underlying FERC proceedings, Docket No. EL02-62. In 2008, however, the EOB was defunded. Pursuant to California Public Utilities Code Section 343, the Attorney General of California "shall succeed to, and may exercise, all rights, claims, powers, and entitlements of the Electricity Oversight Board in any litigation or settlement to obtain ratepayer recovery for the effects of the 2000-02 energy crisis." CAL. PUB. UTIL. CODE § 343 (2025). The Attorney General of California now stands in the place of the EOB in this proceeding.

³ Opinion No. 587, 185 FERC ¶ 61,197 at P 6 n.13.

⁴ Ex. CAL-031 PUB (Shell Contract).

⁵ FED. ENERGY REG. COMM'N, *Office of Administrative Litigation*, [Office of Administrative Litigation \(OAL\) | Federal Energy Regulatory Commission](#) (last updated

B. The Western Energy Crisis

7. In 1994, various stakeholders initiated efforts to restructure and deregulate California's electric industry in response to high electricity prices.⁶ These efforts culminated in 1996, when the California Legislature enacted Assembly Bill 1890, which restructured wholesale electric markets by establishing independent operators to run grid operators and energy markets, namely, the California Independent System Operator (CAISO) and the California Power Exchange Corporation (CalPX).⁷ CAISO ran the real-time and ancillary service markets and managed grid operations, while CalPX operated a single-price auction for California's day-ahead and day-of electricity markets.⁸ CalPX and CAISO commenced operations on March 31, 1998.⁹

8. From the beginning, California's new market structure was susceptible to market manipulation.¹⁰ Enron Corporation (Enron) and other sellers, including Coral, allegedly engaged in market manipulation that dramatically drove up wholesale energy prices.¹¹ At the same time, hydroelectric power supply from the Pacific Northwest declined,¹² causing wholesale electricity prices to jump even higher.¹³ In May 2000, average prices in the

Sept. 14, 2021); *see also* Opinion No. 587, 185 FERC ¶ 61,197 at P 443 n.1028 (establishing Trial Staff as a participant in this hearing).

⁶ *San Diego Gas & Elec. Co.*, 93 FERC ¶ 61,121, at 61,351 (2000) (Nov. 1, 2000 Order).

⁷ *Id.* *See also* AB 1890, signed by Governor Wilson on September 23, 1996, California Statutes 1996, Chapter 854 (Restructuring Legislation or AB 1890).

⁸ Opinion No. 587, 185 FERC ¶ 61,197 at P 5.

⁹ Nov. 1, 2000 Order, 93 FERC ¶ 61,121 at 61,352.

¹⁰ *Pub. Utils. Comm'n of State of Cal. v. FERC*, 462 F.3d 1027, 1039 (9th Cir. 2006).

¹¹ *Id.*

¹² *Id.* at 1040.

¹³ Joint Stipulation of Uncontested Facts (JSF) 2 (May 30, 2025).

CalPX spot market were double what they were in May 1999, and starting in June 2000, consumers in Northern California began to experience rolling blackouts.¹⁴

9. In August 2000, San Diego Gas & Electric (SDG&E) filed a complaint under section 206 of the Federal Power Act (FPA) against all sellers of energy and ancillary services in the CalPX and CAISO markets.¹⁵ SDG&E requested that the Commission impose price caps on sales into California markets.¹⁶ Other parties, including PG&E and the State of California, joined the complaint, which was filed in Docket No. EL00-95.¹⁷

10. The Commission determined that the spot market rates in CalPX and CAISO were unjust and unreasonable.¹⁸ In an order issued on November 1, 2000 (November 2000 Order), the Commission proposed modifications to the structure and rules of the California markets, established a refund effective date of October 2, 2000, and ordered an evidentiary hearing to determine the appropriate amount of refunds owed.¹⁹ The Commission determined that CAISO and CalPX spot market transactions executed between October 2, 2000 and June 20, 2001 (the Refund Period) were eligible for refunds.²⁰

11. Despite the Commission's actions in the November 2000 Order, high wholesale rates persisted.²¹ CalPX ceased operations in January 2001 and declared bankruptcy in March 2001.²² PG&E declared bankruptcy in April 2001, and SCE and SDG&E were also in dire financial straits.²³ On January 17, 2001, California Governor Gray Davis

¹⁴ *Pub. Utils. Comm'n of State of Cal. v. FERC*, 462 F.3d at 1040.

¹⁵ *Id.* at 1041.

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ JSF 6.

¹⁹ Nov. 1, 2000 Order, 93 FERC ¶ 61,121 at 61,370-373.

²⁰ *Pub. Utils. Comm'n of State of Cal. v. FERC*, 462 F.3d at 1041.

²¹ JSF 7.

²² JSF 8.

²³ JSF 9.

declared a State of Emergency and ordered CDWR to enter into long-term contracts to purchase power to make up the shortfall resulting from investor-owned utilities' (IOUs) inability to meet ratepayer demand.²⁴ CDWR negotiated contracts with numerous sellers from January 17, 2001, through July 6, 2001 (the Negotiation Period).²⁵ Throughout this period, energy prices remained abnormally high.²⁶ Coral and CDWR executed the Shell Contract during this period, on May 25, 2001.²⁷

C. Spot Market Refund Liability - Mitigated Market Clearing Price (MMCP) & Opinion 536

12. Once the California energy markets started to stabilize, the Commission began to consider remedies for unjust and unreasonable rates arising from past sales in the CalPX and CAISO spot markets.²⁸ On July 25, 2001, the Commission issued an order establishing a methodology to calculate refunds related to transactions that occurred in the CalPX and CAISO spot markets during the Refund Period.²⁹ The Commission adopted a proxy price, referred to as the “mitigated market clearing price” (MMCP), to replicate the price that participants would have paid in a competitive market from October 2, 2000 through June 20, 2001, and ordered sellers to disgorge revenue collected in excess of this proxy.³⁰ The Commission restricted use of the MMCP to calculate refunds for transactions within the Refund Period and to transactions of less than twenty-four hours in length.³¹

²⁴ JSF 10; *see also Pub. Utils. Comm'n of State of Cal. v. FERC*, 462 F.3d at 1042.

²⁵ JSF 11.

²⁶ JSF 14.

²⁷ JSF 13. The Commission refers to this era of high prices and market instability from May 1, 2000 to July 6, 2001 as the Crisis Period. Opinion No. 587, 185 FERC ¶ 61,197 at P 47.

²⁸ *San Diego Gas & Elec. Co., et al.*, 96 FERC ¶ 61,120 (2001) (July 25, 2001 Order).

²⁹ *Id.* at 61,499.

³⁰ *San Diego Gas & Elec. Co., v. Sellers of Energy & Ancillary Servs.*, 97 FERC ¶ 61,275, at 62,212 (2001).

³¹ *Pub. Utils. Comm'n of State of Cal. v. FERC*, 462 F.3d at 1043.

13. In the July 2001 Order establishing the MMCP, the Commission also ordered an evidentiary hearing to calculate refunds and a fact-finding investigation to examine whether any entity manipulated short term energy prices.³² Meanwhile, the California Parties requested rehearing on the grounds that the Commission incorrectly declined to consider refunds for transactions executed before the Refund Period.³³ After the Commission denied this request,³⁴ the California Parties appealed to the Ninth Circuit.³⁵ The Ninth Circuit determined that the Commission erroneously excluded FPA section 309 relief for tariff violations that occurred before the refund effective date, from May 1, 2000 to October 1, 2000 (Summer Period), and remanded the case back to the Commission.³⁶ The Ninth Circuit also expanded the scope of the proceeding to include forward transactions of durations longer than twenty-four hours.³⁷

14. On remand, the Commission ordered an evidentiary hearing addressing tariff violations that occurred in both the Refund Period³⁸ and the Summer Period to determine which transactions were subject to refund.³⁹ The Commission reopened the record to determine which market practices and behaviors constitute tariff violations, whether any of the respondent sellers engaged in tariff violations, and whether such tariff violations affected the market clearing prices.⁴⁰ The Presiding Judge issued an initial decision on February 15, 2013.⁴¹

³² *San Diego Gas & Elec. Co., et al.*, Opinion No. 536, 149 FERC ¶ 61,116, at PP 7-8 (2014) (Opinion No. 536).

³³ *San Diego Gas & Elec. Co., et al.*, 105 FERC ¶ 61,066, at P 183 (2003).

³⁴ *See id.*

³⁵ Opinion No. 536, 149 FERC ¶ 61,116 at P 9.

³⁶ *Id.* at PP 1, 9.

³⁷ *Pub. Utils. Comm'n of State of Cal. v. FERC*, 462 F.3d at 1058.

³⁸ The Refund Period ran from October 2, 2000, to June 20, 2001.

³⁹ *San Diego Gas & Elec. Co., et al.*, 129 FERC ¶ 61,147, at P 4 (2009).

⁴⁰ *Id.* at P 3.

⁴¹ Opinion No. 536, 149 FERC ¶ 61,116 at P 13.

15. In Opinion No. 536, the Commission affirmed the California Parties' proxy price methodology and found that multiple sellers, including Shell, engaged in activities in the CAISO and CalPX markets that constituted tariff violations, and which impacted the market clearing price during the Summer Period.⁴²

D. Shell Contract Terms and Elements

16. CDWR and Coral executed the Shell Contract on May 25, 2001.⁴³ The Shell Contract provided for delivery of up to 850 megawatt (MW) per month of firm energy at various quantities and different points of time from [effective date] to June 30, 2012.⁴⁴

17. From May 24, 2001, to December 31, 2005, the Shell Contract stipulated fixed dollar per megawatt hour prices.⁴⁵ From January 1, 2006, the Shell Contract stipulated that California would purchase power according to an indexed pricing arrangement. Under this arrangement, Shell's rates included a \$25.16/megawatt-hour (MWh) fixed charge and a variable charge derived by multiplying fuel price times a contract heat rate.⁴⁶

18. The Shell Contract provided for delivery of two types of energy products. Shell agreed to deliver between 100 MW and 400 MW of "peak hour" (6x16)⁴⁷ blocks of energy⁴⁸ throughout the entire contract term.⁴⁹ Beginning in July 2002, the Shell

⁴² *Id.* at P 3.

⁴³ See Ex. CAL-031 PUB; The have also stipulated that Ex. CAL-636 PUB provides an accurate summary of the details of the Shell Contract. JSF at P 25.

⁴⁴ Ex. CAL-031 PUB.

⁴⁵ The fixed prices charged in this period of the contract term vary depending on the date. Ex. CAL-636 PUB provides a full list of fixed prices charged throughout the contract term.

⁴⁶ Ex. CAL-636 PUB.

⁴⁷ JSF at P 31.

⁴⁸ When energy is sold in blocks, the purchaser is required to take the entire block of energy whether the purchaser requires that much energy or not. Tr. 416:2-21 (Dr. Celebi).

⁴⁹ JSF 31.

Contract also provided for deliveries of 100 MW of “clock hour” (7x24)⁵⁰ block of energy.⁵¹ The Shell Contract also reduced deliveries by fifty percent during the months of November, December, March, April, and May of each contract year, excluding May 2001.⁵²

19. The Shell Contract also included optional terms for both parties. First, CDWR had the option to schedule dispatch of each of the five planned 43 MW gas-fired combustion turbines (Wildflower Peaking Units) for up to 500 hours each year between 2002 and 2005.⁵³ The contract stipulated, however, that Shell did not have to provide energy from the Wildflower Peaking Units, but rather could provide the energy from sources not specified in the contract.⁵⁴ Second, starting in July 2003, the contract provided Shell the option to increase peak hour volumes by 175 MW, and starting in July 2004, Shell could increase peak hour volumes another 175 MW.⁵⁵

20. The Shell Contract specified three delivery locations: NP-15, SP-15, and ZP-26.⁵⁶

21. Over the contract term, CDWR paid Shell approximately \$2.85 billion for 34.5 million MWh of energy, with an average “all-in” cost of \$82.51/MWh.⁵⁷

E. The California Parties’ FPA Section 206 Complaint

22. On February 25, 2002, after electricity prices in the Western United States returned to pre-Crisis levels, the CPUC and the now-defunct CEOB filed two section 206

⁵⁰ JSF 31.

⁵¹ Ex. CAL-636 PUB.

⁵² These months were referred to as the “Shoulder Months” of the Shell Contract. Tr. 301:8-23 (Dr. Celebi).

⁵³ JSF 37.

⁵⁴ JSF 36.

⁵⁵ JSF 40; Ex. CAL-636 PUB.

⁵⁶ JSF 35. NP-15 refers to the north of path 15. SP-15 refers to the south of path 15. ZP-26 refers to the California ISO congestion zone. See Ex. CAL-031 PUB at ¶¶ 1.79, 1.94 and 2.00.

⁵⁷ JSF 38.

complaints seeking to abrogate many of the long-term contracts that CDWR signed to make up for shortfalls in the Crisis Period, including the Shell Contract.⁵⁸ The respondents were sellers of energy and capacity under the long-term contracts that CDWR executed between January and July 2001 (the Negotiation Period).⁵⁹

23. The Commission consolidated the CPUC and CEOB complaints in Docket Nos. EL02-60 and EL02-62 and established a refund date of April 26, 2002.⁶⁰

24. Following a hearing conducted by Administrative Law Judge Bobbie J. McCartney,⁶¹ the Commission determined that CPUC and CEOB did not meet the burden of proof under the *Mobile-Sierra* doctrine to abrogate the contracts.⁶² The Commission thereby dismissed the California Parties' claims against Shell and denied requests for rehearing.⁶³

F. *Morgan Stanley & Remand Proceedings*

25. The CEOB and CPUC appealed the Commission's dismissal of their complaints to the Ninth Circuit.⁶⁴ The Ninth Circuit issued an opinion in *Snohomish*, a companion case issued concurrently with its opinion on the CEOB and CPUC appeals, which redefined

⁵⁸ Opinion No. 587, 185 FERC ¶ 61,197 at P 9.

⁵⁹ Joint Procedural History at 2.

⁶⁰ JSF 41.

⁶¹ *Pub. Utils. Comm'n of Cal. v. Sellers of Long-Term Contracts*, 102 FERC ¶ 63,013 (2003); *see also* Joint Procedural History at 2-3.

⁶² The *Mobile-Sierra* presumption takes its name from two cases decided by the Supreme Court of the United States (Supreme Court) on the same day: *United Gas Pipe Line Co. v. Mobile Gas Serv. Corp.*, 350 U.S. 332 (1956) (*Mobile*) and *FPC v. Sierra Pac. Power Co.*, 350 U.S. 348 (1956) (*Sierra*). The *Mobile-Sierra* presumption holds that rates set through an arms-length bilateral contract between sophisticated parties are presumed to be just and reasonable, unless they violate the public interest.

⁶³ *Pub. Utils. Comm'n of Cal. v. Sellers of Long-Term Contracts to the Cal. Dep't of Water Res.*, 103 FERC ¶ 61,354, at P 3 (2003) (June 26, 2003 Order), *order on reh'g*, 105 FERC ¶ 61,182 (2003) (November 10, 2003 Rehearing Order).

⁶⁴ JSF 44.

the *Mobile-Sierra* presumption.⁶⁵ The Ninth Circuit found that the Commission incorrectly applied *Mobile-Sierra* to the CDWR contracts under this new standard.⁶⁶ Shell and other respondents appealed the decision, and the Supreme Court granted certiorari in *Snohomish*, the companion case.⁶⁷

26. In *Morgan Stanley*, the Supreme Court reaffirmed the validity of the *Mobile-Sierra* presumption, holding that rates set through an arms-length bilateral contract between sophisticated parties retain a presumption of justness and reasonableness.⁶⁸ The Supreme Court clarified, however, that the *Mobile-Sierra* presumption can be avoided “where there is unfair dealing at the contract formation stage” or overcome where the contract seriously harms the public interest.⁶⁹ The Supreme Court then granted certiorari to the CPUC and CEOB complaint proceedings and remanded to the Ninth Circuit for reconsideration in light of *Morgan Stanley*.⁷⁰ Accordingly, the Ninth Circuit remanded the case to the Commission for further proceedings consistent with *Morgan Stanley*.⁷¹

27. On remand, the Commission ordered an evidentiary hearing to supplement the existing record and reconsider the case under the new *Mobile-Sierra* standard.⁷² On April 12, 2016, Presiding Judge Glazer issued an initial decision finding that the *Mobile-Sierra* presumption was both avoided and overcome regarding the Shell Contract (2016 Initial Decision).⁷³

⁶⁵ JSF 45.

⁶⁶ *Pub. Utils. Comm'n of Cal. v. FERC*, 474 F.3d 587 (9th Cir. 2006). *See also* Joint Stipulation of Facts at P 45.

⁶⁷ *Pub. Util. Dist. No. 1 of Snohomish County v. FERC*, 471 F.3d 1053 (9th Cir. 2006) (*Snohomish*).

⁶⁸ *Morgan Stanley Capital Grp. Inc. v. Pub. Util. Dist. No. 1 of Snohomish Cty.*, 554 U.S. 527, 547 (2008) (*Morgan Stanley*).

⁶⁹ *Id.* at 547-55.

⁷⁰ JSF 47.

⁷¹ *Pub. Utils. Comm'n of Cal. v. FERC*, 550 F.3d 767 (9th Cir. 2008).

⁷² *Pub. Utils. Comm'n of Cal. v. Sellers of Long-Term Contracts to the Cal. Dep't of Water Res.*, 149 FERC ¶ 61,127 (2014); *see also* JSF 49.

⁷³ *Pub. Utils. Comm'n of Cal. v. Sellers of Long-Term Contracts to the Cal. Dep't*

28. Before reaching a final determination on the 2016 Initial Decision, the Commission remanded the issue of fraud to the Presiding Judge for a full briefing (Limited Remand Proceeding).⁷⁴ The Commission found that the Presiding Judge's *sua sponte* consideration of various fraud claims raised due process concerns given that Shell did not have the opportunity to present rebuttal evidence.⁷⁵ On June 23, 2022, after a full briefing on the fraud issue, Judge Glazer issued a Revised Partial Initial Decision that addressed whether Shell committed fraud that directly affected negotiations of the Shell Contract and whether Shell's conduct constitutes fraud-in-the-inducement or fraud-in-the-inception.⁷⁶

G. Opinion No. 587

On December 20, 2023, in Opinion No. 587, the Commission affirmed the Revised Partial Initial Decision's finding that the *Mobile-Sierra* presumption does not apply to the Shell Contract because Shell engaged in fraud that directly affected contract negotiations.⁷⁷ The Commission found that Shell's spot market strategies artificially inflated prices and that Shell knowingly used these prices to extract contract concessions from CDWR and to lock in Crisis Period profits.⁷⁸ The Commission further determined that Shell's representations to CDWR about its losses were deceptive and intended to induce CDWR to agree to contract prices that were inflated by Shell's unlawful market activity.⁷⁹ The Commission concluded that Shell's fraud resulted in an uneven playing field for negotiation because CDWR did not realize that Shell's market manipulation had

of *Water Res.*, 155 FERC ¶ 63,004 (2016) (2016 Initial Decision).

⁷⁴ *Pub. Utils. Comm'n of Cal. v. Sellers of Long-Term Contracts to the Cal. Dep't of Water Res.*, 175 FERC ¶ 61,233, at P 22 (2021).

⁷⁵ *Id.*

⁷⁶ *Pub. Utils. Comm'n of Cal. v. Sellers of Long-Term Contracts to the Cal. Dep't of Water Res.*, 179 FERC ¶ 63,026 (2022).

⁷⁷ See generally Opinion No. 587, 185 FERC ¶ 61,197.

⁷⁸ *Id.* at P 224.

⁷⁹ *Id.* at P 228.

driven up prices.⁸⁰ Thus, the Commission concluded that the Shell Contract was not the result of a “legitimate arm’s-length negotiation.”⁸¹

29. Although the Commission affirmed the Revised Partial Initial Decision’s finding that a causal nexus exists between Shell’s spot market manipulation and the negotiation of the Shell Contract, it did not fully adopt the Presiding Judge’s rationale for this finding.⁸² Specifically, the Commission affirmed the Presiding Judge’s finding that CDWR believed it needed to agree to a price that would make up for Shell’s purported losses, but it did not find that there was a causal nexus between Shell’s fraud and CDWR’s procurement strategies, or between Shell’s manipulation of natural gas prices and negotiation of the Shell Contract.⁸³

30. Although the Commission found that the *Mobile-Sierra* presumption was avoided for the Shell Contract, it did not determine whether the rates arising from the Shell Contract were just and reasonable.⁸⁴ The Commission established hearing and settlement procedures to determine whether the Shell Contract rates are unjust and unreasonable.⁸⁵ The Commission did not specify how it would assess justness and reasonableness or suggest any potential remedies.⁸⁶ The Commission did emphasize, however, that it would not use the MMCP as a proxy for just and reasonable rates in bilateral contracts and that the parties cannot relitigate whether the MMCP is an appropriate method to calculate remedies.⁸⁷

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.* at P 220.

⁸³ *Id.* at PP 228, 230.

⁸⁴ *Id.* at P 441.

⁸⁵ *Id.* at P 2.

⁸⁶ *Id.* at P 442.

⁸⁷ *Id.*

H. Prehearing Proceedings in the Current Matter

31. On August 2, 2024, Settlement Judge Matthew Vlissides submitted a final report indicating that the participants reached an impasse in settlement discussions.⁸⁸ On August 5, 2024, Deputy Chief Administrative Law Judge Renee Terry designated the undersigned as the Presiding Judge.⁸⁹

32. The undersigned held the first prehearing conference on September 10, 2024,⁹⁰ and the Chief Administrative Law Judge granted an unopposed motion to extend the procedural track on October 1, 2024.⁹¹ The participants filed testimony in accordance with the adopted procedural schedule.⁹²

33. On December 4, 2024, the undersigned held a prehearing conference to discuss how, in the current proceeding, participants should admit exhibits that were previously admitted in earlier stages of the proceeding.⁹³ After this prehearing conference, the California Parties filed a joint stipulation which reflected the participants' agreement that parties do not have to reauthenticate or readmit any exhibit previously admitted in prior sub-dockets and that such documents are deemed admitted as exhibits in this proceeding, subject to certain filing requirements and other terms.⁹⁴

⁸⁸ *Fourth Report of Settlement Judge Recommending Termination of Settlement Judge Procedures*, Docket Nos. EL02-60-015 & EL02-62-014 (Aug. 2, 2024).

⁸⁹ *Order of Chief Judge Terminating Settlement Judge Procedures, Designating Presiding Administrative Law Judge, and Establishing Track II Procedural Time Standards*, Docket No. EL02-60-015, et al. (Aug. 5, 2024).

⁹⁰ *Order Scheduling Initial Prehearing Conference (Ord. -01)*, Docket Nos. EL02-60-018 & EL02-62-017 (Sept. 6, 2024).

⁹¹ *Order of Chief Judge Granting Track II Extension*, Docket Nos. EL02-60-018 & EL02-62-017 (Oct. 1, 2024).

⁹² *Order Adopting Procedural Schedule (Ord. -05)*, Docket Nos. EL02-60-018 & EL02-62-017 (Oct. 8, 2024) (Procedural Schedule).

⁹³ *Order Scheduling Second Prehearing Conference (Ord. -06)*, Docket Nos. EL02-60-018 & EL02-62-017 (Dec. 2, 2024).

⁹⁴ *Joint Stipulation Concerning Previously Admitted Exhibits*, Docket Nos. EL02-60-018 & EL02-62-017 (filed Jan. 30, 2025) (Previously Admitted Exhibits Stipulation).

34. On March 6, 2025, the California Parties moved to strike portions of Shell's answering testimony, and on March 18, 2025, Shell moved to strike portions of the California Parties' direct testimony.⁹⁵ The undersigned denied both motions.⁹⁶

35. On May 19, 2025, the California Parties filed a motion to compel seeking to obtain certain actual cost of service data associated with the Shell Contract.⁹⁷ The undersigned held oral argument on this issue on May 27, 2025, during which the participants discussed a potential compromise.⁹⁸ On June 6, 2026, the California Parties submitted a notice that the parties had not resolved the discovery dispute raised in the motion to compel.⁹⁹ The undersigned resolved the dispute on the first day of the hearing and ordered Shell to provide limited additional discovery.¹⁰⁰ Then during the hearing, undersigned permitted limited live direct and cross examination regarding the newly produced documents.¹⁰¹

⁹⁵ Motion of California Parties to Strike Portions of Testimony of Shell and Request for Ruling by April 4, 2025 (filed Mar. 6, 2025) (California Parties Motion to Strike); Motion of Shell to Strike Portions of Testimony of California Parties (filed Mar. 18, 2025) (Shell Motion to Strike).

⁹⁶ *Order Denying California Parties' Motion to Strike Testimony of Shell and Request for Ruling by April 4, 2025 (Ord. -09)*, Docket Nos. EL02-60-018 & EL02-62-017 (Apr. 11, 2025); *Order Denying Shell's Motion to Strike Testimony of California Parties (Ord. -10)*, Docket Nos. EL02-60-018 & EL02-62-017 (Apr. 11, 2025).

⁹⁷ Motion of California Parties to Compel Shell to Produce Actual Cost of Service Data (filed May 19, 2025) (Motion to Compel).

⁹⁸ *Order Scheduling Oral Argument (Ord. -11)*, Docket Nos. EL02-60-018 & EL02-62-017 (May 20, 2025); *see generally* Tr. Vol 3.

⁹⁹ California Parties Notice that Motion to Compel is Not Resolved and Request to Reconvene Oral Argument (filed June 6, 2026).

¹⁰⁰ Tr. 162:2-3 (Ritchie).

¹⁰¹ *Id.* at 164:7-167:9 (Presiding Judge, Ritchie, Steckman).

36. On April 1, 2025, the California Parties submitted a proposed Joint Statement of Issues.¹⁰² On May 29, 2025, the Participants submitted prehearing briefs.¹⁰³ On May 30, 2025, the Participants submitted a final Joint Stipulation of Issues, Joint Stipulation of Uncontested Facts, and Joint Witness List and Index of Exhibits.¹⁰⁴

I. Hearing and Post-Hearing Proceedings

37. The undersigned presided over a hearing addressing the matters in the above-captioned dockets from June 9, 2025, through June 24, 2025. The participants proffered sixteen witnesses, of which fifteen testified during the hearing. The California Parties and Trial Staff waived the right to cross-examine Matthew Lind and stipulated to the admission of his pre-filed exhibits.¹⁰⁵

1. Witness Summaries and Qualifications

38. Below are descriptions of each of the testifying witnesses proffered by the California Parties, Shell, and Trial Staff. Each witness was presented as an “expert.” None of the Participants proffered “fact” witnesses.

California Parties Witnesses

39. *Dr. Metin Celebi* is a Principal at the Brattle Group, an economic management consulting firm.¹⁰⁶ Dr. Celebi holds a Ph.D. in Economics from Boston College, a Master of Economics from Bilkent University in Ankara, Turkey, and a Bachelor of Science in Industrial Engineering from Middle East Technical University in Ankara, Turkey.¹⁰⁷ Dr. Celebi has worked as a consultant in the electric power industry for over twenty years, with expertise in electricity markets, resource planning, and environmental

¹⁰² Proposed Joint Statement of Issues (filed Apr. 1, 2025).

¹⁰³ *See, e.g.*, Prehearing Brief of the California Parties (filed May 29, 2025).

¹⁰⁴ *See, e.g.*, JSF (filed May 30, 2025).

¹⁰⁵ Tr. 1149:2-24 (Ritchie, Steckman, Presiding Judge, Williams).

¹⁰⁶ Ex. CAL-00973-REV2 at 1 (Celebi Dir.).

¹⁰⁷ *Id.*

and climate policy.¹⁰⁸ Dr. Celebi provides direct and rebuttal testimony.¹⁰⁹ Dr. Celebi developed seven benchmarks to determine whether the Shell Contract rates are unjust and unreasonable.¹¹⁰

40. *James Read* is a Principal at the Brattle Group.¹¹¹ Mr. Read is a financial and energy economist with over forty years of consulting experience in electric power, natural gas, and petroleum industries.¹¹² Mr. Read holds a Bachelor of Arts in Economics from Princeton University and a Master's Degree in Finance from the Massachusetts Institute of Technology.¹¹³ Mr. Read specializes in energy trading, valuation, and risk management.¹¹⁴ Mr. Read provides direct and rebuttal testimony.¹¹⁵ Mr. Read developed an estimate of what forward energy market prices would have been during the Western energy crisis, absent the effects of fraud and manipulation.¹¹⁶

41. *Dr. Peter Fox-Penner* is a Principal at the Brattle Group.¹¹⁷ Dr. Fox-Penner is an economist with forty years of experience in government and consulting, primarily related to regulated utilities.¹¹⁸ Dr. Fox-Penner holds a Ph.D. in Economics from the University of Chicago Graduate School of Business, a Master's Degree in Mechanical Engineering, and a Bachelor of Science in Electrical Engineering from the University of Illinois.¹¹⁹

¹⁰⁸ *Id.* at 1-2.

¹⁰⁹ *See id.*; Ex. CAL-00990-REV (Celebi Reb.).

¹¹⁰ Ex. CAL-00973-REV2 at i, 15-16 (Celebi Dir.).

¹¹¹ Ex. CAL-00978-REV at 1 (Read Dir.).

¹¹² *Id.* at 1.

¹¹³ *Id.* at 1-2.

¹¹⁴ *Id.* at 1.

¹¹⁵ *See id.*; Ex. CAL-01007-REV2 PUB (Read Reb.).

¹¹⁶ Ex. CAL-00978-REV at 2 (Read Dir.).

¹¹⁷ Ex. CAL-00988-REV at 1 (Fox-Penner Dir.).

¹¹⁸ *Id.*

¹¹⁹ *Id.*

Dr. Fox-Penner provides direct and rebuttal testimony.¹²⁰ Dr. Fox-Penner evaluates whether the Shell Contract rates are unjust and unreasonable, summarizes the effects of fraud and manipulation on market dysfunction during the contract negotiation period, and proposes a just and reasonable rate for the Shell Contract.¹²¹

42. *Dr. Bente Villadsen* is a Principal at the Brattle Group.¹²² Dr. Villadsen has experience in cost of capital, risk, regulatory accounting, regulatory precedent, and related matters for regulated entities, regulators, and investors.¹²³ Dr. Villadsen holds a Ph.D. from Yale University's School of Management with a concentration in accounting, and a Master of Science and a Bachelor of Science joint degree in mathematics and economics from the University of Aarhus in Denmark.¹²⁴ Dr. Villadsen provides rebuttal testimony to Shell witness Dr. Schatzki's testimony and comments on Trial Staff witness Dr. Green's testimony.¹²⁵ Dr. Villadsen testifies that Dr. Schatzki's estimate of After-Tax Weighted Average Cost of Capital (ATWACC) for the Shell Contract is too high and proposes a modified ATWACC.¹²⁶

43. *Jaime Rose Gannon* is a supervisor in the Electric Market Design Section of the Energy Division of the CPUC and oversees the CPUC's Resource Adequacy (RA) program.¹²⁷ Ms. Gannon holds a Master's Degree in Economics and a Bachelor of Science in International Business from San Francisco State University.¹²⁸ Ms. Gannon has held various roles at the CPUC since 2009.¹²⁹ Ms. Gannon provides rebuttal

¹²⁰ See *id.*; Ex. CAL-01027-REV (Fox-Penner Reb.).

¹²¹ Ex. CAL-00988-REV at i, 2 (Fox-Penner Dir.).

¹²² Ex. CAL-01044-REV at 1 (Villadsen Reb.).

¹²³ *Id.*

¹²⁴ *Id.* at 2-3.

¹²⁵ *Id.* at 3.

¹²⁶ *Id.* at ii-iii.

¹²⁷ Ex. CAL-01057 at 1 (Gannon Reb.).

¹²⁸ *Id.*

¹²⁹ *Id.* at 1-2.

testimony.¹³⁰ Ms. Gannon addresses the testimony of Shell witness Dr. Cavicchi regarding CPUC's treatment of the Shell Contract under the CPUC's RA program.¹³¹

Shell's Witnesses

44. *Joseph Cavicchi* is a power system economist and Vice President at Analysis Group, Inc., an economic, finance and strategy consulting firm.¹³² Mr. Cavicchi is also a registered professional mechanical engineer in the State of Massachusetts.¹³³ Mr. Cavicchi has worked on issues related to the electricity industry for twenty-seven years including overseeing the design, engineering, construction, and start-up of a cogeneration plant.¹³⁴ Mr. Cavicchi holds a Master of Science in technology policy from the Massachusetts Institute of Technology, a Master of Science in environmental engineering from Tufts University, and a Bachelor of Science in mechanical engineering from the University of Connecticut.¹³⁵ Mr. Cavicchi provides cross-answering testimony.¹³⁶ Mr. Cavicchi analyzes the Shell Contract rate according to Commission ratemaking principles, calculates a cost-of-service benchmark to compare against the Shell Contract rate, and identifies a potential zone of reasonableness.¹³⁷

45. *Paul Hibbard* is a Principal at Analysis Group, Inc.¹³⁸ Mr. Hibbard holds a Master of Science in Energy and Resources from the University of California, Berkeley, and a Bachelor of Science in Physics from the University of Massachusetts, Amherst. Mr. Hibbard was previously the Chairman of the Massachusetts Department of Public

¹³⁰ *See id.*

¹³¹ *Id.* at 4.

¹³² Ex. SHE-0001 REV2 at 1 (Cavicchi Ans.).

¹³³ *Id.*

¹³⁴ *Id.*

¹³⁵ Ex. SHE-0002 at 1.

¹³⁶ *See* Ex. SHE-0001 REV2 (Cavicchi Ans.).

¹³⁷ *Id.* at i.

¹³⁸ Ex. SHE-0029 REV at 1 (Hibbard Ans.).

Utilities.¹³⁹ Currently, Mr. Hibbard provides consulting services to clients in the areas of energy and environmental markers, regulation, and policy.¹⁴⁰ Mr. Hibbard provides cross-answering testimony.¹⁴¹ Mr. Hibbard responds to the testimony of Dr. Fox-Penner and Dr. Celebi by evaluating whether the rates in the California Parties' witnesses' testimony align with the Commission's definition of just and reasonable rates and its application of policy and precedent to review market-based and cost-based rates.¹⁴²

46. *Dr. Steven Puller* is a Professor of Economics and the Rex B. Grey Professor in the Department of Economics at Texas A&M University.¹⁴³ Dr. Puller is an economist specializing in energy economics, regulation, empirical industrial organization, and public economics.¹⁴⁴ Dr. Puller holds a Ph.D. in Economics from the University of California, Berkeley and an A.B. in Economics from the University of Chicago.¹⁴⁵ Dr. Puller provides cross-answering testimony.¹⁴⁶ Dr. Puller evaluates the testimony of Mr. Read, Dr. Fox-Penner, and Dr. Celebi.¹⁴⁷ Dr. Puller testifies on the economics of long-term contracts and asserts that the appropriate benchmark to determine the correct Shell Contract price is an appropriately-calculated long-run marginal cost (LRMC) benchmark.¹⁴⁸

47. *Dr. John Morris* is the Managing Director at Secretariat Advisors LLC, a consulting firm.¹⁴⁹ Dr. Morris holds a Ph.D. and a Master's Degree in economics from

¹³⁹ *Id.*

¹⁴⁰ *Id.*

¹⁴¹ *See id.*

¹⁴² *Id.* at 3, 5.

¹⁴³ Ex. SHE-0052 REV2 at 1 (Puller Ans.).

¹⁴⁴ *Id.* at i.

¹⁴⁵ *Id.* at 1.

¹⁴⁶ *See id.*

¹⁴⁷ *Id.* at 2.

¹⁴⁸ *Id.* at i.

¹⁴⁹ Ex. SHE-0109 REV2 at 1 (Morris Ans.).

the University of Washington and a Bachelor's Degree in economics from Georgetown University.¹⁵⁰ Dr. Morris has been studying and consulting in the energy industry since 1985 and primarily focuses on industrial organization.¹⁵¹ Dr. Morris provides cross-answering testimony.¹⁵² Dr. Morris addresses natural gas markets in western states, the Commission's market-based rate process, whether Shell had market power, and Dr. Fox-Penner's theories.¹⁵³

48. *Matthew Hunter* is an expert in commodities trading, including electricity and physical and financial commodities.¹⁵⁴ Mr. Hunter previously worked as a power trader during the Crisis Period and at the Commission as a subject matter expert on power trading.¹⁵⁵ Mr. Hunter provides cross-answering testimony.¹⁵⁶ Mr. Hunter claims that Read's testimony incorrectly relies on fax sheets to create forward curves used to measure levels of fraud and manipulation.¹⁵⁷

49. *Kelly Hauert* is the owner and principal of Hauert Consulting LLC, a consulting firm providing services for utilities.¹⁵⁸ Ms. Hauert has worked in the regulated electric and water utility industry for approximately eighteen years.¹⁵⁹ Ms. Hauert provides cross-answering testimony.¹⁶⁰ Ms. Hauert provides a prospective cost study to rebut the

¹⁵⁰ *Id.*

¹⁵¹ *Id.*

¹⁵² *See id.*

¹⁵³ *Id.* at i.

¹⁵⁴ Ex. SHE-0136 REV at 1 (Hunter Ans.).

¹⁵⁵ *Id.* at i, 1.

¹⁵⁶ *See id.*

¹⁵⁷ *Id.* at i.

¹⁵⁸ Ex. SHE-0137 REV at 1 (Hauert Ans.).

¹⁵⁹ *Id.*

¹⁶⁰ *See id.*

testimony of Dr. Celebi and Dr. Fox-Penner by estimating Shell's revenue requirement if it had delivered electricity to CDWR from its own generating resources.¹⁶¹

50. *Matthew Lind* is a Director for 1898 & Co., a consulting and technology division of Burns & McDonnell Engineering Company Inc., and leads the Resource Planning & Market Assessments Business Line, where he has spent most of his twenty year career.¹⁶² Mr. Lind holds a Master of Business Administration in Finance from the University of Missouri-Kansas City, a Bachelor of Science in Industrial Engineering from Iowa State University, and is a registered Professional Engineer in Kansas.¹⁶³ Mr. Lind provides cross-answering testimony.¹⁶⁴ Mr. Lind responds to Dr. Celebi's testimony by developing design specification, cost estimates, and operational performance information to use as inputs for Ms. Hauert and Mr. Cavicchi's cost-of-service-models.¹⁶⁵

51. *Dr. Todd Schatzki* is a Principal at the Analysis Group.¹⁶⁶ Dr. Schatzki is an economist with expertise in energy and environmental economics, regulation, and policy, including experience in wholesale and retail electricity markets, natural gas markets, and other fuel markets.¹⁶⁷ Dr. Schatzki holds a Ph.D. in public policy from Harvard University, a Master of City Planning from Massachusetts Institute of Technology, and a Bachelor of Art in physics from Wesleyan University.¹⁶⁸ Dr. Schatzki provides cross-answering testimony.¹⁶⁹ Dr. Schatzki assesses Dr. Celebi's testimony and develops

¹⁶¹ *Id.* at i.

¹⁶² Ex. SHE-0149 REV2 at 1-2 (Lind Ans.).

¹⁶³ *Id.* at 2.

¹⁶⁴ *See id.*

¹⁶⁵ *Id.* at 3.

¹⁶⁶ Ex. SHE-0155 REV2 at 1 (Schatzki Ans.).

¹⁶⁷ *Id.* at 1.

¹⁶⁸ Ex. SHE-0156 at 1.

¹⁶⁹ *See* Ex. SHE-0155 REV2 (Schatzki Ans.).

estimates of what the cost of capital would be to build a new merchant generation resource in California circa 1999-2000.¹⁷⁰

Trial Staff Witnesses

52. *Dr. Gregory Golino* is an Economist for the Commission in the Technical Division of the Office of Administrative Litigation.¹⁷¹ Dr. Golino holds a Ph.D. in Economics from George Mason University and a Bachelor of Science in Finance and Economics from Bryant University.¹⁷² Dr. Golino has worked for the Commission since 2020, previously worked for the Economic Research Service of the United States Department of Agriculture as a Pathways Intern, and has guest lectured at George Mason University while completing his Ph.D.¹⁷³ Dr. Golino provides direct and answering testimony.¹⁷⁴ Dr. Golino describes the LRMC models that Shell and the California Parties' witnesses present, evaluates whether the Shell Contract was unjust and unreasonable, and provides an alternative framework to assess the Shell Contract.¹⁷⁵

53. *Douglas M. Green* is a Financial Analyst in the Office of Administrative Litigation.¹⁷⁶ Mr. Green received a Bachelor of Science in Finance from the University of Maryland and has worked for the Commission since 1992.¹⁷⁷ Additionally, Mr. Green is a Chartered Financial Analyst.¹⁷⁸ Mr. Green provides direct and answering testimony.¹⁷⁹ Mr. Green addresses Dr. Schatzki's application of a two-step constant growth discounted cash flow (DCF) model and reviews Dr. Schatzki's proxy group of

¹⁷⁰ *Id.* at 2-3.

¹⁷¹ Ex. S-0106 at 2 (Golino Dir. and Ans.).

¹⁷² *Id.*

¹⁷³ *Id.*

¹⁷⁴ *Id.*

¹⁷⁵ *Id.* at 4.

¹⁷⁶ Ex. S-0107 at 2 (Green Ans.).

¹⁷⁷ *Id.* Appendix A at 1.

¹⁷⁸ *Id.*

¹⁷⁹ *See* Ex. S-0107 (Green Ans.).

independent power producers (IPPs) which Dr. Schatzki used to calculate a proposed ROE for Shell's hypothetical new merchant generation project.¹⁸⁰

54. *Dr. Cagri K. Turan* is a Civil Engineer in the Office of Administrative Litigation.¹⁸¹ Dr. Turan holds a Ph.D. in Civil and Environmental Engineering from the University of Iowa and has a Bachelor of Science and Master of Science in Civil Engineering from the Middle East Technical University, Turkey.¹⁸² Dr. Turan is a licensed Professional Engineer in the Commonwealth of Virginia and has worked for the Commission since 2021.¹⁸³ Dr. Turan provides direct and answering testimony.¹⁸⁴ Dr. Turan critiques Dr. Celebi and Dr. Schatzki's suggested amortization periods and proposes an alternative amortization period of 25 years.¹⁸⁵

2. Post-Hearing Motions

55. On July 1, 2025, the California Parties moved for inclusion of two exhibits that they did not seek to admit during the hearing.¹⁸⁶ On July 15, 2025, the undersigned issued an order denying the motion because admitting the exhibits after the close of the record would prejudice Shell and Trial Staff by not affording them an opportunity to object to the exhibits or cross-examine witnesses about them.¹⁸⁷

¹⁸⁰ *Id.* at 2.

¹⁸¹ Ex. S-0109 at 2 (Turan Ans.).

¹⁸² *Id.*

¹⁸³ *Id.*

¹⁸⁴ *See id.*

¹⁸⁵ *Id.* at ii.

¹⁸⁶ Motion for Inclusion in the Record of Previously Admitted Exhibits at 2 (Filed July 1, 2025).

¹⁸⁷ *Order Denying Motion for Inclusion in the Record of Previously Admitted Exhibits* (filed July 15, 2025).

II. ISSUE 1: LEGAL STANDARD APPLIED TO A MARKET-BASED RATE CONTRACT WHERE THE *MOBILE-SIERRA* DOCTRINE DOES NOT APPLY

Party Arguments

California Parties

56. The California Parties note that all parties agree that the Commission must review the Shell Contract under the ordinary just and reasonable standard. The California Parties take issue, however, with Shell's position that the Commission must assess the Shell Contract based on the market conditions at the time the contract was executed, including the terms of other contracts CDWR signed during the Crisis Period.¹⁸⁸ The California Parties assert that while market conditions at the time the parties signed the Shell Contract are relevant, the proper method to determine a just and reasonable rate is to reset the contract price to a market price that would have been present but for a manipulated market.¹⁸⁹

57. The California Parties challenge Shell's invocation of *French Broad* and argue that, given Shell's "fraudulent complicity" in the Energy Crisis, Shell's reliance on *French Broad* is misplaced because, while the case prohibits "cherry-picking" the benefits of a long-term contract to effectively immunize the contract from its "burdens," the California Parties contend that they are asking the Commission to consider the "actual benefits and burdens over the full life of the contract."¹⁹⁰

Shell

58. Shell argues that the Commission must apply the "life of the contract" standard to determine whether the California Parties have met their burden of proof. Shell claims that this approach requires the Commission to "consider the contract as a whole, as the parties negotiated it, and consider all the benefits that flowed to the buyer of the term of the contract as well as its costs."¹⁹¹ Shell further argues that the Commission must make

¹⁸⁸ California Parties' Post Hearing Brief at 4-5 (filed July 24, 2025 – Revised Aug. 5, 2025) (Cal. Parties Initial Br.).

¹⁸⁹ See generally *id.* at 5-6.

¹⁹⁰ California Parties' Post-Hearing Reply Brief at 6-7 (filed Aug. 25, 2025).

¹⁹¹ Post-Hearing Initial Brief of Shell Energy North America (US), L.P. at 36 (filed July 24, 2025) (Shell Initial Br.).

these determinations based on market conditions at the time the parties negotiated the Shell Contract.¹⁹² Shell concludes that it is appropriate to consider cost-of-service and market-based rate principles to assess whether a market-based rate is reasonable.¹⁹³ This is because market-based ratemaking allows for “pricing flexibility” which is intended to result in just and reasonable rates that fall within a zone of reasonableness.¹⁹⁴

Trial Staff

59. Trial Staff argues that the California Parties must present evidence that shows it was “more probable than not” that the Shell Contract was unjust and unreasonable.¹⁹⁵ Trial Staff concludes that the California Parties carry both the burden of production and the burden of persuasion and must prove that the Shell Contract was unjust and unreasonable as a factual matter.¹⁹⁶

Discussion

60. Given that the *Mobile-Sierra* presumption does not apply, the Commission must review the Shell Contract under the ordinary just and reasonable standard pursuant to FPA section 206.¹⁹⁷ This involves a two-step inquiry: (1) are the existing rates just and reasonable, and (2) what replacement rate would be just and reasonable?¹⁹⁸ There is no single just and reasonable rate, but rather a “zone of reasonableness” bounded by public interest against excessive rates and investor interest in obtaining sufficient cost recovery.¹⁹⁹

¹⁹² *Id.*

¹⁹³ *Id.* at 37.

¹⁹⁴ *Id.* at 37.

¹⁹⁵ Initial Brief of the Commission Trial Staff at 14-15 (filed July 24, 2025) (Trial Staff Initial Br.) (citing *BP Pipelines (Alaska) Inc.*, 149 FERC ¶ 61,149, at P 50 (2014)).

¹⁹⁶ *Id.* at 15.

¹⁹⁷ *Morgan Stanley*, 554 U.S. at 535.

¹⁹⁸ 16 U.S.C. § 824(e).

¹⁹⁹ *Pac. Gas & Elec. Co. v. FERC*, 306 F.3d 1112, 1116 (D.C. Cir. 2002).

61. The parties dispute the extent to which different methods are valid to determine whether the Shell Contract rates are just and reasonable. The California Parties propose seven benchmarks to assess the Shell Contract rates. The undersigned addresses each of these benchmarks, and the corresponding counterarguments, in the following sections.

62. Certain general principles cut across multiple benchmarks. For example, the Commission must apply a “life of the contract” approach to review the Shell Contract.²⁰⁰ This requires the Commission to consider the costs and benefits of the contract over its full term, rather than on a “snapshot in time basis.”²⁰¹ The California Parties do not dispute this. Instead, they argue that the doctrine does not support Shell’s claim that the Commission should consider the Shell Contract’s role in resolving the energy crisis as one of these benefits.²⁰²

63. *French Broad* does not support Shell’s contention that the Commission must consider the Shell Contract’s role in resolving the Energy Crisis. In *French Broad*, the Commission weighed benefits such as permission to charge rates below cost of service, billing adjustments, coordination of load management, and assurance of “adequate capacity and energy to meet [the purchaser’s] long-term needs.”²⁰³ While the Shell Contract may have provided the benefit of ensuring long-term capacity, *French Broad* does not require the Commission to consider the Shell Contract’s role in resolving the Energy Crisis. In *French Broad*, the Commission held that it must holistically consider the benefits that a contract provides; it says nothing about whether Shell should get credit for resolving a problem that was, at least in part, of its own making.²⁰⁴ Hence, while the Commission should apply the “life of the contract” approach to assess the holistic benefits of the Shell Contract for its full term, it does not need to consider the Shell Contract’s role in resolving the energy crisis as one of these benefits.

²⁰⁰ See *French Broad Elec. Membership Corp.*, 92 FERC ¶ 61,283 (2000) (*French Broad*).

²⁰¹ *Id.* at 6.

²⁰² Cal. Parties Initial Br. at 6.

²⁰³ *French Broad*, 92 FERC ¶ 61,283 at 7.

²⁰⁴ See *id.*

III. ISSUE 2: WHETHER THE CALIFORNIA PARTIES HAVE MET THEIR BURDEN OF PROVING THE EXISTING SHELL CONTRACT RATE IS UNJUST AND UNREASONABLE

IV. LEGAL STANDARD

A. The FPA's Just and Reasonable Standard

64. Under the FPA, all wholesale electricity rates, whether set by contract or tariff, must be “just and reasonable.”²⁰⁵ This standard applies to proceedings instituted under FPA section 206.²⁰⁶

65. The just and reasonable standard is “incapable of precise judicial definition”²⁰⁷ and does not bind the Commission to any one ratemaking formula.²⁰⁸ It does, however, generally require the Commission to approve a ratemaking method that appropriately balances investor and consumer interests.²⁰⁹

66. The Commission traditionally applies the “cost-of-service” method to assess rates that ensures an electricity wholesaler recovers its costs plus a rate of return sufficient to attract necessary capital.²¹⁰ However, the Commission generally does not apply cost-of-service methods to assess market-based rates and allows transactions to stand if entered into pursuant to market-based rate authority. This is because “market-based rate regulation is based on the premise that, in a competitive market, where neither buyer nor seller has significant market power, the terms of their voluntary exchange are reasonable, and the price they negotiate will be close to marginal cost, such that the seller makes only a normal return on its investment.”²¹¹ Thus, the just and reasonable review required by

²⁰⁵ 16 U.S.C. § 824d(a); *Morgan Stanley*, 554 U.S. at 531, 545.

²⁰⁶ 16 U.S.C. § 824(e).

²⁰⁷ *Morgan Stanley*, 554 U.S. at 532.

²⁰⁸ *Id.*

²⁰⁹ *Id.*

²¹⁰ *Id.*; see also *E. Tex. Elec. Coop., Inc. v. FERC*, 90 F.4th 579, 583 (D.C. Cir. 2024) (distinguishing between cost-based and market-based electricity rates).

²¹¹ *Pub. Citizen, Inc. v. FERC*, 7 F.4th 1177, 1193 (D.C. Cir. 2021) (internal quotations omitted) (internal citation omitted).

FPA section 206, as applied to the market-based rates, requires the undersigned to determine (1) whether the terms of the contract are reasonable; (2) whether the negotiated price is close to marginal cost; and (3) whether the seller made a normal return on investment.

B. Burden of Proof

67. The Commission applies the following burden of proof in FPA Section 206 proceedings:

[T]he burden of proof under the Administrative Procedure Act refers to a party's burden of persuasion, or the ultimate obligation to persuade the tier of fact as to the truth of the matter, and falls on the proponent of a rule or order. [W]hen a party has the burden of persuasion, it will lose "if the evidence is evenly balanced." The party with the burden of proof bears the burden of production, or the need to provide sufficient evidence to establish a *prima facie* case. Once it meets that burden however, the burden of going forward shifts to the opposing party, although the ultimate burden of persuasion remains with the proponent. The party bearing the burden of proof will prevail only if the preponderance of evidence supports its position.²¹²

68. Here, the California Parties shoulder the burden of proof to demonstrate that the Shell Contract rates were unjust and unreasonable. The undersigned must consider all evidence in the administrative record, however. If the preponderance of the evidence supports the California Parties' position, they will prevail.²¹³

²¹² Opinion No. 536, 149 FERC ¶ 61,116 at P 45 (2014) (citations omitted).

²¹³ See *Sw. Power Pool, Inc.*, Opinion 562-A, 166 FERC ¶ 61,019, at P 18 (2019) (emphasizing, in response to a claim that a party with the burden of proof did not present evidence in its direct case to support its position, that the presiding judge and the Commission consider arguments "in connection with the entirety of the record evidence" (emphasis added)); cf. *City of Winnfield, La. v. FERC*, 744 F.2d 871, 877 (D.C. Cir. 1984) ("If evidence is introduced in the proceeding supporting a rate increase, the increase can lawfully be imposed, regardless of the source from which that evidence comes. In this case, the evidence introduced by the Commission staff satisfied the requirement of § 205."); cf. *White Cliffs Pipeline, L.L.C.*, Opinion No. 573, 173 FERC ¶ 61,155, at P 11 (2020) (noting in the oil pipeline context that "the ALJ and the

**C. ISSUE 2A: WHETHER SHELL’S MARKET-BASED RATE
AUTHORITY IS A FACTOR IN DETERMINING IF THE SHELL
CONTRACT RATE IS UNJUST AND UNREASONABLE**

Participant Arguments

California Parties

69. The California Parties argue Shell’s market-based rate (MBR) authority does not alter the Commission’s obligation to determine whether the Shell Contract rate is just and reasonable under FPA Section 206.²¹⁴ To support this argument, the California Parties cite the 1995 Commission letter granting Coral’s request for MBR authorization to engage in wholesale electric power and energy transactions.²¹⁵ The California Parties note that the Commission stated in the letter that approval of MBR authority “does not constitute approval of any service, rate, charge, classification, or any rule, regulation, contract or practice affecting such rate or service provided for in the filed documents[.]”²¹⁶

70. The California Parties also point to Shell witness Morris’ statement during the hearing where he concedes that, even after approving an application for MBR authority, the Commission retains jurisdiction under Section 206 to guarantee rates are just and reasonable.²¹⁷ The California Parties argue that Shell’s reliance on “inapposite FPA Section 205 cases to argue that MBR authority warrants deference to the contract rate is . . . misplaced.”²¹⁸ The California Parties assert that the courts and the Commission have rejected the argument that MBR authority insulates a contract rate from Section 206 review.²¹⁹ The California Parties further argue that, in Docket No. EL00-95, the

Commission may rely upon the full record when making a market-based rate determination.”).

²¹⁴ Cal. Parties Initial Br. at 8-9.

²¹⁵ *Id.* at 9 (citing Ex. CAL-01067 at 1).

²¹⁶ *Id.*

²¹⁷ *Id.* at 9 (citing Tr. 958:17-959:2 (Morris)).

²¹⁸ *See id.* at 10-11.

²¹⁹ *Id.* at 10 (citing *Shell Energy N. Am. (US), L.P. v. FERC*, 107 F.4th 981, 987 (D.C. Cir. 2024) (“contracts . . . under market-based tariffs are subject to challenge and Commission review.”); *Pub. Citizen, Inc. v. FERC*, 7 F.4th at 1200 (remanding because

Commission addressed sales that Shell made pursuant to its MBR authority, during the same time period that it executed the Shell Contract, and rejected Shell's argument that its MBR authority made the sales lawful.²²⁰ Thus, the California Parties conclude that the Commission should reject Shell's same argument in this proceeding.²²¹

Shell

71. Shell argues that the Commission may rely on Shell's MBR authority to determine that the Shell Contract rates are just and reasonable.²²² Shell asserts that the Commission must address whether the Shell Contract rate is just and reasonable based on Shell's MBR authority alone before analyzing cost-of-service or LRMC-based benchmarks.²²³ Shell further argues the Commission may "rely on market-based rates even in situations where there is reason to question whether a particular transaction is sufficiently competitive."²²⁴

72. Shell explains that the Commission may find the Shell Contract rates are just and reasonable because the procurement process was competitive and because the negotiated rates in the Shell Contract are within the same range as rates CDWR negotiated with other buyers for on-peak power.²²⁵ Shell concludes the above analysis confirms that it is

FERC failed to support its finding that market-based rates were just and reasonable in light of market manipulation); *California ex rel. Harris v. FERC*, 784 F.3d 1267, 1277 (9th Cir. 2015); *San Diego Gas & Elec. Co.*, 97 FERC ¶ 61,275 at 62,220 (finding the existence of market-based rates did not prevent refunds under FPA Section 206)).

²²⁰ *Id.* at 10-11 (citing Ex. CAL-01076; *San Diego Gas & Elec. Co.*, 97 FERC ¶ 61,275 at 62,218, *aff'd*, *Pub. Utils. Comm'n of State of Cal. v. FERC*, 462 F.3d at 1051-55).

²²¹ *See generally* Cal. Parties Initial Br. at 9-12.

²²² Shell Initial Br. at 38.

²²³ *Id.*

²²⁴ *Id.* (citing *Boston Edison Co. Re: Edgar Elec. Energy Co.*, 55 FERC ¶ 61,382, at 62,168-69 (1991); *Allegheny Energy Supply Co. LLC*, 108 FERC ¶ 61,082, P 18 (2004)).

²²⁵ Shell Initial Br. at 39.

appropriate to rely on Shell's MBR authority to determine that the Shell Contract is just and reasonable.²²⁶

Trial Staff

73. Trial Staff disputes Shell's argument that its MBR authority is an independent basis to determine the Shell Contract rates are just and reasonable.²²⁷ Trial Staff argues the Commission has foreclosed a legal presumption that the Shell Contract rate is just and reasonable because the *Mobile-Sierra* presumption has been avoided.²²⁸ Trial Staff claims that Shell selectively cites orders and opinions that predate *Morgan Stanley* and do not address whether a presumption of justness and reasonableness still exists when the *Mobile-Sierra* presumption does not apply.²²⁹

74. Trial Staff argues that the *Morgan Stanley* decision supports the conclusion that MBR authority is not sufficient to demonstrate contract rates are just and reasonable after *Mobile-Sierra* is avoided.²³⁰ Trial Staff notes that, like the Shell Contract, the *Morgan Stanley* case involved long-term contracts which were executed pursuant to MBR authority during the Western Energy Crisis.²³¹ Trial Staff asserts the Court held that unfair dealing or fraud can serve as a basis to abrogate the *Mobile-Sierra* presumption that a contract is just and reasonable.²³² Trial Staff further asserts that the D.C. Circuit recently explained the *Mobile-Sierra* presumption guides the Commission's review of market-based rates.²³³

75. Trial Staff further argues that Shell's reliance on the decisions in *Boston Edison Company* and *Allegheny Energy Supply Company* are not authoritative because these cases analyze "market-based rate authority transactions entered into between *affiliated*

²²⁶ *Id.*

²²⁷ Trial Staff Initial Br. at 16.

²²⁸ *Id.*

²²⁹ *Id.*

²³⁰ *Id.* at 16-17.

²³¹ *Id.* at 16-17 (citing *Morgan Stanley*, 554 U.S. at 554).

²³² *Id.*

²³³ *Id.* at 17 (citing *Shell Energy N. Am.*, 107 F.4th at 987).

entities, which is not an issue in this case, as CDWR is not an affiliate of Shell.”²³⁴ Trial Staff also argues that Shell’s reliance on other CDWR contracts with similar rates which have been found just and reasonable – such as the Iberdrola contract – is misplaced because the Commission did not find the *Mobile-Sierra* presumption was avoided in those contracts as the Commission has here with the Shell Contract.²³⁵

76. Trial Staff does not take the position that Shell’s MBR authority is irrelevant but disagrees with Shell’s argument that its MBR authority supports a separate presumption of justness and reasonableness for the Shell Contract absent the *Mobile-Sierra* presumption.²³⁶

Discussion

77. The issue of Shell’s market-based rate authority as a factor in assessing whether the Shell Contract rates are unjust and unreasonable raises two questions. First, does the Commission’s finding that the *Mobile Sierra* presumption has been avoided, as applied to the Shell Contract, dictate that there is *no* presumption of just and reasonable rates? Second, does Shell’s market-based rate authority independently grant a distinct presumption of justness and reasonableness in the absence of the *Mobile-Sierra* presumption? After reviewing the Commission’s finding of fraud, the requirement that contracts executed pursuant to seller market-based rate authority be done so freely, and the Commission’s directive to “make findings concerning the justness and reasonableness of the Shell Contract,”²³⁷ the undersigned concludes that the Shell Contract rate is subject to a Section 206 review and Shell’s MBR authority does not warrant deferential treatment in the absence of the *Mobile-Sierra* presumption.

78. Prior case law provides the relevant framework to ascertain whether MBR authority provides its own presumption that rates are just and reasonable when executed pursuant to such authority. The Supreme Court explained in *Morgan Stanley* that “[u]nder the *Mobile-Sierra* doctrine, [the Commission] must presume that the rate set out in a freely negotiated wholesale-energy contract meets the ‘just and reasonable’ requirement imposed by law.”²³⁸ In Opinion No. 587, however, the Commission found

²³⁴ *Id.* at 17-18.

²³⁵ *Id.* at 18 (citing Opinion No. 587, 185 FERC ¶ 61,197 at P 440).

²³⁶ *Id.* at 19.

²³⁷ Opinion No. 587, 185 FERC ¶ 61,197 at P 441.

²³⁸ *Morgan Stanley*, 544 U.S. at 530.

that the *Mobile-Sierra* presumption is avoided in this proceeding because “Shell’s unlawful electric spot market activity had a direct effect on negotiation of the Shell Contract that altered the playing field for contract negotiations.”²³⁹

79. Trial Staff argues that “where the *Mobile-Sierra* presumption is avoided, the Commission should not presume that the contract is just and reasonable.”²⁴⁰ The California Parties lodge a similar argument contending that Shell’s MBR authority does not provide a blanket protection which requires the Commission to determine the Shell Contract rates are just and reasonable.²⁴¹ Thus, according to the California Parties and Trial Staff, the Shell Contract is not immune from Section 206 review and cannot be presumed to be just and reasonable based solely on Shell’s MBR authority.

80. The undersigned agrees that, in the absence of the *Mobile Sierra* presumption, Shell’s MBR authority alone does not provide an additional presumption that the Shell Contract rates are just and reasonable. Rather, Section 206 still requires a comprehensive review of the Shell Contract rates irrespective of Shell’s market-based rate authority.²⁴² While MBR authority does not inherently provide a secondary presumption of justness and reasonableness, the Commission may review relevant factors of MBR authority and determine that those factors demonstrate the rates are just and reasonable, even when the *Mobile Sierra* presumption is avoided. Review of these factors may include the evaluation of the Commission letter approving Shell’s MBR authority, higher courts recent treatment of MBR authority, the Commission’s assessment of Shell’s MBR authority in earlier phases of this proceeding, and whether there were fair negotiations during the procurement process.

81. As a threshold matter, there is no dispute that at the time the Shell Contract was executed, Shell had MBR authority as provided in Rule 35.36.²⁴³ Shell argues that the Commission may rely on its MBR authority to determine that the Shell Contract rates are just and reasonable, even if “there is reason to question whether a particular transaction is

²³⁹ Opinion No. 587, 185 FERC ¶ 61,197 at P 90.

²⁴⁰ Trial Staff Reply Br. at 5 (citing *Morgan Stanley*, 544 U.S. at 554) (emphasis and internal quotations omitted).

²⁴¹ Cal. Parties Initial Br. at 9.

²⁴² See *Morgan Stanley*, 544 U.S. at 531, 545; 16 U.S.C. §§ 824d(a), 824e(a).

²⁴³ 18 C.F.R. § 35.36(a)(1); see generally Cal. Parties Initial Br. at 8-9; Shell Initial Br. at 38; Trial Staff Initial Br. at 15-16.

sufficiently competitive.”²⁴⁴ Notably, Shell supports this argument with decisions that predate the *Mobile-Sierra* and *Morgan Stanley* opinions, involve affiliate transactions, and pertain to Section 205 - not Section 206 - filings.²⁴⁵ Since the *Morgan Stanley* opinion, courts have held that “[t]he *Mobile-Sierra* doctrine guides the Commission’s just-and-reasonable review of market-based-tariff contracts.”²⁴⁶ While avoidance of the *Mobile-Sierra* presumption is not dispositive, the Commission’s reason for such avoidance may guide its analysis to determine whether the rates executed pursuant to Shell’s MBR authority are just and reasonable.

82. In its initial brief Shell states that “[t]he Shell Contract is a MBR contract and the presiding ALJ may rely on Shell Energy’s MBR authority to find the Shell Contract just and reasonable without further analysis.”²⁴⁷ However, on reply, Shell also asserts that it “is not asking the Commission to presume that its market-based rates are just and reasonable, “but to examine the record on the relevant factors: (i) Shell Energy’s lack of market power (which no party disputes), (ii) the competitive procurement process itself, (iii) the contracts that emerged from that process, and (iv) how the rates in those contracts compare to the Shell Contract.”²⁴⁸

83. Shell appears to argue that these elements underlying its MBR authority warrant deferential review, but these considerations are already part of a normal Section 206 review process. In fact, review of Shell’s market-based rates, as applied to the Shell Contract, are the very thing at issue in this Section 206 proceeding. As such, Shell’s MBR authority is inherently under review in this proceeding. The undersigned’s analysis considers Shell’s MBR authority, the procurement process of the Shell Contract, and contracts that are comparable to the Shell Contract. Excluding the consideration of factors other than Shell’s MBR authority would prematurely circumvent the

²⁴⁴ Shell Initial Br. at 38 (citing *Boston Edison Co. Re: Edgar Elec. Energy Co.*, 55 FERC ¶ 61,382 at 62,168-69 (1991); *Allegheny Energy Supply Co., LLC*, 108 FERC ¶ 61,082 at P 18 (2004)).

²⁴⁵ See generally *Boston Edison Co. Re: Edgar Elec. Energy Co.*, 55 FERC ¶ 61,382 at 62,168-69 (1991); *Allegheny Energy Supply Co., LLC*, 108 FERC ¶ 61,082 at P 18 (2004)).

²⁴⁶ *Shell Energy N. Am.*, 107 F.4th at 987 (emphasis added).

²⁴⁷ Shell Initial Br. at 38.

²⁴⁸ Shell Reply Br. at 16 (internal quotations omitted).

Commission's statutory obligation to review contested market-based rates to ensure they are just and reasonable.²⁴⁹

84. The Commission letter approving Shell's market-based rate authority is relevant to the issue of whether the Shell Contract rates are just and reasonable by virtue of that authority:

This action *does not constitute approval* of any service, rate, charge classification, or any rule, regulation, contract, or practice affecting such rate or service provided for in the filed documents; . . . and such action is without prejudice to any findings or orders which have been or may hereafter be made by the Commission in any proceeding now pending or hereafter instituted by or against the applicant.²⁵⁰

85. The language of this letter confirms that a grant of MBR authority does not provide an assumption that all market-based rates are inherently just and reasonable, and beyond review of the Commission.

86. Moreover, at the time the Commission issued Opinion No. 587, it was well aware of Shell's MBR authority, yet it did not determine that such authority proved the Shell Contract rates were just and reasonable, despite finding the *Mobile-Sierra* presumption was avoided.²⁵¹ If the Commission had found that such deference still applied to the rates in the Shell Contract, there would have been no need to set this proceeding for hearing or instruct the undersigned to "make findings concerning the justness and reasonableness of the Shell Contract."²⁵²

87. As a general matter, "[m]arket-based tariffs . . . do not list any actual prices for electricity, but instead simply state that the seller will enter into *freely negotiated* contracts with purchasers."²⁵³ Upon review, the Commission found in Opinion No. 587

²⁴⁹ See 16 U.S.C. §§ 824d(a), 824e(a). See also *Shell Energy N. Am.*, 107 F.4th at 986-7.

²⁵⁰ Ex. CAL-01067 at 1 (emphasis added).

²⁵¹ See generally Opinion No. 587, 185 FERC ¶ 61,197.

²⁵² *Id.* at P 441.

²⁵³ *Shell Energy N. Am.*, 107 F.4th at 986 (citing *Public Citizen, Inc. v. FERC*, F.4th 1177, 1184 (D.C. Cir. 2021) (quoting *Morgan Stanley*, 554 U.S. at 537)) (internal

that “Shell's unlawful electric spot market activity had a direct effect on negotiation of the Shell Contract that altered the playing field for contract negotiation.”²⁵⁴ The Commission further determined that the Shell Contract was not the product of fair, arm's length negotiations and the Shell Contract negotiation was tainted by Shell's misrepresentations that were fraudulent in character.²⁵⁵ Moreover, “Shell's fraudulent market activities were the cause of CDWR agreeing to the specific rates of the Shell Contract, based on Shell's deceptive statements. . . .” Such actions were made with the intent to lock in Crisis Period profits.²⁵⁶ Based on Commission findings and the evidence in the record, it is apparent that CDWR did not enter into a freely negotiated contract with Shell.

88. Contract rates entered into pursuant to market-based rate authority must be freely negotiated and in the public interest.²⁵⁷ When the Commission determines that those two requirements are not met, there can no longer be a presumption that rates are just and reasonable under Section 206.²⁵⁸

quotations omitted) (emphasis added).

²⁵⁴ *Id.* at P 90.

²⁵⁵ *Id.* at P 178.

²⁵⁶ *Id.* at P 224.

²⁵⁷ *Shell Energy N. Am.*, 107 F.4th at 987 (“The Mobile-Sierra doctrine guides the Commission's just-and-reasonable review of market-based-tariff contracts. *See generally United Gas Pipe Line Co. v. Mobile Gas Serv. Corp.*, 350 U.S. 332, 76 S.Ct. 373, 100 L.Ed. 373 (1956); *Fed. Power Comm'n v. Sierra Pac. Power Co.*, 350 U.S. 348, 76 S.Ct. 368, 100 L.Ed. 388 (1956). Under that doctrine, the Commission ‘must presume that the rate set out in a freely negotiated wholesale-energy contract meets the ‘just and reasonable’ requirement imposed by law.’ *Morgan Stanley*, 554 U.S. at 530. ‘Th[at] presumption may be overcome only if FERC concludes that the contract seriously harms the public interest.’ *Id.*”). *See also id.* at 991 (explaining “[t]he Mobile-Sierra doctrine has long made clear that the Commission may modify a contracted-for rate ‘if (but only if) the ‘public interest’ so requires[.]’ *Exxon Corp. v. FERC*, 206 F.3d 47, 49 (D.C. Cir. 2000); *see Gulf States Utils. Co. v. Federal Power Comm'n*, 518 F.2d 450, 452 (D.C. Cir. 1975) (noting the Commission's ‘power, under § 206(a), to require a rate change not agreed to by the parties’ when the Commission can overcome the *Mobile-Sierra* presumption).”).

²⁵⁸ *See Morgan Stanley*, 554 U.S. at 530, 545-47.

89. Considering the Commission's finding of fraud, the requirement that contracts entered into pursuant to seller market-based rate authority be done so freely, and the Commission's directive to "make findings concerning the justness and reasonableness of the Shell Contract,"²⁵⁹ it is clear that the market-based rates in the Shell Contract are subject to a Section 206 review and do not warrant deferential treatment. The California Parties continue to carry the burden to demonstrate that the rates are unjust and unreasonable, and the undersigned engages in such Section 206 review in the remaining sections below.

D. ISSUE 2B: WHETHER THE CALIFORNIA PARTIES PROVIDED AN APPROPRIATE FRAMEWORK TO DETERMINE WHETHER THE SHELL CONTRACT RATE IS UNJUST AND UNREASONABLE

90. As a means of determining whether the Shell Contract rates are unjust and unreasonable, the California Parties use various methods to compute seven separate benchmark prices in order to create a "zone of reasonableness" for equivalent generation products.²⁶⁰ The California Parties then compare the Shell Contract rates to the range of prices the seven benchmarks establish.²⁶¹ Through these comparisons, the California Parties' experts evaluated whether the Shell Contract prices are "consistent with, or deviate materially from, the range of prices expected in a workably competitive market."²⁶² The California Parties argue that Benchmark 6 establishes the actual just and reasonable rates for the energy products in the Shell Contract, with an average price of \$62.09/MWh for the 2001-2012 period, compared to the average Shell Contract price of

²⁵⁹ Opinion No. 587, 185 FERC ¶ 61,197 at P 441.

²⁶⁰ All but one benchmark (Benchmark 7) establishes two separate prices for periods 2001-2005 and 2006-2012, and a weighted average price for the 2001-2012 period (see Ex. CAL-00973-REV2 at 55, fig. 14). The undersigned examines the weighted average price for the 2001-2012 period for all proposed benchmarks, with the exception of Benchmark 6 which advocates for two different prices and methods for the 2001-2005 and 2006-2012 periods. Although the Shell contract is bifurcated into 2 separate parts, the California Parties only advocates for the adoption of Benchmark 6. See *infra* Section V.B.4 which discusses Benchmark 6.

²⁶¹ *Id.* at 12:3-8 (Celebi Dir.); Ex. CAL-00988 at 6:6-9 (Fox-Penner Dir.). The benchmarks used to establish the "zone of reasonableness" are both market-based rates and cost-based rates. Ex. CAL-00988 (Fox-Penner Dir.) at 13:5-6.

²⁶² *Id.* at 12:5-8 (Celebi Dir.).

\$82.51/MWh.²⁶³ According to the California Parties, the remaining benchmarks “are not recommended as the measure of just and reasonable prices, but [are] indicative of potentially reasonable prices in an unmanipulated market.”²⁶⁴

91. The undersigned concludes that only Benchmarks 1, 5, and 7, with certain modifications, establish an appropriate framework against which to measure the justness and reasonableness of the rates contained in the Shell Contract. Benchmarks 2-4, and 6 do not because they are derived using methods that are either flawed, speculative, susceptible to error, and/or deemed inappropriate by the Commission. Therefore, Benchmarks 2-4, and 6 cannot serve as objective, reliable measures upon which to judge whether the Shell Contract rates are unjust and unreasonable. The undersigned examines each of the seven benchmarks, as proposed by the California Parties and as rebutted by Shell and Trial Staff. For Benchmarks 1, 5, and 7, the undersigned discusses her proposed modifications to certain inputs to the benchmarks which will lead to a zone of reasonableness against which to measure the rates in the Shell Contract.

1. Benchmark 1: Other Long-Term Contracts

92. The first benchmark the California Parties propose compares the Shell Contract to other long-term contracts that Shell executed for deliveries to California locations.²⁶⁵ For this benchmark, the California Parties examined contracts executed with Shell between June 20, 2001 and December 31, 2002 for terms of one year or longer and for deliveries of on-peak power to NP15 or SP15 (Other Shell Contracts).²⁶⁶ Using this criteria, the California Parties identified 538 distinct contracts for use with Benchmark 1.²⁶⁷ Shell and Trial Staff do not agree that the California Parties selected the right set of contracts for Benchmark 1. The undersigned concludes that Benchmark 1 sets forth a framework that is appropriate for assessing the Shell Contract, but agrees that the California Parties did not select the right set of contracts for use with Benchmark 1.

²⁶³ *Id.* at 55 (fig. 14) (Celebi Dir.); *see also* Ex. CAL-00988-REV (Fox-Penner Dir) at 18:11-14.

²⁶⁴ Cal. Parties Initial Br. at 16 (citing Ex. CAL-00973-REV2 at 14:1-9, 15:6-16:24 (Celebi Dir.); Ex. CAL-00988-REV at 13:1-17:20 (Fox-Penner Dir.))

²⁶⁵ Ex. CAL-00973-REV2 at 17:14-15 (Celebi Dir.).

²⁶⁶ *Id.* at 17:15-18.

²⁶⁷ *Id.* at 18:2-3.

Participant Arguments

California Parties

93. The California Parties assert that the Other Shell Contracts establish expectations for long-term pricing in the months immediately following the Commission's June 19, 2001 Order that capped spot prices in Western wholesale power markets.²⁶⁸ The California Parties claim that the average price in the Other Shell Contracts was less than \$50/MWh, which is "significantly lower than the Shell[] Contract prices that exceeded \$150/MWh in 2002-2003 and ranged between \$50-80/MWh in the contract's later years."²⁶⁹

94. On reply, the California Parties criticize Shell's assertion that Benchmark 1 is unreasonable because the prices in Other Shell Contracts are "lower than the prices in some long-term contracts CDWR executed with other counterparties during the Crisis."²⁷⁰ The California Parties argue that the CDWR contracts Shell cites "do not establish a 'zone of reasonableness' for prices in an *unmanipulated market*" because they were prices agreed to during the Crisis.²⁷¹ According to the California Parties, Shell's claim that pricing in other CDWR contracts should be seen as reasonable relies on four faulty assumptions: (1) that there was a competitive procurement process, (2) that contracts across the portfolio met CDWR's \$70/MWh target, (3) that a Shell negotiator believed "CDWR had significant leverage" in the negotiations, and (4) that the fundamentals of the time caused the Crisis.²⁷²

95. With respect to Shell's first assumption, the California Parties argue that the number of bids received does not make the process competitive if "the bids in aggregate were insufficient to meet demand."²⁷³ Thus, the California Parties conclude that CDWR was not in the position to be able to choose among the bids.²⁷⁴ According to the

²⁶⁸ Cal. Parties Initial Br. at 17.

²⁶⁹ *Id.* at 17-18.

²⁷⁰ Cal. Parties Reply Br. at 11 (citing Shell Initial Br. at 60-61).

²⁷¹ *Id.*

²⁷² *Id.* at 12-13 (citing Shell Initial Br. at 1-4, 10-15,).

²⁷³ *Id.* at 13.

²⁷⁴ *Id.* (citing Ex. CAL-156 at 3:20-4:1, 9:14-15 (2002 Nichols Reb.)).

California Parties, Shell ignores that the long-term procurement effort took place because of the “spot market prices that Shell and other sellers helped create through their fraud and manipulation, and that the CDWR team had no awareness of Shell’s unlawful acts.”²⁷⁵ The California Parties assert that if there had been no fraud or manipulation, CDWR would not have agreed to the prices in the Shell Contract and further that the Commission has “already rejected Shell’s suggestion that seller fraud and manipulation could not lead to an unfair advantage in negotiations with CDWR.”²⁷⁶

96. As to Shell’s second assumption, the California Parties argue that the “\$70/MWh target neither demonstrates CDWR’s bargaining strength, nor shows that the contract prices were consistent with a workably competitive market.”²⁷⁷ Nor does it demonstrate that the Shell Contract was reasonable as the average price for deliveries under the Shell Contract through 2003 was \$178.38, more than double the \$70/MWh target for the period.²⁷⁸

97. With respect to Shell’s third assumption, the California Parties argue that Shell has misrepresented what happened during the Shell Contract negotiations because they incorrectly relied upon the testimony of Shell’s lead negotiator, Ed Brown.²⁷⁹ According to the California Parties, however, the Commission has already concluded that Mr. Brown’s testimony about the CDWR/Shell negotiations was not credible.²⁸⁰ The California Parties assert that CDWR was looking for a long-term contract covering the output of the Wildflower peaking units that Shell was developing in southern California, for 215 MW of capacity.²⁸¹ Instead, Shell exploited the Crisis conditions to demand that

²⁷⁵ *Id.* (citing Cal. Parties Initial Br. at 14-15).

²⁷⁶ *Id.* at 14.

²⁷⁷ *Id.* at 15.

²⁷⁸ *Id.* (citing Ex. CAL-00990-REV at 64, fig. 6 (Celebi Reb.)).

²⁷⁹ *Id.*

²⁸⁰ *Id.* (citing Opinion No. 587, 185 FERC ¶ 61,197 at P 189).

²⁸¹ *Id.* at 16 (citing Ex. CAL-200 PUB at 15:3-8 (2015 Nichols Dir.); Ex. COR-10; COR-1 at 2, 13:15-14:4).

CDWR commit to far more capacity, which actions led to an eleven-year contract with energy volumes up to 925 MW that could be sourced from unspecified market sources.²⁸²

98. As to Shell's fourth point, the California Parties argue that the "fundamentals" do not explain high Crisis-era prices and, therefore, do not justify the rates in the Shell Contract.²⁸³ The California Parties assert the Commission already determined in Opinion No. 587 that "market manipulation by Shell and others resulted in artificially inflated market prices, which were captured in [the Shell Contract]."²⁸⁴ Thus, testimony from Drs. Morris and Puller that fundamentals were the "major driver" of Crisis-era prices is irrelevant because the issue has already been determined against Shell.²⁸⁵

99. The California Parties conclude that "none of the CDWR contracts reflect prices in an unmanipulated market" and the specific CDWR contracts Mr. Cavicchi cherry-picked are not comparable to the Shell Contract.²⁸⁶ Further, the rates in those CDWR contracts having "generally comparable attributes" are much lower than the Shell Contract.²⁸⁷

Shell

100. Shell asserts the California Parties' expert Dr. Celebi's first Benchmark is based on prices post-Crisis when market conditions and expectations differed from those present when the parties executed the Shell Contract.²⁸⁸ Shell argues "[t]he first benchmark relies on prices for contracts that Shell Energy signed after the end of the Energy Crisis[.]"²⁸⁹ Shell supports its argument by referring to Dr. Celebi's testimony where Shell claims he admitted information underlying the first benchmark would not have been available in May 2001 and should only be used as a "zone of reasonableness,"

²⁸² *Id.* (citing Ex. CAL-200 PUB at 15:9-21:15 (2015 Nichols Dir.)).

²⁸³ *Id.* at 16-17.

²⁸⁴ *Id.* at 17 (citing Opinion No. 587, 185 FERC ¶ 61,197 at PP 186, 194, 225-27).

²⁸⁵ *Id.*

²⁸⁶ *Id.* at 17-18 (citing Cal. Parties Initial Br. at 30-32).

²⁸⁷ *Id.* at 18 (citing Ex. CAL-0990-REV at 68:1-71:11, 72, fig. 8 (Celebi Reb.)).

²⁸⁸ Shell Initial Br. at 47.

²⁸⁹ *Id.*

not as a benchmark for justness and reasonableness.²⁹⁰ Lastly, Shell asserts that the Shell Contract being priced consistently with comparable CDWR contracts validates its position that the Shell Contract is within a zone of reasonableness for long-term contracts that CDWR executed.²⁹¹

Trial Staff

101. Trial Staff argues that the California Parties' first benchmark is flawed and fails to establish that Other Shell Contracts executed from June 20, 2001 through December 31, 2002 should be relied upon.²⁹² Trial Staff questions the reliability of Dr. Celebi's data. Trial Staff asserts that Dr. Celebi's only source of data underlying the rates in Other Shell Contracts are two Excel worksheets that Shell produced in the 2015 phase of this proceeding, which contain "certain high-level data points" and characteristics of Other Shell Contracts.²⁹³ The contracts upon which Dr. Celebi relies are not in the record.

102. Trial Staff contends that Dr. Celebi reproduced contract data from those spreadsheets, without modification, for his workpapers where he isolated other Shell Energy contracts he understood to be executed between June 20, 2001 and December 31, 2002, for a duration of one year or longer, for off-peak energy,²⁹⁴ and for the same delivery points as in the Shell Contract.²⁹⁵ This process resulted in more than five hundred contracts, which Dr. Celebi used to calculate an average contract price to create his first benchmark.²⁹⁶ Trial Staff argues that at hearing, Dr. Celebi confirmed he never reviewed the contracts used for the first benchmark and that his knowledge of the

²⁹⁰ *Id.* (citing Tr. 243:23-246:1 (Celebi)).

²⁹¹ *Id.* at 60.

²⁹² Trial Staff Initial Br. at 22 (citing Tr. 390:6-392:1 (Celebi)).

²⁹³ *Id.* at 22-23.

²⁹⁴ Trial Staff's brief incorrectly states that Other Shell Contracts are for off-peak power. However, Dr. Celebi specifically excluded off-peak contracts from his sample of contracts used for Benchmark 1. *See* Ex. CAL-0973-REV2 at 17:21 (Celebi Dir.).

²⁹⁵ *Id.* at 23.

²⁹⁶ *Id.*

contracts was limited to the information in the Excel worksheets provided by Shell in 2015.²⁹⁷

103. Trial Staff provides six reasons why it believes that the California Parties have not established that Other Shell Contracts are reliable comparisons to the Shell Contract.²⁹⁸ First, all the contracts selected were executed up to eighteen months after the May 2001 execution of the Shell Contract.²⁹⁹ Trial Staff maintains that the California Parties have not demonstrated market conditions during the extended period were similar enough to be reliable comparisons to the Shell Contract.³⁰⁰ Thus, Trial Staff argues that “the market in which the Shell Contract was executed was dissimilar to the market in which the other Shell contracts were executed.”³⁰¹

104. Second, Trial Staff asserts the other Shell contracts were for significantly shorter periods than the Shell Contract’s eleven-year term.³⁰² Trial Staff notes that Dr. Celebi did not identify any verifiable contract with a term longer than five years included in the data he used for the first benchmark.³⁰³

105. Third, Trial Staff argues that the contracted capacities in the other Shell contracts are notably smaller than the capacity of the Shell Contract.³⁰⁴ Trial Staff states that ninety-five percent of the contracts used in Dr. Celebi’s analysis were for capacities of 30 MW or less, which falls excessively short of the up to 925 MW of capacity set forth in the Shell Contract.³⁰⁵

²⁹⁷ *Id.* Trial Staff Initial Br. at 23-24 (citing Tr. 395:24-396:10 (Celebi)).

²⁹⁸ *Id.* at 24.

²⁹⁹ *Id.*

³⁰⁰ *Id.*

³⁰¹ *Id.*

³⁰² *Id.*

³⁰³ *Id.* at 25 (citing Tr. 282:4-284:21 (Celebi)).

³⁰⁴ *Id.* at 26.

³⁰⁵ *Id.*

106. Fourth, Trial Staff asserts the California Parties did not provide evidence that the Other Shell Contracts in the Benchmark 1 analysis had a similar pricing structure to the Shell Contract's bifurcated structure.³⁰⁶

107. Fifth, Trial Staff argues that the California Parties did not prove that the risks of counterparties to the Other Shell Contracts were comparable to CDWR's.³⁰⁷ Trial Staff states that Dr. Celebi "acknowledged that assessment of counterparty risk must occur over the life of a contract, and that the assessment of counterparty risk for a contract of the eleven-year duration under the Shell Contract may entail different risks than the risks for a contract of a shorter term," but nevertheless admitted that he did not analyze the counterparty risk for counterparties to the Other Shell Contracts.³⁰⁸

108. Sixth, Trial Staff claims it is unclear whether Dr. Celebi reliably interpreted the data used in his workpapers to form the basis of the rate in the first benchmark.³⁰⁹ Trial Staff explains that "Dr. Celebi relied on a column (Column N) in his workpaper entitled 'Weighted Avg Price' to determine the contract pricing in the other Shell contracts, but when questioned about pricing data in that column for the Shell Contract, he responded 'I don't know what this is really.'"³¹⁰ Trial Staff further points out that Dr. Celebi testified he was unsure whether the pricing in the column reflected "all payments under the contract,"³¹¹ was unable to "independently verify the pricing shown on his worksheet,"³¹² and did not independently review the terms of the listed contracts.³¹³ Trial Staff concludes that Other Shell Contracts are not a reliable measure of comparison for the

³⁰⁶ *Id.* at 26-27.

³⁰⁷ *Id.* at 27.

³⁰⁸ *Id.* (citing Tr. 207:8-208:5 (Celebi)).

³⁰⁹ *Id.* at 28.

³¹⁰ *Id.* (citing Tr. 285:6-14 (Celebi)).

³¹¹ *Id.* (citing Tr. 394:16-18 (Celebi)).

³¹² *Id.* (citing Tr. 395:1-2 (Celebi)) (internal quotations omitted).

³¹³ *Id.* (citing Tr. 395:24-396:10 (Celebi)).

Shell Contract, and therefore, Benchmark 1 should not be used to inform a zone of reasonable rates against which to measure the rates in the Shell Contract.³¹⁴

Discussion of Benchmark 1 and Modifications to the Benchmark

109. Both the California Parties and Shell rely upon other contracts to measure the Shell Contract rates, but the experts have different views as to which contracts are more pertinent: Other Shell Contracts or Other CDWR contracts. For their proposed Benchmark 1, the California Parties rely upon the Other Shell Contracts. The undersigned, however, modifies that framework by first identifying four pertinent factors for selecting which contracts are the most relevant, and second, by applying those factors to the contracts in the record to determine which contracts should be used to establish the benchmark. After considering the evidence, the undersigned determines that the California Parties have set forth an appropriate framework in Benchmark 1, but the appropriate contracts against which to measure the Shell Contract within that framework are Other CDWR Contracts rather than Other Shell Contracts. The undersigned will rely on this modified version of Benchmark 1 to form the zone of reasonableness.

a. Factors for Selecting Comparable Contracts in Benchmark 1

110. The participants in this proceeding take fundamentally different approaches to analyzing other long-term contracts as a benchmark for the Shell Contract. The California Parties, through the testimony of Dr. Celebi, develop their Benchmark 1 based upon other long-term (minimum one year) contracts executed *with Shell* for on-peak power for deliveries to NP15 and SP15, the same California locations specified in the Shell Contract.³¹⁵ These contracts are dated between June 20, 2001 and December 31, 2002.³¹⁶ These contracts have been identified as Other Shell Contracts. According to Dr. Celebi, the “[p]rices in Shell’s other long-term contracts executed after June 20, 2001 provide evidence of the expectations for future long-term contract pricing for buyers and sellers in the market after the FERC issued its June 19, 2001 Order.”³¹⁷

111. Shell, however, focuses on other contracts *with CDWR* entered into at approximately the same time as Shell Contract. According to Shell’s witness Mr.

³¹⁴ *Id.* at 29.

³¹⁵ Cal. Parties Initial Br. at 17.

³¹⁶ *Id.*

³¹⁷ Ex. CAL-00973-REV2 at 18:7-12 (Celebi Dir.).

Cavicchi, the appropriate contracts are all 8-11 years in length and include an on-peak power product comparable to the one in the Shell Contract.³¹⁸ These CDWR contract upon which Mr. Cavicchi relies are a subset of the group of contracts identified as Other CDWR Contracts.³¹⁹

112. Recognizing that while no contract is going to be an exact match to the Shell Contract, some contracts introduced in the record may be deemed generally comparable. However, the undersigned finds that the sets of contracts proposed by the California Parties and Shell to establish Benchmark 1 are not entirely composed of generally comparable contracts. Determining which comparable contracts to use in forming Benchmark 1 depends on several key objective factors. Through evidence produced by the expert witnesses, the undersigned determines that the following four factors should inform the selection of the contracts for inclusion in Benchmark 1.

113. **Factor 1:** The first relevant factor is that the “other contracts” considered for the benchmark should reflect the same market fundamentals as the time when the parties negotiated and entered into the Shell Contract such that expectations of those fundamentals are the same for each contract. Market fundamentals are the:

primary drivers of price in a market that are exogenous, or outside the control of sellers or buyers. Fundamentals include such factors as the temperature, which impacts demand by increasing or decreasing the need for energy for cooling or heating; generation availability, which impacts which units needed to run to meet demand; snowpack, which impacts the level of hydroelectric production; and any other factor that impacts the level of supply and demand independently of direct seller or buyer control.³²⁰

114. In this proceeding, experts on both sides agree that contracts should reflect the fundamentals at the time the parties entered into the Shell Contract to be reasonably comparable to it. Since early in its answering testimony, Shell has consistently advocated for a consideration of contracts with the same fundamentals as the Shell Contract.³²¹ The

³¹⁸ Ex. SHE-0001-REV2 at 41:1-8 (Cavicchi Dir.).

³¹⁹ Other CDWR Contracts include contracts other than the Shell Contract that were executed around the same time as the Shell Contract and to which CDWR was a counterparty.

³²⁰ Ex. CAL-01027-REV at 6:1-9 (Fox-Penner Reb.).

³²¹ Ex. SHE-0109 REV2 at 114:8-116:11 (Morris Ans.); Ex. SHE-0052 REV2 at

California Parties' expert Dr. Celebi has also testified in his rebuttal testimony that the timing of the other long term contracts considered is important. He explains that "changes in fundamentals can alter price, and thus a comparison to transactions executed in late 2002 is less valid than closer in time transactions" to the Shell Contract.³²² Moreover, at the hearing, Dr. Fox-Penner also agreed that "the appropriate vantage point is May 2001, [the month in which the Shell Contract was executed,] and that it should be market conditions as of May 2001 that are the appropriate basis for" determinations of whether the Shell Contract is unjust and unreasonable, and if so, what the just and reasonable rates are.³²³ Trial Staff agrees as well. In its initial brief, Trial Staff concurs that to have reliable comparisons, one must look to contracts negotiated during similar market conditions as the Shell Contract and criticizes Dr. Celebi for relying on a set of contracts that does not meet this important criterion.³²⁴

115. As all parties agree on this point, the undersigned concludes that contracts considered for Benchmark 1 should reflect the same market fundamentals of the time in which the parties negotiated and signed the Shell Contract, namely between February and May of 2001.

116. **Factor 2:** The second relevant factor in determining which contracts should be considered for Benchmark 1 relates to the duration of the comparison contracts. Here again, both sides agree on the importance of this factor. Dr. Celebi, the California Parties' witness, indicated that the contract length is an important element in determining which contracts are "generally comparable."³²⁵ According to Dr. Celebi, contracts should be at least five years in duration, explaining "[t]o compare the rates against the 11-year [Shell Contract] I think there needs to be sufficient overlap in the data – [the] delivery period. So that's why I thought five years is a reasonable threshold for determining reasonableness."³²⁶ Trial Staff also notes that longer contracts are less liquid and, therefore, the Shell Contract should be compared with other contracts of longer duration;

6:10-24 (Puller Ans.)

³²² Ex. CAL-00990-REV at 75:7-10 (Celebi Dir.).

³²³ Tr. 844:4-845:8 (Fox-Penner).

³²⁴ Trial Staff Initial Br. at 24.

³²⁵ Tr. 408:10-410:4 (Celebi).

³²⁶ Tr. 350:21-351:9 (Celebi); *see* Tr. 410:3-4 (Celebi).

Dr. Celebi agreed.³²⁷ Shell's witness, Mr. Cavicchi, agreed that the duration of the contracts for the benchmark is an important factor although he testified that contracts should be eight to ten years instead of as short as five years in length.³²⁸

117. The undersigned agrees with Dr. Celebi that a contract of at least five years, executed at approximately the same time, will provide sufficient overlap with the Shell Contract. Given the limited set of contracts in the record to evaluate and the need to evaluate contracts with liquidity similar to that of the Shell Contract, the undersigned finds that "other contracts" should be at least five years in length to be generally comparable to the Shell Contract although contracts of longer duration are preferable.

118. **Factor 3:** The third relevant factor is the type of energy product sold in the contract. The experts agreed on the importance of this factor, but look at it in different ways. Dr. Celebi focused on whether the contract covers a block energy product as opposed to a dispatchable energy product.³²⁹ Dr. Celebi described block energy products as specifying "exactly what the seller is obligated to provide in each hour during that block. It's a flat same number."³³⁰ These are products such as the 6x16 on-peak energy and the 7x24 around the clock energy that are described in terms of the hours and days that they are delivered.³³¹ "The dispatchable product gives the buyer the right to choose how much to buy in each month, whereas the block energy, monthly block energy product, does not give the buyer that optionality."³³² According to Dr. Celebi, this difference between being required to take a certain amount of energy, whether you need it or not, and having the option of taking that energy is substantial. Dr. Celebi asserted "that flexibility has a lot of value" and should be taken into account in the analysis.³³³

³²⁷ Trial Staff Initial Br. at 26 (citing Tr. 209:5-12 (Celebi)).

³²⁸ Tr. 1263:16-24 (Cavicchi); SHE-0001 REV2 at 41:1-6 (Cavicchi Dir.).

³²⁹ Tr. 409:14-21 (Celebi); Ex. CAL-00990-REV at 69, fig. 7.

³³⁰ Tr. 416:2-7 (Celebi).

³³¹ Tr. 352:10-15 (Celebi).

³³² Tr. 416:15-18 (Celebi)

³³³ Tr. 409:9-12 (Celebi). Shell argues that whether a contract is a tolling agreement does not matter because what matters is the cost of producing the power. Shell Reply Br. at 24.

119. On the other hand, Mr. Cavicchi considered whether the energy delivered under the contract was primarily on-peak and whether the product definition “was at least as valuable as Shell’s product definition.”³³⁴ The Shell Contract was a firm liquidated damages contract, meaning that there are “certain implication as to what happens if you don’t deliver.”³³⁵

120. Relying on these two expert opinions, the undersigned determines that to be generally comparable to the Shell Contract, a contract should deliver a block energy product for at least some on-peak 6x16 block energy. The undersigned is persuaded by Dr. Celebi that flexibility in being able to take energy or not is a factor that is important here. The Shell Contract required CDWR to take blocks of energy whether it needed them or not, thereby affecting the price. Furthermore, the undersigned is persuaded by Mr. Cavicchi’s testimony that it is important to consider whether or not a contract delivers an on-peak energy product because this too has an impact on price.³³⁶

121. **Factor 4:** The fourth relevant factor is whether the magnitude of the contracted-for-volumes of the comparison contracts are comparable to the Shell Contract. Shell, through the testimony of Dr. Puller, noted the importance of the amount of the contracted-for-energy and how much larger the volume was in the Shell Contract than in the typical forward contract at the time.³³⁷ Dr. Puller further indicates that price for a small number of megawatts can vary from the price for a large number of megawatts.³³⁸

122. The undersigned finds Dr. Puller’s testimony persuasive. Given the potential impact on prices if larger volumes are involved in a forward contract, the undersigned considers the magnitude of the contracted-for energy in determining whether a contract is generally comparable to the Shell Contract.

123. Each of these four factors is important to determine whether a contract is generally comparable to the Shell Contract and will be applied in the next section to determine a set of contracts that are generally comparable to the Shell Contract.

³³⁴ See Tr. 1262:14-1263:15 (Cavicchi); Ex. SHE-0001 REV2 at 41 n.84 (Cavicchi Ans.).

³³⁵ Tr. 1262:14-1263:15 (Cavicchi).

³³⁶ See Ex. CAL-00973-REV2 at 17:21-18:1 (Celebi Dir.).

³³⁷ See Ex. SHE-0052 REV2 at 83:5-7 (Puller Ans.).

³³⁸ See Ex. SHE-0052 REV2 at 78:13-20, 83:5-7 (Puller Ans.).

b. Selection of Contracts for the Benchmark

124. After careful consideration of each of the factors outlined above and the totality of the circumstances, the undersigned will consider Other CDWR Contracts, not Other Shell Contracts for Benchmark 1. In particular, she finds that the Allegheny 11-Year Contract (settlement rates), the Sempra contract (settlement rates) and the Williams Contract (restructured rates) are generally comparable to the Shell Contract.³³⁹ The undersigned discusses each contract below, along with those contracts not established as generally comparable.

i. Are Other Shell Contracts or Other CDWR Contracts Generally Comparable to the Shell Contract?

(a) Other Shell Contracts Are Not Generally Comparable

125. As discussed above, Dr. Celebi based Benchmark 1 on the 538 Other Shell Contracts.³⁴⁰ However, based on the factors set forth above, contracts for Benchmark 1 are more appropriately selected from the group of Other CDWR Contracts instead of Other Shell Contracts for several reasons.

126. To begin, the California Parties' preferred Other Shell Contracts were not executed under the same market conditions as the Shell Contract at issue here. More specifically, the Other Shell Contracts that Dr. Celebi examined for his testimony were executed after both the date of the Shell Contract here, as well as the Commission's June 19, 2001 Order designed to mitigate the dysfunction in the spot markets at the time.³⁴¹ As noted by Dr. Fox-Penner, the time period for determining whether the Shell Contract is just and reasonable is May 2001.³⁴² None of the contracts used to construct Dr. Celebi's Benchmark 1 were executed that early. These contracts, therefore, do not meet the requirements of Factor 1.

³³⁹ Should the Commission wish to consider four contracts, instead of three, the El Paso Contract is the closest to meeting the criteria as will be discussed further below.

³⁴⁰ See *supra* P 92; Ex. CAL-00973-REV2 at 17:11-18:3 (Celebi Dir.).

³⁴¹ See Ex. CAL-00973-REV2 at 18:6-12 (Celebi Dir.).

³⁴² Tr. 844:4-845:8 (Fox-Penner).

127. Nor are the vast majority of the California Parties' preferred Other Shell Contracts at least five years in duration. Approximately ninety percent of the contracts that Dr. Celebi considered are only one year in duration which means that most of those contracts do not meet the duration criteria required by the experts as discussed above in Factor 2.³⁴³ In order to be meet the requirements of Factor 2, contracts must be at least five years in length. The undersigned, therefore, concludes Dr. Celebi's Other Shell Contracts do not meet this requirement as a whole.

128. With respect to Factor 3, the question of whether Dr. Celebi's preferred Other Shell Contracts include a block energy product comparable to those in the Shell Contract was not even addressed in Dr. Celebi's testimony.³⁴⁴ As such, the undersigned cannot conclude that the Other Shell Contracts meet the requirement in Factor 3.

129. With respect to Factor 4, the most common size of the Other Shell Contracts is 25 MW, with all of them under 150 MW as compared to the 925 MW in the Shell Contract.³⁴⁵ Thus, the size of Dr. Celebi's preferred Other Shell Contracts is not comparable either and the requirement of Factor 4 is not met.

130. Moreover, Dr. Celebi relied solely upon two Excel Spreadsheets that Shell produced in the 2015-phase of this proceeding, which contain high-level data points related to the 538 Other Shell Contracts.³⁴⁶ Dr. Celebi, however, did not review the actual contracts that the spreadsheets listed, nor did the person who created the spreadsheets provide testimony in this case about what was included in them. Furthermore, Dr. Celebi was unable to verify that the pricing information for the Other Shell Contracts that he used from the spreadsheet for Benchmark 1 was indeed accurate.³⁴⁷ In conclusion, the secondhand nature of the data Dr. Celebi utilizes raises at least some question about the reliability of the data points he uses in Benchmark 1. This flaw, in addition to the factors the undersigned found important, leads to the conclusion that Dr. Celebi's preferred Other Shell Contracts are not the appropriate contracts for use in Benchmark 1 because they are not generally comparable to the Shell Contract.

³⁴³ See *supra* PP 116-117; see also Ex. SHE-0052 REV2 at 78:15-79, fig. 19 (Puller Dir.).

³⁴⁴ See Ex. CAL-00990-REV at 69, fig. 7; Tr. 408:7-409:13 (Celebi).

³⁴⁵ See Ex. SHE-0052 REV2 at 78:15-79, fig. 19 (Puller Dir.).

³⁴⁶ Tr. 390:6-392:1 (Celebi); See Ex. CAL-00977 (Celebi Workpapers).

³⁴⁷ Tr. 394:21-395:2 (Celebi).

**(b) Several of the Other CDWR Contracts Are
Generally Comparable to the Shell Contract**

131. An alternative in the record for Benchmark 1 is based on an analysis of the Other CDWR Contracts with *CDWR* as a counterparty instead of Shell. Based on the experts' testimony, the Other CDWR Contracts are more generally comparable to the Shell Contract itself for several reasons.

132. First, a number of the Other CDWR Contracts are actually in the record and thus their precise terms may be evaluated. A review of these contracts shows that a majority of them were executed prior to FERC's Mitigation Order and about the same time as the Shell Contract.³⁴⁸ As a result, many of the Other CDWR Contracts were executed under approximately the same market conditions as the Shell Contract (meeting the requirements of Factor 1). In that respect, the Other CDWR Contracts are more generally comparable to the Shell Contract than the Other Shell Contracts. Furthermore, a number of the Other CDWR Contracts in the record are of longer duration, well over five years in length (meeting the requirements of Factor 2), and generally provide a greater amount of energy (meeting the requirements of Factor 4) than the Other Shell Contracts Dr. Celebi considered. Moreover, from a review of the other CDWR contracts, it is clear that a number of them cover sales of a mix of block on-peak 6x16 and 7x24 around the clock energy products, similar to the Shell Contract (and meeting the requirements of Factor 3).³⁴⁹ Finally, if all the contracts considered for Benchmark 1 involve CDWR, then there is no question about whether the counterparty risk is the same as with the Shell Contract because the counterparty, CDWR, is identical.³⁵⁰ For these reasons, the Other CDWR Contracts are more appropriately used for Benchmark 1.

133. The undersigned next applies the four factors outlined above to the Other CDWR Contracts to determine which of them are the most comparable to the Shell Contract.

(1) Allegheny 11-Year Contract

134. The 11-year contract with Allegheny Energy Supply Company (Allegheny) is comprised of two agreements that together have been defined as the Original Contract

³⁴⁸ See Ex. CAL-017, Ex. CAL-050, Ex. CAL-00997.

³⁴⁹ See Ex. CAL-016; Ex. CAL-017; Ex. CAL-030; Ex. CAL-034; Ex. CAL-043; CAL-049; CAL-050.

³⁵⁰ Counterparty risk concerns the risk that a counterparty to a contract might not perform its obligations under the terms of the contract. Dr. Celebi acknowledged that counterparty risk can be relevant to the rates in a contract. See Tr. 206:7-207:22 (Celebi).

between CDWR and Allegheny.³⁵¹ The contract includes both 6x16 on-peak and 7x24 base energy with delivery to NP-15 and SP-15. Allegheny and CDWR executed the first part of the agreement on March 23, 2001. In particular, the first portion of the Allegheny Contract provides for the delivery of 150 MW of on-peak power from March 23, 2001 through March 31, 2001; 750MW of on-peak power from April 1, 2001 through June 30, 2001; 250MW of on-peak power from July 1, 2001 through September 30, 2001; 250MW of base (7x24) energy from October 1, 2001 through December 31, 2003; 500 MW of base energy from January 1, 2004 through December 31, 2004; and 1000 MW of base energy from January 1, 2005 through December 31, 2011 to SP-15.³⁵² The price of all megawatts under the contract is \$61. The second portion of the Allegheny Contract was executed on April 20, 2001, and calls for the delivery of 150 MW of on-peak, 6x16 power from January 1, 2003 through December 31, 2003, at \$76/MWh.

135. Both Dr. Celebi and Mr. Cavicchi addressed at least part of this contract in testimony.³⁵³ Dr. Celebi argues that, when considered as a whole over the entire 11 years, the contract is generally comparable to the Shell contract and has an average price of \$60.70/MWh.³⁵⁴ On the other hand, Mr. Cavicchi calculated an average price of \$76/MWh for 2003 on-peak deliveries only.³⁵⁵

³⁵¹ “Original Contract” was defined in a settlement agreement as, “collectively, that certain master Power Purchase and Sale Agreement (together with the cover sheet, confirmation agreement, exhibits, schedules, confirmation letters and written supplements thereto, including without limitation the confirmation letters dated on or about March 23, 2001 and on April 20, 2001) dated as of March 23, 2001, by and between the CDWR and Allegheny Energy Supply Company, LLC [(AESC)] which was assigned to Allegheny Trading Finance Company on December 23, 2002.” Ex. CAL-00997 at 28, § 1.13. Thus, the undersigned will consider both pieces of the contract as a single whole.

³⁵² See Ex. CAL-00997 at 6 (documentation for settlement between CDWR and Allegheny); Ex. CAL-050 at 1 (summary of CDWR power contracts).

³⁵³ Ex. CAL-00990-REV at 69, fig. 7 (Celebi Reb.).

³⁵⁴ Ex. CAL-00990-REV at 69, fig. 7; 72, fig. 8 (Celebi Reb.).

³⁵⁵ Ex. SHE-0001 REV2 at 40, fig. 4 (Cavicchi Dir.). It should be noted that Mr. Cavicchi did not consider whether this contract was generally comparable. Mr. Cavicchi did not view the Allegheny Contract as including a product that was “comparable to the on-peak product in the Shell Contract.” See Ex. SHE-0001 REV2 at 42 n.85 (Cavicchi

136. Given the four factors described above, the Allegheny Contract is reasonably comparable to the Shell Contract here. This particular contract is approximately 11 years in duration (Factor 2), which meets the definition of both experts as comparable to the Shell Contract. The parties to the Allegheny Contract negotiated its terms between March and April 2001, at about the same period as the Shell Contract (i.e. from February through March 2001). Therefore, the fundamentals at the time the Allegheny Contract was negotiated were similar to those at the time the Shell Contract (Factor 1).³⁵⁶ In addition, the Allegheny Contract encompasses an energy product that both experts consider to be comparable to the one in the Shell Contract, as the contract sells block energy (both peak and base energy) to the CDWR and contains an on-peak LD product (Factor 3). Finally, both the Allegheny Contract and the Shell Contract deliver more than 100 MW of 6x16 on-peak energy, along with other 7x24 base energy, quantities large enough to be comparable to the Shell Contract (Factor 4). Given that the Allegheny Contract satisfies each of the factors set forth above, the undersigned finds that it is generally comparable to the Shell Contract. The Allegheny Contract will be included in Benchmark 1.

(2) Calpine 1 Contract

137. The first contract between Calpine Energy Services LP (Calpine) and CDWR, executed February 6, 2001 (Calpine 1 Contract), included only 7x24 base energy, but did include a Firm LD provision..³⁵⁷ The quantities sold under ten years covered by the Calpine 1 contract are as follows: 200 MW from October 1, 2001 – December 31, 2001; 350 MW from January 1, 2002 – December 31, 2002; 600 MW from January 1, 2003 – December 31, 2003; and 1100 MW from January 1, 2004 – December 31, 2011.³⁵⁸ Only Dr. Celebi considered the Calpine 1 Contract to be generally comparable to the Shell Contract.³⁵⁹

138. At first look, the Calpine 1 Contract may seem to be generally comparable to the Shell Contract at issue here. The duration (Factor 2) and amount of capacity of a block energy product sold (Factor 4) all seem to fit within the parameters the experts established in this case. One critical element, however, is missing: an on-peak product.

Dir.).

³⁵⁶ 2016 Initial Decision, 155 FERC ¶ 63,004 at PP 138-159.

³⁵⁷ See Ex. CAL-026 at Exhibit A (Allegheny Contract); Ex. CAL-050 at 1.

³⁵⁸ See Ex. CAL-026 at Exhibit A (Allegheny Contract); Ex. CAL- 050 at 1.

³⁵⁹ See Ex. CAL-00990 at 69, fig. 7 (Celebi Reb.).

Both experts discussed the importance of the contract providing an on-peak product. Mr. Cavicchi considered a provision in the contract covering the sale of an on-peak product as one of the essential elements for comparability to the Shell Contract³⁶⁰ and, Dr. Celebi “excluded off-peak contracts to be conservative, as off-peak power is generally less expensive than power delivered during on-peak hours.”³⁶¹ Given the substantial amount of on-peak power included in the Shell Contract, that decision made sense when considering just and reasonable rates. That same sort of principle, however, should be consistently applied here. As the Calpine 1 Contract does not include any on-peak product, the undersigned concludes that it is not generally comparable to the Shell Contract because Factor 3 is not satisfied. The Calpine 1 Contract will not be included in Benchmark 1.

(3) Calpine 2 Contract

139. The second contract between Calpine and CDWR, executed February 26, 2001 (Calpine 2 Contract), only included 7x24 base energy, but it did not include a Firm LD product.³⁶² The quantities sold under the ten years of the Calpine 2 contract are as follows: 200 MW from July 1, 2001 - December 31, 2001; 200 MW from January 1, 2002 - June 30, 2002; and 1000 MW from July 1, 2002 - December 31, 2011. Only Dr. Celebi considered the Calpine 2 Contract to be generally comparable to the Shell Contract.³⁶³

140. Here again, the contract satisfies the time period, duration and magnitude elements (Factors 1, 2 and 4) of a generally comparable contract. But, the Calpine 2 Contract does not contain an on-peak product and, therefore, is not generally comparable and will not be included in Benchmark 1. The Calpine 2 Contract will not be included in Benchmark 1.

(4) Constellation Contract

141. The contract between Constellation Power Source, Inc. (Constellation) and CDWR (Constellation Contract), executed March 9, 2001, included 6x16 block energy from 0700 through 2200 Monday through Saturday, excluding NERC holidays. 200 MW

³⁶⁰ See Ex. SHE-0001 REV2 at 41, n.84 (Cavicchi Dir.).

³⁶¹ Ex. CAL-00973-REV2 at 17:21-18:1 (Celebi Dir.).

³⁶² See Ex. CAL-27 (Calpine 2 Contract) at Ex. A; Ex. CAL- 50 at 4.

³⁶³ See Ex. CAL-00990-REV at 69:3-70:1 (Celebi Reb.).

was delivered under each hour of the contract.³⁶⁴ The Constellation Contract ran from April 1, 2001 through June 30, 2003, just over a two year period. Neither expert considered the Constellation Contract to be generally comparable with the Shell Contract.³⁶⁵

142. The undersigned agrees with Dr. Celebi and Mr. Cavicchi in this instance. Although the Constellation Contract satisfies the time period, product, and magnitude elements (Factors 1, 3 and 4) of a generally comparable contract, at just over two years, it does not have the required duration (Factor 2) to have sufficient overlap with the eleven years of the Shell Contract, as both experts required here. Therefore, the undersigned concludes that the Constellation Contract is not generally comparable to the Shell Contract. The Constellation Contract will not be included in Benchmark 1.

(5) El Paso Contract

143. The contract between El Paso Merchant Energy, L.P. and CDWR (El Paso Contract), executed on February 13, 2001, included a combination of 7x24 and 6x16 block energy products, with differing quantities and capacity and energy charges throughout the contract term.³⁶⁶ This contract also contains a Firm LD provision as did the Shell Contract at issue here.³⁶⁷ The El Paso Contract ran from February 9, 2001 through December 31, 2005, not quite a 5-year period, and delivered 50 MW of energy.³⁶⁸ This contract also contained a Firm LD provision as did the Shell Contract at issue here.³⁶⁹

144. Neither Dr. Celebi, nor Mr. Cavicchi determined the El Paso Contract to be generally comparable to the Shell Contract at issue here.³⁷⁰ The El Paso Contract satisfies Factors 1 and 3 as the contract was signed during the relevant time frame and covers the sale of a block on-peak energy product. Given, however, that the El Paso

³⁶⁴ See Ex. CAL-030 (Constellation Contract) at 1; Ex. CAL-050 at 5.

³⁶⁵ See Tr. 336:14-337:1 (Celebi).

³⁶⁶ See Ex. CAL-034 (El Paso Contract) at 1, and Ex. CAL-050 at 6.

³⁶⁷ See Ex. CAL-034 (El Paso Contract) at 1; Ex. CAL-050 at 6.

³⁶⁸ See Ex. CAL-034 (El Paso Contract) at 1; Ex. CAL-050 at 6.

³⁶⁹ See Ex. CAL-034 (El Paso Contract) at 1; Ex. CAL-050 at 6.

³⁷⁰ See Ex. CAL-0990 REV at 69, fig. 7 (Celebi Reb.); Tr. 1134:1-7 (Cavicchi).

Contract only provides for the delivery of only 50 MW of power and was less than 5 years in duration (Factors 2 and 4), the undersigned agrees with these two experts that the El Paso Contract is not generally comparable to the Shell Contract. The El Paso Contract will not be included in Benchmark 1.

(6) High Desert Contract

145. The contract between High Desert Power Project, L.L.C. and CDWR (High Desert Contract), executed on March 9, 2001, was a tolling agreement for 7x24 base energy from Monday through Sunday, including NERC holidays.³⁷¹ The High Desert Contract ran from July 1, 2003 through March 31, 2011, not quite a 8-year period, and delivered all the actual output of electric energy (net of station service) achieved by the High Desert Power Project or the Substitute Unit delivered 24 hours per day, as and when available. Output quantity would vary based on factors such as ambient conditions and unit performance.³⁷² Shell's witness, Mr. Cavicchi, determined the High Desert contract to be comparable to the Shell Contract.³⁷³ Dr. Celebi did not.³⁷⁴

146. The High Desert Contract was negotiated about the same time as the Shell Contract and has a duration of nearly 8 years. These two elements fall squarely within the necessary requirements to be generally comparable to the Shell Contract (Factors 1 and 2). The High Desert Contract, however, is also a tolling agreement. The California Parties argued that tolling contracts are not comparable to the Shell Contract. Shell disagrees that this fact should make a difference because CDWR had the right to dispatch certain identified power plants called the Wildflower Units in the Shell Contract.³⁷⁵

147. According to Mr. Cavicchi, a tolling agreement is a contract:

typically configured to provide a buyer the option to dispatch a generation resource at any time, and to use that generation resource to convert a fuel supply into electricity at a guaranteed conversion rate (efficiency, or for the power plants the "heat rate"). In exchange, for this right, the buyer

³⁷¹ See Ex. CAL-037 (High Desert Contract) at 2; Ex. CAL-050 at 7.

³⁷² See Ex. CAL-037 at 2-3.

³⁷³ See Ex. SHE-0001 REV2 at 42, fig. 5 (Cavicchi Ans.).

³⁷⁴ See Ex. CAL-00990-REV at 67:7-12 (Celebi Reb.).

³⁷⁵ See Shell Reply Br. at 24, n.102.

agrees to pay the seller a “capacity” payment that compensates the seller for providing the buyer the option to dispatch the plant. Thus, the product being sold in a tolling agreement is plant capacity, not energy. The seller “tolls” the generation resource to the buyer and typically surrenders the majority of the value of the asset in the marketplace.³⁷⁶

Based on Mr. Cavicchi’s prior testimony above, the undersigned understands that the capacity sold under a tolling agreement is a different product than the energy sold under a non-tolling agreement. A tolling agreement provides large amounts of flexibility to a buyer. The buyer under a tolling agreement opts when to buy power and how much power to buy at any given time. The buyer can also increase purchases when fuel prices decrease. The buyer will pay a fixed capacity payment each period in return for the flexibility granted under the tolling agreement. The ultimate per-MWh price of the energy purchased under a tolling agreement will depend on how much energy is purchased each period and the price of natural gas. In general, the per-unit price of energy purchased under a tolling agreement decreases as more energy is purchased, because the fixed capacity payment in each month is spread over more Megawatt hours, resulting in a decreasing average MWh-price as the generator is dispatched under the tolling agreement. The difference in flexibility and the differences in calculating a per-Megawatt hour energy price under a block energy contract and a tolling agreement impact the ability to compare the two types of contracts.

148. Shell argues that the Shell Contract contains a Dispatch Option with respect to the Wildflower units.³⁷⁷ CDWR’s Dispatch Option in the Shell Contract, however, appears to be different from a buyer’s option in a tolling agreement.³⁷⁸ A buyer in a tolling agreement has the option to receive power from a specific generating plant when that plant’s power is economic. The buyer’s price paid for that power will depend largely on the current price of fuel.³⁷⁹ CDWR had the option to dispatch the Wildflower plants, but CDWR was paying a fixed price for that power during the years in which it held the Dispatch Option (2002-2005).³⁸⁰ CDWR’s Dispatch Option resembled a tolling

³⁷⁶ See IB-222 PUB at 9:1-7 (Cavicchi Ans. (July 2015)).

³⁷⁷ See SHE-0001 REV2 at 69:4-8.

³⁷⁸ See Ex. CAL-31, §10.18 (Dispatch of Generating Facilities).

³⁷⁹ See IB-222 PUB at 9:1-3 (Cavicchi Ans. (July 2015)).

³⁸⁰ See CAL-00973-REV2 at 5:9-11.

agreement only in that CDWR had the option to dispatch a generator.³⁸¹ The Dispatch Option did not provide CDWR flexibility with regards to power prices or quantities, as power prices and quantities were fixed during the years in which the Dispatch Option was effective.³⁸²

149. Moreover, even if the High Desert Contract were not a tolling agreement the undersigned would still not find that contract to be generally comparable to the Shell Contract. Given the emphasis the experts have placed on peak energy as a critical component, the High Desert agreement does not qualify as generally comparable because it only delivers base 7x24 energy, and not on-peak energy blocks (Factor 3). The High Desert Contract will not be included in Benchmark 1.

(7) Iberdrola Contract

150. The contract between PacifiCorp Power Marketing, Inc. and CDWR (Iberdrola Contract), executed on July 6, 2001, provides for 7x24 block energy from Monday through Sunday, including NERC holidays for the first 18 months of the contract.³⁸³ Beginning January 1, 2003, the Iberdrola Contract became a tolling agreement through June 2011. The Iberdrola contract provided for the delivery of 150 MW of energy from the date of commercial operation through June 30, 2002, and then 200 MW of energy through June 30, 2004, with 300 MW delivered thereafter.³⁸⁴ Shell's witness, Mr. Cavicchi, determined the Iberdrola Contract to be comparable to the Shell Contract.³⁸⁵ Dr. Celebi did not.³⁸⁶

151. The Iberdrola Contract is not generally comparable to the Shell Contract for several reasons. The Iberdrola Contract is likely to reflect the same or similar fundamentals as the Shell Contract because it was negotiated at the same time and

³⁸¹ See SHE-0001 REV2 at 69:4-8.

³⁸² See Ex. CAL-636 PUB.

³⁸³ See Tr. 1151:18- 1152:19 (Cavicchi); Ex. CAL-041 (Iberdrola Contract); Ex. CAL-50 at 8.

³⁸⁴ See Ex. Cal-41 (Iberdrola Contract) at 2.

³⁸⁵ See Ex. SHE-0001 REV2 at 42, fig. 5 (Cavicchi Ans.).

³⁸⁶ See Ex. CAL-00990 REV at 69, fig. 7 (Celebi Reb.).

executed just after the Mitigation Order (Factor 1).³⁸⁷ The Iberdrola Contract, however, is also primarily a tolling contract (Factor 3). Moreover, the short period of time (18 months) that is not a tolling contract, the Iberdrola Contract delivers only 7x24 base energy (Factor 2) rather than the on-peak energy that Dr. Celebi and Mr. Cavicchi have emphasized is a necessary feature of a generally comparable contract. Therefore, Iberdrola Contract will not be included in Benchmark 1.

(8) Sempra Contract

152. The contract between Sempra Energy Resources (Sempra) and CDWR was executed May 4, 2001 to provide a combination of 6x16 and 7x24 block energy for a term extending from June 1, 2001 through September 30, 2011 (Sempra Contract).³⁸⁸ The contract was divided into three periods: the summer period from June 1 through September 30, 2001; the middle period from October 1, 2001 through May 31, 2003; and the final period from June 1, 2003 through September 30, 2011.³⁸⁹ The contract calls for delivery of between 150 MW and 1200 MW at various times. Notably, the contract requires delivery of between 250 MW and 700 MW of 6x16 block energy across the entire contract term, except for the six-month period from October 1, 2001 and March 31, 2002.³⁹⁰

153. The Sempra Contract meets all four of the criteria the experts set forth above and is, therefore, generally comparable to the Shell Contract. Both Dr. Celebi and Mr. Cavicchi agreed.³⁹¹ First, the Sempra Contract was executed about the same time as the Shell Contract and is about the same length (Factors 1 and 2). In addition, like the Shell Contract, the energy products delivered under the contract are a substantial amount of both 6x16 on peak and 7x24 base block energy products (Factor 3). Finally, the contract

³⁸⁷ Shell provides a detailed discussion of the changes in market fundamentals and how they impacted forward prices between the execution of the Shell Contract on May 25, 2001 and the Mitigation Order in their brief. *See* Shell Initial Br. at 48-49.

³⁸⁸ *See* Ex. CAL-43 at 1 (Sempra Contract), 11; Ex. CAL-50 at 9.

³⁸⁹ *See* Ex. CAL-43 at 1 (Sempra Contract).

³⁹⁰ *See* Ex. CAL-43 at App. C (Sempra Contract).

³⁹¹ *See* Ex. CAL-00990-REV at 69, fig. 7 (Celebi Reb.); Ex. SHE-0001 at 42, fig. 5 (Cavicchi Dir.).

delivers amounts of energy that meet or exceed what is provided for in the Shell Contract (Factor 4). The Sempra Contract will be included in Benchmark 1.

(9) Sunrise Contract

154. The contract between the Sunrise Power Company (Sunrise) and CDWR, executed on June 25, 2001, is a tolling agreement which covers the generating capacity of the Sunrise 560 MW combined cycle facility (Sunrise Contract). The Sunrise Contract is divided into 2 terms: a Phase 1 term from June 25, 2001 through February 28, 2003; and a Phase 2 term from March 1, 2003 through December 31, 2011.³⁹² These time frames total approximately nine and a half years. Only Mr. Cavicchi asserted that the Sunrise contract was generally comparable to the Shell Contract.³⁹³

155. The Sunrise Contract has some points of comparability but overall is not generally comparable to the Shell Contract for a couple of reasons. It is true that the Sunrise Contract does meet requirements for duration and the amount of power delivered by the contract (Factors 2 and 4) and the Sunrise Contract was negotiated during the same period as the Shell Contract, even though it was signed a little after the Shell Contract (Factor 1). However, the Sunrise Contract is also a tolling agreement which sells plant capacity, not block energy as in our Shell Contract (Factor 3). As Mr. Cavicchi explained in prior testimony, those are two different products.³⁹⁴ As a result, the undersigned concludes the Sunrise Contract is not generally comparable to the Shell Contract. The Sunrise Contract will not be included in Benchmark 1.

(10) Williams Contract

156. The contract between Williams Energy Marketing and Trading (Williams) and CDWR was executed on February 21, 2001 to provide a combination of 6x16 and 7x24 block energy for a term extending from June 1, 2001 through December 31, 2010 (Williams Contract).³⁹⁵ Product A is defined as 7x24 block energy in amounts starting with 35 MWs and ending at 600 MWs from June 1, 2001 through December 31, 2010.³⁹⁶ Product B Tier 1 includes 6x16 block energy in amounts from 175 MWs to 300 MWs

³⁹² See Ex. CAL-45 at 1; Confirmation Agreement § 2.01.

³⁹³ See Ex. SHE-0001 at 42, fig. 5 (Cavicchi Dir.).

³⁹⁴ See IB-222 PUB at 8:22-10:14 (Cavicchi Ans. (July 2015)).

³⁹⁵ See Ex. CAL-049 at 1-2 (Williams Contract); Ex. CAL-050 at 12.

³⁹⁶ Ex. CAL-049 at 2 (Williams Contract).

between April 1, 2001 and December 31, 2010.³⁹⁷ Finally, Product B Tier 2, also a 6x16 block energy product, delivers energy from June 1, 2001 through December 31, 2005 in amounts ranging from 140 MWs to 400 MWs.³⁹⁸ Product C delivers hourly or daily quantities from April 1, 2001 through May 31, 2001.³⁹⁹ Only Dr. Celebi finds the Williams Contract to be generally comparable to the Shell Contract.

157. The Williams Contract is generally comparable to the Shell Contract as it satisfies each of the factors the experts stated are important for comparability. First, the Williams contract was executed during the relevant time period (Factor 1) and has a duration of approximately nine and a half years (Factor 2). The Williams contract also delivers on-peak 6x16 block energy during that time in amounts up to 400 MWs (Factors 3 and 4). The Williams Contract will be included in Benchmark 1.

c. Prices for Benchmark 1

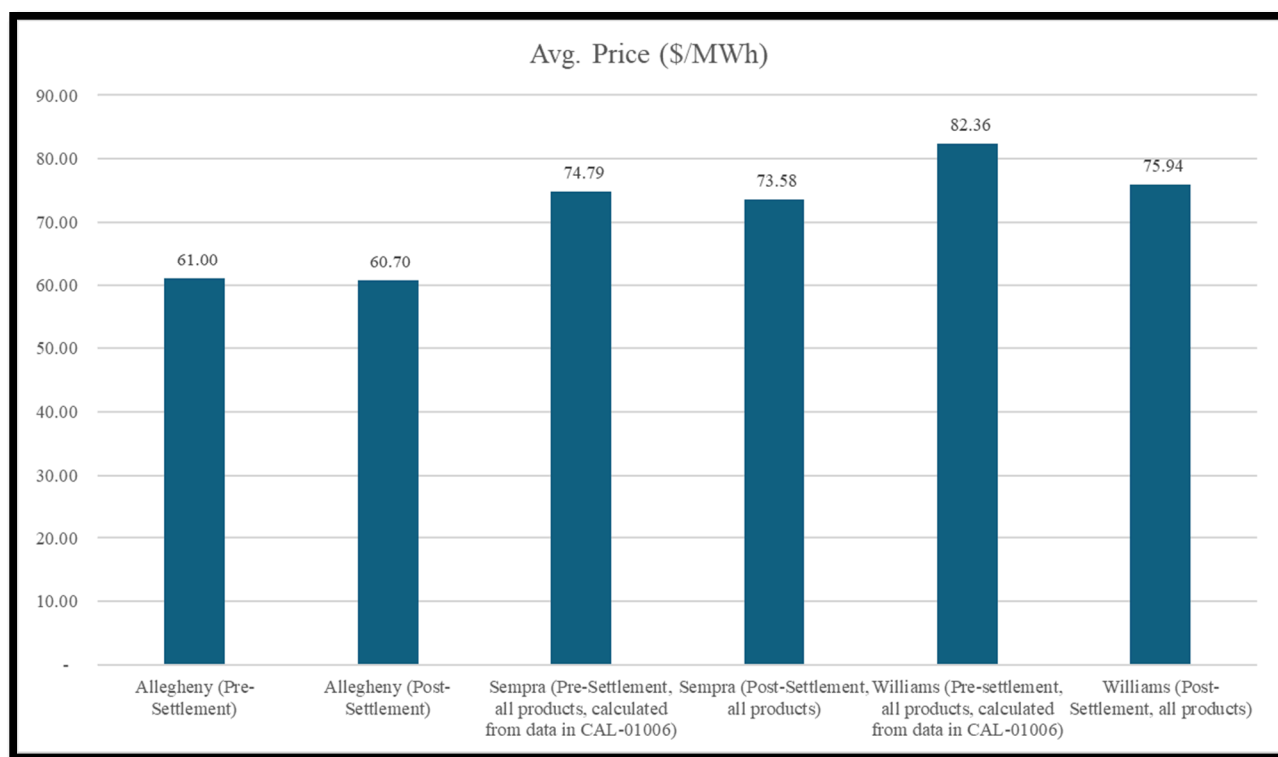
158. Based upon the foregoing analysis, the undersigned concludes that the Allegheny (11-year) Contract, the Sempra Contract and the Williams Contract should all be included as part of Benchmark 1. Each of these contracts has been renegotiated through a settlement or restructuring process. The next question is whether it is more appropriate to use the prices from the original contract or the prices as amended through settlement. The chart below details the average price of each of the contracts, both before and after these contracts were renegotiated through settlement.⁴⁰⁰

³⁹⁷ *Id.*

³⁹⁸ *Id.*

³⁹⁹ *Id.* at 3

⁴⁰⁰ Pre-settlement average contract rates for the Sempra and Williams contracts were calculated from data in CAL-01006 (CDWR Contracts Summary), tab CAL-218 PUB (CDWR Invoice Data). Post-settlement average contract rates for the Allegheny-Contract is sourced from CAL-00990-REV at 65:8-11, and the Sempra and Williams post-settlement average contract rates are sourced from CAL-00990-REV at 72, fig. 8.



As noted above, the California Parties contend that other CDWR contracts negotiated during the Crisis period necessarily contained inflated prices which did not reflect an unmanipulated market.⁴⁰¹ According to the California Parties, the Commission has never scrutinized these other CDWR contracts and therefore they are not an appropriate point of comparison.⁴⁰² Shell, on the other hand, argues that fraud has not been baked into these contracts; nor has the Commission determined whether all CDWR long-term contracts were tainted with fraud.⁴⁰³

159. Upon careful consideration of the evidence, the undersigned finds that it is appropriate to utilize the contract prices arrived at through the settlement/restructuring process for several reasons. First, the Commission has determined that the Williams Settlement package was just and reasonable.⁴⁰⁴ For the Sempra and Allegheny Contracts,

⁴⁰¹ See, *supra* PP 94, 99.

⁴⁰² Cal. Parties Initial Br. at 3.

⁴⁰³ See Shell Initial Br. at 16-17.

⁴⁰⁴ *San Diego Gas & Elec. v. Sellers of Ancillary Services*, 108 FERC ¶ 61,002, at P 43 (2004) (Order on Williams Settlement Agreement).

the parties to each of these contracts have amended their agreements through the settlement process after the end of the California Energy Crisis.⁴⁰⁵ In submitting these settlements to the Commission, the parties have represented that the agreements are fair and reasonable and in the public interest⁴⁰⁶ and that the settlements have resolved all issues raised which stemmed at least, in part, from the California Energy Crisis. Although the complete extent of the impact of the Crisis on contract prices is undetermined in these cases involving Allegheny, Sempra and Williams, the parties have reached resolutions to seemingly address that issue. Thus, the parties' renegotiated contract prices, as opposed to the original contract prices, may serve to inform the extent to which the Energy Crisis had an effect on those parties. Furthermore, the Commission has scrutinized each renegotiated settlement and found them to be just and reasonable or fair, reasonable and in the public interest.⁴⁰⁷ Relying on the parties' renegotiated contract prices further respects the fact that these are bilateral contracts negotiated in a quite different market from the California spot market in which all participants received the clearing price. In bilaterally negotiated contracts, parties should carry the benefits of well-negotiated rates and the burdens of poorly negotiated ones.⁴⁰⁸ The undersigned therefore adopts the settlement rates for purposes of the Benchmark 1 analysis.

⁴⁰⁵ Although the California Parties argue that the Commission's prior rulings have determined other CDWR contracts "baked in" fraud and manipulation into their prices, the California Parties have only cited to paragraphs from Opinion No. 587 that address the Shell Contract specifically. None of the cited paragraphs address other CDWR contracts. See Cal. Parties Reply Br. at 12 and n.60. The California Parties have not cited to any Commission findings related to the prices in the Allegheny, Sempra, or Williams Contracts.

⁴⁰⁶ See Ex. CAL-00997 at 4 (Allegheny); Ex. SHE-0021 at 5-6 (Sempra); *San Diego Gas & Elec. v. Sellers of Ancillary Services*, 108 FERC ¶ 61,002 at P 43 (Williams).

⁴⁰⁷ See *Pub. Utils. Comm'n of State of Cal. v. Sellers of Long-Term Contracts*, 133 FERC ¶ 61,245, at P 13 (2010) (Order approving Sempra uncontested settlement); *Pub. Utils. Comm'n of State of Cal. v. Sellers of Long-Term Contracts*, 104 FERC ¶ 61,074, at P 12 (2003) (Order approving Allegheny settlement); and *San Diego Gas & Elec. v. Sellers of Ancillary Services*, 108 FERC ¶ 61,002 at P 43 (Order on Williams Settlement Agreement).

⁴⁰⁸ See *Puget Sound Energy Inc. v. All Jurisdictional Sellers of Energy*, 137 FERC ¶ 61,001, at P 24 (2011).

160. Averaging the prices from the renegotiated Allegheny, Sempra, and Williams Contracts, results in an weighted average price of \$70.07/MWh and will be used as the average price for Benchmark 1 as modified.⁴⁰⁹ This figure will in turn be used to establish a zone of reasonableness, along with Benchmarks 5 and 7 which are addressed in detail in their respective sections below.

Contract	Avg. Price (\$/MWh)
Allegheny (Post- Settlement)	\$60.70
Sempra (Post- Settlement, all products)	\$73.58
Williams (Post- Settlement, all products)	\$75.94
Average Contract Price	\$70.07

2. Benchmarks 2 – 4: The Forward Curve Benchmarks

161. The California Parties base each of their proposed second, third, fourth, and sixth benchmarks upon estimated forward market prices in the California energy markets at different points in time. This section begins with a description of how the California Parties built the forward curves underlying each of these benchmarks. An analysis of the reliability of the data used for Benchmarks 2-4, and ultimately 6, will be treated in tandem due to the shared underpinning. Issues specific to each individual benchmark will be addressed after that joint analysis as necessary.

a. Development of the Forward Price Curves

162. The California Parties' witness James Read developed the forward market price curves Dr. Celebi relied upon for Benchmarks 2, 3, 4, and 6. Mr. Read explained that, in order to assess what forward prices would have been in May 2001 absent fraud and manipulation and to determine a post-Crisis benchmark of market forward power prices, he sought to obtain "forward prices at dates in 2001 for both delivery points (SP-15 and NP-15) and both energy products (peak and all hours). [He also] needed to obtain

⁴⁰⁹ Notably, if one were to use the pre-settlement contract rates, that average price would be \$72.72 which is still significantly below the Shell Contract rates.

forward prices at the same trade dates for the natural gas delivered to or near the SP-15 and NP-15 zones.”⁴¹⁰ In order to provide a pre-Crisis benchmark of forward power prices, Mr. Read needed to obtain “forward prices in March and April of 2000.”⁴¹¹

163. To get the historical forward prices that he needed, Mr. Read relied on broker “fax sheets”⁴¹² which were distributed on a daily basis by voice brokers active in the western energy markets and reported the broker’s indicative prices for energy.⁴¹³ Unfortunately, some of the historical data Mr. Read needed was missing from the record. For example, certain data was only available on a quarterly or yearly basis instead of monthly.⁴¹⁴ If a certain block of data was only available quarterly or yearly, Mr. Read “shaped” that data in order to develop monthly prices for that block.⁴¹⁵ Beyond fifteen to eighteen months forward, all “fax sheets” Mr. Read used show only quarter year or calendar year blocks and had to be “shaped.”⁴¹⁶

164. Mr. Read used two different sources for “fax sheets:” Natsource and TFS which he treated differently. For the time period after the crisis, he used Natsource “fax sheets,”

⁴¹⁰ Ex. CAL-00978-REV at 11:1-12 (Read Dir.).

⁴¹¹ *Id.* at 11:12-14.

⁴¹² See Ex. CAL-00978-REV2 at 12:1-7 (Read Dir.). Shell disputes both the usage and the term “fax sheets” used by Mr. Read, with Mr. Hunter stating that what Mr. Read calls “fax sheets” are actually “broker End-of-Day sheets.” SHE-0136 REV at 6:15-20 (Hunter Ans.). The undersigned notes this dispute and uses the term “fax sheets” only for consistency reasons.

⁴¹³ Ex. CAL-00978-REV at 12:1-10 (Read Dir.). These “fax sheets” are exhibits from a previous phase of this proceeding.

⁴¹⁴ See Ex. CAL-0978-REV at 15, fig. 1 (Read Dir.).

⁴¹⁵ Mr. Read describes “shaping” as starting with “a single ‘flat’ price for the calendar months combined in each of the quarter and calendar-year blocks and ending with forward prices for the calendar months which, because they differ, exhibit ‘shape.’” The underlying shapes derive from: (1) the differences in natural gas prices in the underlying calendar months, and (2) the differences in efficiency of the generating units that are expected to be on the margin and therefore set power prices during the month. *Id.* at 15:4-16:8.

⁴¹⁶ *Id.* at 13:11-14. An example can be seen on page 15 of Mr. Read’s Direct testimony. See *id.* at 15, fig.1.

which he shaped in the manner described above to develop forward price curves. For the period prior to the crisis, Mr. Read used TFS “fax sheets.”⁴¹⁷ According to Mr. Read, the TFS “fax sheets” included forward prices for a much shorter period so he projected the TFS forward prices through 2005.⁴¹⁸ He also used futures prices from the New York Mercantile Exchange (NYMEX) for calendar-month blocks of power delivered on peak to the California-Oregon Border (COB), near NP-15, and the Palo Verde nuclear power station in Arizona (PV), near SP-15.⁴¹⁹ Lastly, Mr. Read explained that although neither the TFS nor the NYMEX forward price data included off-peak or all-hours prices, the historical day-ahead “spot” prices for both NP-15 and SP-15 on the CalPX were available.⁴²⁰ These allowed Mr. Read to calculate the “relative magnitudes of on-peak prices in these periods to off-peak and all-hours prices.”⁴²¹

165. Shell questions the reliability of the underlying data for Benchmarks 2, 3, 4 and 6.⁴²²

b. Is This Data Reliable?

Shell’s Arguments

166. Relying on the testimony of its witness Matthew Hunter, Shell criticizes Mr. Read’s data as unreliable. Shell argues that “fax sheets” do not reflect transactional forward prices or contain comprehensive and robust data.⁴²³ Instead, “fax sheets” merely represent the brokers’ “editorial judgment” they “do not necessarily capture what actually occurred in the market.”⁴²⁴ According to Shell, Mr. Hunter also made clear that the “fax

⁴¹⁷ *Id.* at 18:8-12.

⁴¹⁸ *Id.* at 18:12-14.

⁴¹⁹ *Id.* at 18:14-19:3.

⁴²⁰ *Id.* at 19:3-6.

⁴²¹ *Id.* at 19:6-19:7.

⁴²² *See* Shell Initial Br. at 55-58.

⁴²³ *Id.* at 55 (citing Ex. SHE-0136 REV at 4:19-24 (Hunter Ans.)).

⁴²⁴ *Id.* (citing Ex. SHE-0136 REV at 6:22-7:11 (Hunter Ans.)).

sheets” do not factor in other important information such as market liquidity.⁴²⁵ Mr. Hunter would treat the “fax sheets” as “a single, limited data point within a broader risk management framework – one of several inputs used to assess trading exposure, not a definitive source of market prices.”⁴²⁶ Shell further asserts detailed disclaimers on the “fax sheets” themselves underscore their limited utility.⁴²⁷

167. According to Shell, Mr. Read’s primary response to Mr. Hunter’s testimony is that Shell relied on “broker quotes” too.⁴²⁸ Shell argues that “fax sheets” and broker quotes are not the same because broker quotes can be used to execute trades in real time and “fax sheets,” which are compiled at the end of the day, cannot.⁴²⁹

168. Shell further points to the testimony of Dr. Puller who indicated that the small quantity and short duration of the transactions reflected in the “fax sheets” were not an appropriate comparison for the much larger and longer Shell Contract at issue here.⁴³⁰ As Dr. Puller notes, the prices on the “fax sheets” were typically only for 25-MWh blocks.⁴³¹

169. On reply, Shell argues that, the California Parties do not contest Mr. Hunter’s testimony that “[‘fax] sheets’ do not reflect transactional forward prices or robust market data; only reflect a voice broker’s editorial judgment; and omit factors such as credit and liquidity.”⁴³² Shell further argues that the California Parties do not address testimony from Dr. Puller noting (1) that the small size of the power blocks in the “fax sheets” (only 25 or 50 MW),⁴³³ indicates that the “fax sheets” are not a good comparison to the Shell

⁴²⁵ *Id.* at 56 (citing Ex. SHE-0136 REV at 10:3-14 (Hunter Ans.)).

⁴²⁶ *See id.* (citing Tr. 1589:5-19 (Hunter)).

⁴²⁷ *Id.* (citing Ex. CAL-01011-REV (TFS “fax sheets”)).

⁴²⁸ *Id.* at 57 (citing Ex. CAL-01007-REV2 PUB at 5:14-8:6 (Read Reb.)).

⁴²⁹ *Id.* at 57-58 (citing Tr. 572:6-9, 574:5-11 (Read)).

⁴³⁰ *Id.* at 56.

⁴³¹ *See id.* at 57.

⁴³² Shell Reply Br. at 9 (citing Ex. SHE-0136 REV at 4:20-22, 8:8-14; 10:1-17 (Hunter Ans.)).

⁴³³ *Id.* (citing Ex. CAL-01011-REV (TFS “Fax Sheets”)).

Contract's size (up to 850 MW);⁴³⁴ and (2) that CDWR did not use voice brokers to get forward contracts.⁴³⁵ Furthermore, according to Shell, its use of "fax sheets" together with other more relevant information does not validate the use of "fax sheets" alone as the only source of forward price data.⁴³⁶ And the California Parties' reference to Mr. Brown's testimony was misleading, in that "the citation they rely on has nothing to do with Shell Energy's price analysis but, instead, relates to an adjustment done by Mr. Brown to the Commission's \$74 around-the-clock benchmark."⁴³⁷

California Parties' Arguments

170. The California Parties argue that the data Mr. Read used to construct his forward curves is reliable and is the same data that other sellers used to develop forward price curves in 2001.⁴³⁸ The California Parties note that Mr. Read has developed forward price curves for the industry since the 1990s.⁴³⁹ The California Parties go on to criticize Mr. Hunter's negative comments on the value of "fax sheets." According to the California Parties, Mr. Hunter was speaking from the narrow perspective of an electricity trader and did not know whether other traders used "fax sheets."⁴⁴⁰ He also did not know if any other professionals in the trading world used them.⁴⁴¹ According to the California Parties, broker-reported forward market prices "represent a reasonable estimate at a particular point of the market prices for future deliveries of energy at a specified delivery location and date" and "provide insight on market participants' view of the competitive prices of future energy deliveries, absent manipulation and fraud."⁴⁴² Dr. Celebi used

⁴³⁴ *Id.* (citing Ex. SHE-0052 REV2 at 82:22-84:2 (Puller Ans.))

⁴³⁵ *Id.* at 9 (citing Ex. SHE-0052 REV2 at 86:1-87:17 (Puller Ans.)).

⁴³⁶ *Id.* at 10.

⁴³⁷ *Id.* (citing Cal. Parties Initial Br. at 63 n.276).

⁴³⁸ *See* Cal. Parties Initial Br. at 61.

⁴³⁹ *See id.*

⁴⁴⁰ *Id.* at 62 (citing Tr. 1559:2-4 (Hunter)).

⁴⁴¹ *See id.*

⁴⁴² *Id.* at 18.

forward power prices as the comparator for the years 2001-2005.⁴⁴³ The California Parties further note that after Mr. Hunter established his own electric market consulting practice, he relied on Natsource broker sheets to look at past prices, which is exactly how Mr. Read used the sheets.⁴⁴⁴ Furthermore, according to the California Parties, Dr. Morris never worked with “fax sheets” and only repeated what Mr. Hunter told him.⁴⁴⁵

171. In addition, the California Parties indicate that spreadsheets obtained in discovery from Shell were plotted on a graph and compared to Natsource “fax sheets” from the same time period to make a comparison of the curves.⁴⁴⁶ According to the California Parties, the lines are “nearly indistinguishable” in May of 2001 and with only small variations in April 2001.⁴⁴⁷

Discussion

172. Shell raises several good points that cast doubt on the reliability of the data Mr. Read used for his Benchmarks 2, 3, 4 and 6. Below is a sample of a “fax sheet” and the kind of data upon which Mr. Read relies for his analysis:

⁴⁴³ *Id.* n.64.

⁴⁴⁴ *See id.* at 62-63.

⁴⁴⁵ *See id.* at 63.

⁴⁴⁶ *Id.* at 63-64 (citing CAL-01007-REV2 PUB at 26, Fig. 2 (Read Reb.)).

⁴⁴⁷ *Id.* at 64.

FIGURE 1:
SAMPLE OF NATSOURCE FORWARD PRICES (JUNE 22, 2001)
FOR NP15 AND SP15 PEAK AND OFF-PEAK PERIOD DELIVERY⁴⁴⁸

06/22/01	PALO VERDE		SOUTH PATH		NORTH PATH		COB		MID C	
	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light
Bal of Month	78.00	38.00	80.00	38.00	83.00	62.00	80.00	58.00	76.00	60.00
Jul-01	93.00	54.00	88.00	54.00	89.00	67.50	90.00	69.00	87.00	67.50
Aug-01	104.00	60.00	100.00	61.00	101.00	70.00	105.00	72.00	100.00	75.00
Sep-01	85.00	59.00	82.00	61.00	90.00	68.00	90.00	70.00	90.00	72.00
Oct-01	80.00	46.00	83.00	48.00	77.00	59.00	70.00	60.00	72.00	60.00
Nov-01	46.00	34.00	49.00	35.00	59.00	52.00	78.00	70.00	80.00	73.00
Dec-01	48.00	41.00	51.00	43.00	73.00	55.00	90.00	81.00	94.00	80.00
Jan-02	56.00	37.00	58.00	37.00	70.00	50.00	97.00	83.00	97.00	82.00
Feb-02	44.00	35.00	48.00	37.00	48.00	44.00	79.00	69.00	80.00	70.00
Mar-02	38.00	32.00	39.00	35.00	40.00	40.00	50.00	44.00	50.00	45.00
Apr-02	37.00	29.00	38.00	26.00	38.00	28.00	35.00	30.00	35.00	31.00
May-02	45.00	27.00	48.00	24.00	41.00	28.00	39.00	32.00	40.00	31.00
Jun-02	53.00	40.00	56.00	44.00	44.00	36.00	53.00	37.00	50.00	34.00
Jul-02	74.00	44.00	74.00	43.00	72.00	51.00	83.00	67.00	81.00	70.00
Aug-02	95.00	48.00	95.00	47.00	106.00	53.00	100.00	67.00	96.00	68.00
Sep-02	75.00	40.00	75.00	40.00	64.00	45.00	58.00	46.00	56.00	46.00
Q4 02	40.00	30.00	42.00	32.00	43.00	38.00	50.00	39.00	52.00	39.00
Q1 03	36.00	27.00	36.50	25.00	30.50	22.00	38.00	32.00	40.00	31.00
Q2 03	32.00	24.00	33.50	30.00	29.50	22.00	24.00	20.00	25.00	20.00
Q3 03	68.00	53.00	69.50	54.00	66.50	46.00	70.00	60.00	61.00	51.00
Q4 03	30.00	21.00	30.50	22.00	28.50	23.00	38.00	30.00	39.00	30.00
CAL-04	37.00	30.00	38.00	30.00	37.00	30.00	41.00	32.00	40.00	31.00
CAL-05	36.00	31.00	37.00	31.00	36.00	30.00	41.00	32.00	40.00	31.00

Such “fax sheets” only present monthly data for fifteen months from the date of the “fax sheet, as Mr. Read noted.⁴⁴⁹ Prices for the following fifteen months are presented as quarterly figures, with the last two years of prices presented only as annual figures.⁴⁵⁰

173. Mr. Hunter, a former energy trader, testified that the content of “fax sheets” is suspect because one ever knows how many data points, if any, were used to create

⁴⁴⁸ See Ex. CAL-00978-REV at 15, fig. 1

⁴⁴⁹ Ex. CAL-00978-REV at 13:11 (Read Dir.).

⁴⁵⁰ *Id.* at 12-14.

them.⁴⁵¹ Moreover, this sheet, like the ones Mr. Read used, represent a compilation of data on a given day and a “broker’s editorial judgment.... Some values on the “[fax] sheets” could represent robust market activity, including actual transactions that buyers and sellers consummated, but some values could represent limited or no market activity, and are simply one broker’s view about where trade could occur based on bids and offers that may or may not have been consummated or other anecdotal evidence. There is no way of knowing which is which.”⁴⁵² The fact that one does not know whether a particular “fax sheet” is based upon robust data, injects uncertainty into the equation. In fact, Mr. Hunter further explained that to make the “fax sheets” more meaningful, they are typically paired with other more robust data that constitute consummated trades and actionable offers.⁴⁵³

174. The California Parties unpersuasively attempt to counter Mr. Hunter’s testimony. The California Parties point to several places where Shell has indicated “that comparisons to forward electricity market prices or forward electricity price curves were *among its considerations* in evaluating its potential long-term contract with CDWR.”⁴⁵⁴ But this fact does not validate Mr. Read’s use of the “fax sheets” here. Instead, it only confirms that Shell followed the procedure Mr. Hunter outlined in his testimony, namely that “fax sheets” should be used in conjunction with other, more robust data in order to make a well-informed decision.

175. The California Parties also point to Figure 2 from Mr. Read’s rebuttal, which is described as a comparison of Natsource and the forward prices Shell developed for delivery into NP-15. The California Parties use this comparison as a means of validating the use of “fax sheets” and the numbers Mr. Read drew from them.⁴⁵⁵ The California Parties argue that the two data sets depicted on Figure 2 are “nearly the same.”⁴⁵⁶ The undersigned, however, is not convinced. The top portion of Figure 2 shows that the data

⁴⁵¹ Ex. SHE-0136 at 10:3-14 (Hunter Ans.).

⁴⁵² Ex. SHE-0136 REV at 6:23-7:6 (Hunter Ans.).

⁴⁵³ See Ex. SHE-0136 REV at 13:5-12 (Hunter Ans.); Tr. 1585:4-1586:6 (Hunter) (explaining that a trader’s forward price should be based on multiple sources of information, not just information from one broker).

⁴⁵⁴ Ex. CAL-01007-REV2 PUB at 22:3-5 (citing Ex. CAL-01008 at 7, 8, 15, and 16-20) (emphasis added).

⁴⁵⁵ See Ex. CAL-01007-REV2 PUB at 26, fig. 2 (Read Reb.).

⁴⁵⁶ Ex. CAL-01007-REV2 PUB at 25:4-5 (Read Reb.).

can be quite different at various points, whereas the bottom graph seems to be more closely aligned.⁴⁵⁷ In fact, a comparison of the two figures further illustrates Mr. Hunter's point: one can never tell whether a particular "fax sheet" was based on robust data or not.

176. The California Parties further point to Mr. Brown's testimony as demonstrating that Shell itself used Natsource sheets as "the data source for an analysis of Shell's prices."⁴⁵⁸ But as Shell correctly points out, the cited testimony had nothing to do with Shell's energy prices but rather an adjustment to the Commission's \$74 around-the-clock benchmark.⁴⁵⁹ Thus, the California Parties have failed to demonstrate that Shell validated Mr. Read's methodology from Figure 2 through their use of "fax sheets."

177. Furthermore, at the hearing, it was established that "fax sheets," such as the one above, typically contain a disclaimer. The disclaimer on the TFS "fax sheets" reads as follows:

The information in this report is believed to be reliable, however, TFS Energy LLC does warrant its completeness or accuracy. Quotes are estimates only and are not guaranteed by TFS. The opinions and estimates constitute our judgment and are subject to change without notice. Past performance is not indicative of future results. The material in this report is not intended as an offer or a solicitation for the purchase or sale of any financial instrument or commodity."⁴⁶⁰

Such a disclaimer is further evidence that the information in "fax sheets" is not 100 percent reliable, calling into question Mr. Read's analysis.

178. Further discrediting the "fax sheets" reliability is that the prices apply to much smaller blocks of energy than in the Shell Contract. The prices in the "fax sheets" were typically only for 25-MW blocks. Dr. Puller persuasively argued that those prices would

⁴⁵⁷ See Ex. CAL-01007-REV2 PUB at 26, fig. 2 (Read Reb.).

⁴⁵⁸ Cal. Parties Initial Br. at 63 (citing Ex. SNA-219 PUB at 49:22-24 (Brown Supp. Ans)).

⁴⁵⁹ Shell Reply Br. at 10 (citing Cal Parties Initial Br. at 63 n.276 (citing Ex. SNA-219 PUB at 49:22-24 (Brown Supp. Ans))).

⁴⁶⁰ See Tr. 562:20-563:4 (Presiding Judge); Ex. CAL-01011-REV.

not apply to the 100 to 850 MW delivered under the Shell Contract.⁴⁶¹ At the hearing, Mr. Read agreed with Dr. Puller that the size of the energy contract could affect the price, though not always with an increase for larger blocks.⁴⁶² Regardless of whether the larger blocks would be more or less expensive, Mr. Read's agreement provides further evidence that the numbers in "fax sheets" are not precise enough of a comparison point for the Shell Contract here. When combined with Mr. Hunter's testimony, that acknowledgement casts doubt on whether the "fax sheets" are precise enough to be used in the determination of just and reasonable rates for the Shell Contract.

179. Moreover, the Commission, in an earlier phase of this proceeding, rejected the use of forward curves as a means of measuring the justness and reasonableness of contract rates. In that phase as here, complainants sought to use expert testimony to argue that "the forward price curves can appropriately be used to test the justness and reasonableness of the rates under the long term contracts[.]"⁴⁶³ The Commission disagreed. Specifically, the Commission explained that although forward price curves could be useful for "resource planning and contract negotiation purposes, [it] cannot use that data to judge contract rates."⁴⁶⁴ The Commission continued: "[n]ot only were these forward curve models not designed for that purpose, but the requisite transparency that

⁴⁶¹ See Ex. SHE-0052 REV2 at 82:22-84:2 (Puller Ans.).

⁴⁶² See Ex. CAL-01007-REV2 PUB at 28:4-10 (Read Reb.).

⁴⁶³ *Pub. Utils. Comm'n of Cal. v. Sellers of Long-Term Contracts to the Cal. Dep't of Water Res.*, 105 FERC ¶ 61,182, at P 42 (2003). Although the Ninth Circuit vacated this decision, the Commission's rejection of forward price curves to determine just and reasonable rates remains valid. First, the Supreme Court vacated the Ninth Circuit opinion that remanded the Commission order. See *Sempra Generation v. Pub. Util. Comm'n of Cal.*, 554 U.S. 931 (2008). Second, the Ninth Circuit opinion found that the Commission improperly excluded evidence related to forward curves because the Commission concluded, based on a misapplication of the public interest standard, that the justness and reasonableness of the rates at the time the parties executed the contract was irrelevant. See *Pub. Util. Comm'n of State of Cal. v. FERC*, 474 F.3d 587 (9th Cir. 2006). The Ninth Circuit opinion did not address the Commission's analysis on why forward curve data is unreliable and improper to use for judging contract rates. *Id.* Hence, the Commission's rejection of forward curves remains well-reasoned and applies in this proceeding.

⁴⁶⁴ *Pub. Utils. Comm'n of Cal.*, 105 FERC ¶ 61,182 at P 43.

Commission rate review must have is absent.”⁴⁶⁵ The Commission further explained that “the Commission has never addressed or approved any one particular forward curve model for this purpose[.]”⁴⁶⁶ Accordingly, the Commission found it “inappropriate to rely on the forward price curves and the testimony regarding those curves.”⁴⁶⁷ As the nature of forward price curves has not changed, the undersigned will not rely on benchmarks based upon forward curves including Benchmarks 2-4 and 6. Additional issues specific to each of Benchmarks 2-4, and 6 are detailed below.

c. Benchmark 2: Post-Crisis Forward and Spot Market Prices

180. To develop Benchmark 2, the California Parties analyzed what they refer to as “reported forward market power prices,” which the California Parties argue “represent a reasonable estimate at a particular point in time of the market prices for future deliveries of energy products at a specified delivery location and date.” The California Parties consider three sets of forward market prices: (1) post-Crisis forward market prices (from trade dates between June 20, 2001 and November 30, 2001); (2) pre-Crisis forward power market prices (from trade dates in March and April 2000); and (3) corrected estimates of May 2001 forward market prices absent fraud and market manipulation.⁴⁶⁸ For trading dates between June 20, 2001 and November 30, 2001, the California Parties relied on the use of Natsource “fax sheets” as described above and compiled by Mr. Read.⁴⁶⁹ The California Parties chose June 20, 2001 as the start of their analysis because this date reflects the forward prices prevailing immediately after the Commission’s June 19, 2001 Mitigation Order through market stabilization in late 2001.⁴⁷⁰

181. For the fixed price portion of the Shell Contract (years 2001-2005), the California Parties first attempted to derive volume weighted post-Crisis power forward prices reflecting the mix of products in the Shell Contract for each trade date between June 20,

⁴⁶⁵ *Id.*

⁴⁶⁶ *Id.*

⁴⁶⁷ *Id.*

⁴⁶⁸ Ex CAL-00973-REV2 at 21:5-9, 25:7-13 (Celebi Dir.).

⁴⁶⁹ *Id.* at 24:13-16 (Celebi Dir.).

⁴⁷⁰ *Id.* at 24:16-19.

2001 through November 30, 2001.⁴⁷¹ Dr. Celebi performed this analysis by multiplying the actual delivery volumes for each contract product and delivery location for each month of the Shell Contract from May 2001 through December 2005 by the post-Crisis forward market prices that Mr. Read identified.⁴⁷² The California Parties then divided the resulting total dollar amount for all products and delivery locations for each month by the total MWhs delivered for the month.⁴⁷³

182. For the period when the Shell Contract was a gas-indexed arrangement (years 2006-2012), Dr. Celebi used spot market power prices for the relevant benchmark prices.⁴⁷⁴ To create these benchmark spot prices, Dr. Celebi used the dollar value and timestamp of each real-time hourly spot price, derived the average spot price for 6x16 and 7x24 products for each month between January 2006 through June 2012, and then created a volume-weighted average dollar per MWh price for each month of the Shell Contract, from January 2006 through the end of the contract term.⁴⁷⁵

183. Shell and Trial Staff dispute the merits of Benchmark 2.

Participant Arguments

California Parties

184. The California Parties argue that “[b]roker-reported forward prices represent a reasonable estimate at a particular point of the market prices for future deliveries of energy at a specified delivery location and date.”⁴⁷⁶ The California Parties further assert that the post-Crisis forward prices indicate market participants’ view of future energy delivery prices absent manipulation and fraud.⁴⁷⁷ The California Parties believe these forward market prices are an appropriate benchmark for the Shell Contract because “Shell sourced the contract from the market, not from a specific generation source

⁴⁷¹ *Id.* at 25:4-9.

⁴⁷² *Id.* at 25:9-14.

⁴⁷³ *Id.* at 25:14-18.

⁴⁷⁴ *Id.* at 25:19-26:2.

⁴⁷⁵ *Id.* at 26:15-27:2.

⁴⁷⁶ Cal. Parties Initial Br. at 18.

⁴⁷⁷ *Id.*

and . . . Shell relied on forward prices to evaluate the Shell Contract through negotiations with CDWR and used forward prices as a justification for the contract's pricing levels."⁴⁷⁸ The California Parties conclude that, for their Benchmark 2, post-Crisis forward prices averaged \$42.72/MWh, compared to the Shell Contract price of \$116.27/MWh for the period of 2001-2005.⁴⁷⁹

Shell

185. Like its argument for the first proposed benchmark, Shell states that the California Parties' second proposed benchmark relies on post-Crisis forward market power prices "when market conditions and expectations differed substantially from those at the time the Shell Contract was executed."⁴⁸⁰ Shell concludes that the California Parties did not provide information that would explain how contract prices negotiated in different market conditions could inform a zone of reasonableness and notes that Dr. Puller detailed a number of events which he explained "materially" reshaped expectations.⁴⁸¹ Therefore, Shell argues Benchmark 2 is irrelevant and should be disregarded.⁴⁸²

Trial Staff

186. Trial Staff explains that the California Parties second benchmark uses post-Crisis forward market prices for trade dates between June 20, 2001 and November 30, 2001.⁴⁸³ Trial Staff argues that Dr. Celebi acknowledged that none of his forward market benchmarks, including Benchmark 2, use "unaltered forward market pricing as of the May 2001 time period in which the Shell Contract was actually executed[.]" and are a poor metric for assessing the Shell Contract.⁴⁸⁴

⁴⁷⁸ *Id.* at 18-19 (citing 2016 Initial Decision, 155 FERC ¶ 63,004, Findings of Fact No. 241, 296 (internal quotations omitted); Ex. CAL-00973-REV2 at 21:5-19 (Celebi Dir.)).

⁴⁷⁹ *Id.* at 19.

⁴⁸⁰ Shell Initial Br. at 47.

⁴⁸¹ *Id.* at 47-48.

⁴⁸² *Id.* at 48.

⁴⁸³ Trial Staff Initial Br. at 29.

⁴⁸⁴ *Id.* at 30 (citing Tr. 254:18-22 (Celebi)).

Discussion

187. The California Parties used their second benchmark as part of their zone of reasonableness. The undersigned agrees, however, with Trial Staff and Shell that the California Parties have not demonstrated that Benchmark 2 provides a proper basis against which to measure the Shell Contract.

188. The primary problem with the Benchmark 2 is the fact that it relies upon post-Crisis forward pricing. In his testimony, Dr. Celebi explained that “[r]eported forward market power prices represent a reasonable estimate at a *particular point in time* of the market prices for future deliveries of energy products at a specified delivery location and date.”⁴⁸⁵ This statement indicates that the point in time at which prices are measured matters.

189. The negotiation and execution of the Shell Contract took place from February through May of 2001, a time when California was “endur[ing] a power supply crisis.”⁴⁸⁶ The prices contained in the Shell Contract would have reflected both the fundamentals of the time, as well as any increases due to fraud and/or manipulation of the contract pricing at the time. Looking at prices from a vantage point following the Crisis would not reflect the same fundamentals however. Dr. Celebi, Dr. Fox-Penner, and Mr. Cavicchi have each agreed that the expectations around fundamentals matter when determining the appropriate prices.⁴⁸⁷ The California Parties have not demonstrated that the market fundamentals as of May 2001 and at the end of June 2001 are similar. In fact, Dr. Puller has convincingly demonstrated in detail that they were not.⁴⁸⁸ Nor do the California Parties establish that the expectations around those changing fundamentals were the same during the Crisis and post-Crisis period other than in the most conclusory way.⁴⁸⁹ Based

⁴⁸⁵ Ex. CAL-00973-REV2 at 21:7-9 (Celebi Dir.) (emphasis added).

⁴⁸⁶ Ex. SHE-0001 REV2 at 36:21-23 (Cavicchi Ans.).

⁴⁸⁷ See *supra* PP 113-115.

⁴⁸⁸ See SHE-0052 REV2 at 67:8-10 (Puller Ans.); Tr. 1358:8-1359:12, 1384:18-1388:6.

⁴⁸⁹ Mr. Read notes that he “did not find the expectations of demand or expectations for capacity additions had changed substantially between late May and late June 2001.” Ex. CAL-01007-REV2 PUB at 58:13-15 (Read Reb.). However, Mr. Read did refer to an executive order modifying NOx emissions permits that would have reduced the cost to run certain generators, but he only guessed as to whether those modifications were expected, without giving any kind of definitive answer. See *id.* at 58:16-59:2.

on expert testimony, looking at prices post-Crisis does not result in an apples-to-apples comparison with the prices resulting from the fundamentals underlying the Shell Contract.

190. Although the California Parties admit that expectations around fundamentals are difficult to prove, they appear to essentially argue that the benchmark is good enough for just being a benchmark, while trying to shift the burden to Shell to show that there were changes in expectations about market fundamentals.⁴⁹⁰ Yet, the burden here is on the California Parties. The California Parties had to show by a preponderance of the evidence that expectations about changing market fundamentals between the end of May 2001 and the end of June 2001 had not changed despite the major changes in the fundamentals themselves. This the California Parties did not do.

191. The undersigned concludes that Benchmark 2 is not an appropriate analog for the Shell Contract. The undersigned bases this conclusion upon Mr. Read's reliance on "fax sheets," which are unreliable, as well as the use of forward curves, a methodology the Commission has discredited in the past for determining just and reasonable rates. These deficiencies coupled with the post-Crisis timing of the analysis discussed above convince the undersigned that Benchmark 2 should not be used as a benchmark to determine the "zone of reasonableness."

d. Benchmark 3: Pre-Crisis Forward and Spot Market Prices

192. For their third benchmark, the California Parties propose to use what they refer to as "pre-Crisis forward market prices" from April and May 2000. The California Parties claim that these pre-Crisis forward market prices show the market value of products delivered under the Shell Contract prior to the distortion of prices during the Crisis.⁴⁹¹ The California Parties argue that agreement between the pre-Crisis and post-Crisis prices show that changes in expectations regarding market fundamentals did not materially shift the level of market prices that would be expected in a workably competitive market.⁴⁹²

193. To create the pre-Crisis, forward market power prices, the California Parties again used "fax sheets" Mr. Read obtained for each product type in the Shell Contract to create the underlying price information for Benchmark 3. As Mr. Read describes, he built his pre-Crisis forward curves in four steps: (1) he obtained the daily NYMEX futures prices

⁴⁹⁰ See Cal. Parties Initial Br. at 22-23.

⁴⁹¹ Ex. CAL-00973-REV2 at 29 (Celebi Dir.).

⁴⁹² *Id.*

for the California-Oregon Border (COB) and Palo Verde (PV) delivery points out to roughly 20 delivery months; (2) he calculated the monthly heat rates by combining the last 12 monthly prices with natural gas forward prices, which were applied to forward prices of natural gas to extend the on-peak futures prices for delivery to COB and PV through 2005; (3) he calculated the ratios of COB and NP-15 and PV to SP-15 on-peak forward prices by calendar quarter from the TFS data and converted the gas forward-estimated COB and PV on-peak power forwards through 2005 into NP-15 and SP-15 on-peak power forwards; and (4) he used the CalPX spot price data from April 1998 through May 2000 to compute on-peak to all-hours price ratios, which were used to obtain NP-15 and SP-15 all-hours forward prices.⁴⁹³

194. The California Parties then applied the same methodology for deliveries through 2005 that was used in calculating the post-Crisis power forward prices in Benchmark 2.⁴⁹⁴ The California Parties compared the Shell Contract prices to the same spot market power prices for the 2006-2012 period in Benchmark 2.⁴⁹⁵

Participant Arguments

California Parties

195. The California Parties argue that Shell's attack on their third benchmark is baseless because the pre-Crisis prices are not the California Parties' recommended price, but rather the pre-Crisis prices are used to show that market participants' expectations of future market fundamentals did not significantly change between pre- and post-Crisis trade dates.⁴⁹⁶ This, the California Parties argue, "indicat[es] that the inflated Shell Contract pricing as of May 2001 was not the product of market fundamentals."⁴⁹⁷ The California Parties support their claim by comparing the forward prices from March and

⁴⁹³ See Ex. CAL-00978-REV at 19-20 (Read Direct); *see also* Ex. CAL-00985 (2000 and 2001 Forwards).

⁴⁹⁴ Ex. CAL-00973-REV2 at 30 (Celebi Dir.).

⁴⁹⁵ *Id.*

⁴⁹⁶ Cal. Parties Initial Br. at 23.

⁴⁹⁷ Cal. Parties Initial Br. at 23-24.

April 2000 with the post-Crisis forward prices from Benchmark 2. Both averaged approximately \$40/MWh.⁴⁹⁸

Shell

196. Similar to its arguments for the first and second benchmarks, Shell argues that the third benchmark should not be used in a zone of reasonableness to determine the Shell Contract's just and reasonable rates because the information underlying the benchmarks would not have been available in May 2001 and the contract prices negotiated at that time had different market conditions than the pre-Crisis forward market power prices Mr. Read provided.⁴⁹⁹ Shell notes that "[w]hile Mr. Read concedes that '[c]hanges in expectations of the market fundamental are relevant' in assessing forward prices, he ultimately ignores these changes."⁵⁰⁰ Further, Shell argues that the third proposed benchmark is "analytically flawed and economically unsound" because the approach is based on the "unsupported assumption that forward market prices over a year prior to the Shell Contract's execution accurately reflect what prices 'would have been' on May 25, 2001, absent fraud or manipulation."⁵⁰¹

197. Shell contends that Dr. Celebi does not account for shifts in market fundamentals during the mid-2001 period, including a rise in natural gas prices, reductions in hydroelectric generation, and emissions credit price increases.⁵⁰² Shell supports its claim by arguing Dr. Celebi fails to provide a credible analysis to explain the presumption that significant price changes occurring in the market between March 2000 and June 2001 can be attributed to manipulation alone.⁵⁰³

198. According to Shell, Dr. Celebi does not account for the substantial shifts in fundamentals in the period between April 2000 and May 25, 2001.⁵⁰⁴ Shell asserts that Dr. Celebi's only justification for using pre-Crisis prices is that the prices in April/May

⁴⁹⁸ *Id.* at 23.

⁴⁹⁹ Shell Initial Br. at 47.

⁵⁰⁰ *Id.* at 50.

⁵⁰¹ *Id.* at 53 (internal quotations omitted).

⁵⁰² *Id.*

⁵⁰³ Shell Initial Br. at 54.

⁵⁰⁴ *Id.* at 53.

2000 were approximately the same as the prices from June through November 2001. Shell argues that this is not proof that the fundamentals did not really change between those two periods.⁵⁰⁵ Shell concludes that the third benchmark's method of comparing May 2001 prices against a fundamentally different pre-crisis landscape ignores complexities and cannot be considered a reliable foundation for evaluating the reasonableness of the Shell Contract.⁵⁰⁶

Trial Staff

199. Similar to its second benchmark arguments, Trial Staff asserts that the pre-Crisis forward market prices for trade dates in March and April 2000 are based on altered forward market pricing as of May 2001 and "are poor analogues for assessing the Shell contract."⁵⁰⁷ As such, Trial Staff contends the California Parties have not met their burden of demonstrating that the third proposed benchmark is a reasonable basis upon which to assess the Shell Contract rates.⁵⁰⁸

Discussion

200. Similar to Benchmark 2, the primary issue here with Benchmark 3 is the fact that it relies upon pricing from a time period other than the time in which the Shell Contract was executed. In particular, Benchmark 3 relies upon pre-Crisis forward pricing from April and May of 2000, more than a year prior to the execution of the Shell Contract.

201. The negotiation and execution of the Shell Contract took place from February through May of 2001 at a time when California was "endur[ing] a power supply crisis."⁵⁰⁹ The prices contained in the Shell Contract would have reflected both the fundamentals of the market, as well as any increases due to fraud and/or manipulation of the contract pricing at that time. Looking at forward prices from a vantage point of a year before the execution of the Shell Contract, however, would not reflect the same fundamentals. Dr. Celebi, Dr. Fox-Penner and Mr. Cavicchi have each agreed that the

⁵⁰⁵ *Id.* at 53-54.

⁵⁰⁶ *Id.* at 54-55.

⁵⁰⁷ Trial Staff Initial Br. at 29-30.

⁵⁰⁸ *Id.* at 31-32.

⁵⁰⁹ Ex. SHE-0001 REV2 at 36:21-23 (Cavicchi Ans.).

market fundamentals matter when determining the appropriate prices.⁵¹⁰ The California Parties have not demonstrated that the market fundamentals as of May 2001 and those in the April/May 2000 timeframe are the same, or even similar. In fact, Dr. Puller has credibly demonstrated in great detail that they were not. Thus, it appears that looking at pre-Crisis forward prices would not result in an apples-to-apples comparison with the Shell Contract.

202. The undersigned bases this conclusion upon Mr. Read's reliance on "fax sheets," which are unreliable, as well as the use of forward curves, a methodology the Commission has discredited in the past for determining just and reasonable rates. These deficiencies, coupled with the pre-Crisis timing of the analysis discussed above, convince the undersigned that Benchmark 3 should not be used as a benchmark to determine the "zone of reasonableness" for the Shell Contract.

e. Benchmark 4: Corrected May 2001 Forward Prices and Spot Market Prices

203. For Benchmark 4, the California Parties propose to "correct" forward market prices from May 2001 that they characterize as distorted by market manipulation.⁵¹¹ The California Parties provide two approaches to estimate "corrected" prices that would have prevailed but for the effect of fraud and manipulation.⁵¹² The first method the California Parties used limits the temporal scope of the dates under consideration to those between the Shell Contract's execution and the Commission's June 2001 Mitigation Order.⁵¹³ After considering changes in the expectations of fundamentals, California Parties' witness Mr. Read then adjusted the power prices for changes in natural gas forward prices between the late May and late June trade days.⁵¹⁴ For the second method, the California Parties propose to use the ratio of the average May 2001 spot heat rate to the average May 2001 MMCP heat rate for each underlying forward price obtained from the

⁵¹⁰ See *supra* PP 113-115.

⁵¹¹ Ex. CAL-00973-REV2 at 32 (Celebi Dir.).

⁵¹² Ex. CAL-00978-REV at 24 (Read Dir.).

⁵¹³ Ex. CAL-00978-REV at 24 (Read Dir.). Mr. Read specifically used the forward curves obtained from fax sheets produced by Natsource for June 21, 22, 25, and 27, 2001. Ex. CAL-00978-REV at 25 n.16.

⁵¹⁴ *Id.* at 29-30.

“fax sheets.”⁵¹⁵ Mr. Read asserts that this ratio measures the “premium of manipulated spot prices to the mitigated spot prices.”⁵¹⁶ Mr. Read uses this ratio to calculate corrected forward prices, using an assumption that the ratio declines exponentially as the time to delivery increases, and assuming that the premium declines to zero by the January 2003 delivery month.⁵¹⁷ The California Parties claim that the second method is more reliable because through the MMCP, “the Commission has already determined how much fraud and manipulation distorted the front end of the forward price curve.”⁵¹⁸ Mr. Read also corrects his forward price curves to remove the impact of fraud and manipulation in the natural gas market.⁵¹⁹

204. Using these “corrected” price estimates, the California Parties then apply the same volume-weighting methodology used for the pre-Crisis and post-Crisis benchmarks.⁵²⁰ Specifically, the California Parties obtained the ratio of 6x16 and 7x24 products delivered under the Shell Contract for each month, and then applied the percentage of product volumes delivered in each month of the Shell Contract relative to the total deliveries in that month.⁵²¹

Participant Arguments

California Parties

205. The California Parties argue that the fourth proposed benchmark, which relies on Mr. Read’s analysis, considers forward market prices “corrected” to remove the effects of fraud and manipulation in the power and gas markets as of May 2001 for the delivery period May 2001 through the end of 2005. According to the California Parties, the corrected forward prices averaged \$51.75/MWh, which is less than half the price of the executed Shell Contract for the same 2001-2005 delivery period; and the average price

⁵¹⁵ *Id.* at 32-36.

⁵¹⁶ *Id.* at 32-33.

⁵¹⁷ *Id.* at 33-34.

⁵¹⁸ *Id.* at 40-41 (emphasis in original).

⁵¹⁹ *Id.* at 34.

⁵²⁰ Ex. CAL-00973 REV2 at 33-34 (Celebi Dir.).

⁵²¹ *Id.* at 34.

for the fourth benchmark throughout the life of the contract is even lower at \$50.16/MWh.⁵²²

206. The California Parties argue that Docket No. EL00-95 “illuminates the path for deciding each of the issues set for hearing.”⁵²³ The California Parties believe that proceeding to be analogous to this one in that Shell charged CDWR market-based rates in the same geographic location during the same time frame from 2000-2001.⁵²⁴ There, as here, the California Parties argue, the rates charged were artificially inflated, and the Commission in Docket No. EL00-95 “reset the prices to a market price that would have prevailed in an *unmanipulated* market” as a remedy.⁵²⁵

207. According to the California Parties, Shell improperly attempts to limit the precedential value of Docket No. EL00-95 to California’s organized auction markets. The California Parties criticize Shell’s theory that Opinion No. 587’s instruction not to use the MMCP as a “corrected price” for the Shell Contract means that Docket No. EL00-95 has no relevance at all. The California Parties argue that using the MMCP only as “a measure of the level of distortion in the California’s spot markets to inform the degree to which forward prices were distorted when the Shell Contract was signed” is appropriate and that the Commission’s decision in Docket No. EL00-95 provides a roadmap for this proceeding.⁵²⁶

208. The California Parties then discussed the two methods Mr. Read used to “correct” forward prices for Benchmark 4 and measure the extent to which manipulated spot market prices then elevated prices in the Shell Contract. According to the California Parties, Mr. Read, for Method 1, looked at the drop in the forward prices after the June 19, 2001 Order, but noted that changes in the expectations of market fundamentals could also have affected prices after the Shell Contract was signed.⁵²⁷ Consequently, Mr. Read did a second analysis (Method 2). The California Parties describe this Method 2 as “calculate[ing] what forward prices would have been around the date of contract execution, absent fraud and manipulation, by looking at the Commission’s determination

⁵²² Cal. Parties Initial Br. at 19-20.

⁵²³ *Id.* at 1.

⁵²⁴ *Id.* at 2.

⁵²⁵ *Id.* at 2.

⁵²⁶ Cal. Parties Initial Br. at 3.

⁵²⁷ *Id.* at 66.

of the extent to which spot prices were artificially inflated over competitive rates during that period and converting that comparison to a ratio of implied heat rates.”⁵²⁸ According to the California Parties, Mr. Read then phased out the MMCP adjustment by the end of 2002.⁵²⁹ The calculation also included an adjustment for distorted natural gas prices.

209. On reply, the California Parties emphasized that Mr. Read has not inappropriately used the MMCP. They claim that instead, Mr. Read “found that forward prices at California delivery points were distorted by the spot market price distortion due to fraud and manipulation. To correct for that, Mr. Read used the MMCP for *exactly* what it is: a measure of the prices that would have been expected in working spot markets at California delivery points in May 2001”⁵³⁰

Shell

210. Shell criticized the California Parties’ reliance on the MMCP in proposed Benchmark 4’s Method 2. Shell argues that the California Parties’ case is “fundamentally flawed” because it assumes that the market for long-term electricity in which CDWR negotiated its long-term contracts was unjust and unreasonable and seeks to apply the MMCP to retroactively correct those prices.⁵³¹ According to Shell, this strategy fails to satisfy the California Parties’ Section 206 Step 1 burden, ignores FERC precedent differentiating between bilateral markets and the auction spot markets, and ignores the Commission’s directive in this proceeding not to use the MMCP as a benchmark for just and reasonable rates.⁵³²

211. Shell argues that reliance on an MMCP-based benchmark is improper for three reasons: (1) the MMCP was developed as a remedy (i.e., for use in step 2 of the Section 206 analysis) not as a measure of market manipulation; (2) the Commission has barred reliance on the MMCP in the context of bilateral contracts, including in this proceeding; and (3) the MMCP was specifically designed for application to the centralized spot

⁵²⁸ *Id.* at 67.

⁵²⁹ *Id.*

⁵³⁰ Cal. Parties Reply Br. at 21 (citing Ex.CAL-00978-REV at 20:8-21:2 (Read Dir.)).

⁵³¹ Shell Initial Br. at 28-29.

⁵³² *Id.* at 29.

markets in California, not for negotiated, bilateral contracts.⁵³³ Shell notes that the California Parties' preferred benchmark—Benchmark 6 (a combination of proposed Benchmarks 4 and 5)—relied on Mr. Read's Method 2 which is based on the MMCP. According to Shell, Dr. Celebi has abandoned all of his benchmarks except the MMCP-based benchmark for the determination of just and reasonable rates.⁵³⁴

212. On reply, Shell argues that the California Parties premise Method 1 on the conclusion that nothing affected the expectations of forward prices between the signing of the Shell Contract in late May 2001 and the issuance of the Commission's Mitigation Order in late June 2001. According to Shell, Dr. Puller has proven this not to be true.⁵³⁵ Shell further asserts that the California Parties have not rebutted Dr. Puller's detailed evidence.⁵³⁶

213. With respect to Method 2, Shell emphasizes that it is "premised exclusively upon the MMCP."⁵³⁷ According to Shell, Mr. Read claims to have differentiated the impact of fundamentals from the effect of manipulation on forward prices. Shell, however, points to Mr. Read's testimony indicating that he did not investigate the impact of specific fraud and manipulative conduct on forward prices.⁵³⁸ Instead, Shell argues that Mr. Read presumes the impact of fraud and manipulation can be measured based on the difference between actual spot market prices and the MMCP.⁵³⁹ Shell further argues that Mr. Read provides no evidence that manipulation would affect forward prices in the same way as spot market prices and that the California Parties ignore evidence that the MMCP understated competitive spot prices.⁵⁴⁰ Shell further asserts that the small short-term forward contracts corrected in Benchmark 4 "differ materially from the large, long-term contracts resulting from the CDWR procurement process and thus provide no value in

⁵³³ *Id.* at 30.

⁵³⁴ *Id.* at 29-30.

⁵³⁵ Shell Reply Br. at 7 (citing Shell Initial Br. at 49).

⁵³⁶ Shell Reply Br. at 7. (citing Tr. 641:23-659:14) (Read) (Discussing credit issues)).

⁵³⁷ *Id.*

⁵³⁸ *Id.* (citing Tr. 575:8-21 (Read)).

⁵³⁹ *Id.*

⁵⁴⁰ *Id.* at 7-8.

assessing the potential impact of fraud and manipulation on bilateral long-term contract market prices.”⁵⁴¹

214. Shell concludes that Mr. Read’s analysis leads to “absurd” results, noting that the period during which the adjustment occurs affects the highest prices from the Shell Contract, includes the 15-month refund period, and is nothing more than “an unsupported construct designed to produce the largest refunds possible.”⁵⁴²

Trial Staff

215. Trial Staff argues that the California Parties’ fourth proposed benchmark for “corrected” May 2001 forward market prices relies on an MMCP methodology to correct for—according to the California Parties—distortion due to fraud and manipulation.⁵⁴³ Trial Staff explains that the California Parties then adopted this analysis in the fourth benchmark to calculate what they believe is a just and reasonable rate for the first five years of the Shell Contract as well as their proposed remedy.⁵⁴⁴

216. Trial Staff takes issue with the California Parties’ claim that Mr. Read’s MMCP analysis does not use the level of the MMCP as an indicator of an appropriate price for the Shell Contract but rather as a data point to inform Mr. Read’s adjustment of forward generation contracts.⁵⁴⁵ Trial Staff argues that the evidentiary record makes clear that the MMCP is the sole foundation for the California Parties analysis of the forward market price benchmark.⁵⁴⁶ Trial Staff supports their argument by citing to Mr. Read’s testimony at hearing where he “confirmed that, without reliance on the MMCP, the MMCP-based methodology that the California Parties selected as the basis for their corrected forward market prices would not exist.”⁵⁴⁷

⁵⁴¹ *Id.* at 8 (citing Ex. SHE-0052 REV2 at 81:6-82:2, 86:16-87:10 (Puller Ans.)).

⁵⁴² *Id.* at 8-9.

⁵⁴³ Trial Staff Initial Br. at 30.

⁵⁴⁴ *Id.*

⁵⁴⁵ *Id.* at 33.

⁵⁴⁶ *Id.*

⁵⁴⁷ *Id.* at 34 (referencing Tr. 595:10-17; 605:1-3 (Read)).

217. Trial Staff asserts that the California Parties' reliance on the MMCP should not be given any weight because the Commission has expressly rejected the use of the MMCP methodology in this proceeding.⁵⁴⁸ Trial Staff contends that the California Parties' attempt to mask its reliance on the MMCP as just a point of data that Mr. Read uses to develop a corrected forward price is not persuasive as a matter of law.⁵⁴⁹ Trial Staff concludes that, given the Commission's directive not to use the MMCP to assess the long-term Shell Contract, the Commission should not give any weight to the California Parties' fourth benchmark.⁵⁵⁰

218. On reply, Trial Staff reaffirms its belief that the California Parties incontrovertibly based their assessment of rates on the MMCP. Although the California Parties attempt to minimize their use of the MMCP, Trial Staff argues the record belies that notion. According to Trial Staff, the record shows that the MMCP is the primary basis for the California Parties' assessment of the justness and reasonableness of rates.⁵⁵¹ In support of its arguments, Trial Staff points to a statement from Mr. Read that the MMCP is the "entirety of the mechanism" used to "correct" May 2001 forward prices for their fourth proposed benchmark.⁵⁵² Trial Staff further argues that without reliance on the MMCP, there would be no fourth benchmark.⁵⁵³ In addition, Trial Staff asserts that the California Parties' Benchmark 4 is the driver of their proposed remedy (Benchmark 6) which combines Benchmarks 4 and 5. According to Trial Staff, it is the years 2001-2005 of the Shell Contract to which the analysis from Benchmark 4 is applied that results in a positive amount to be refunded the California Parties. As a result, Trial Staff concludes that the MMCP is the "cornerstone to the rate that the California Parties use to assess the justness and reasonableness of the Shell Contract and to calculate their proposed remedy."⁵⁵⁴

219. Against that backdrop, Trial Staff emphasizes the Commission's prohibition on the application of the MMCP to bilateral contracts because the MMCP was a

⁵⁴⁸ *Id.* (citing Opinion No. 587, 185 FERC ¶ 61,197 at P 442).

⁵⁴⁹ *Id.* at 35.

⁵⁵⁰ Trial Staff Initial Br. at 35.

⁵⁵¹ Trial Staff Reply Br. at 10-11.

⁵⁵² *Id.* at 11 (citing Tr. 595:10-17 (Read)).

⁵⁵³ *Id.* at 11 (citing Tr. 605:1-3 (Read)).

⁵⁵⁴ Trial Staff Reply Br. at 12.

methodology designed to stabilize the California spot market. Trial Staff refers to the Commission's opinions in the *Puget Sound* matter as evidence that the Commission has refused to extend the application of the MMCP to bilateral contracts and rejected "an MMCP-like benchmark."⁵⁵⁵ According to Trial Staff, the California Parties do not address this precedent in their initial brief.⁵⁵⁶

220. Trial Staff further responds to the California Parties' assertion that Dr. Golino "testified at hearing that using an MMCP-like analysis of forward prices would be appropriate."⁵⁵⁷ Trial Staff argues that Dr. Golino's statement did not, however, endorse the use of the MMCP in this proceeding.⁵⁵⁸ Trial Staff further argues that analysis of Opinion No. 587's meaning is a legal inquiry under which the text of the relevant Commission authority controls, and the Commission rejected the use of the MMCP as a measure of the Shell Contract's justness and reasonableness issue here.⁵⁵⁹

221. Trial Staff takes the California Parties to task for calling their use of the MMCP "narrowly tailored" because that cannot be squared with their extensive reliance on Docket No. EL00-95, a proceeding that established the MMCP methodology.⁵⁶⁰ Trial Staff notes that the California Parties claim Docket No. EL00-95 "provide[s] a roadmap to the resolution" of this proceeding and "doom[s] Shell's defense of the Shell Contract rate."⁵⁶¹ Trial Staff argues that the California Parties' almost complete reliance on Docket No. EL00-95 does not square with the claim that the MMCP is just an input into the analysis.⁵⁶²

⁵⁵⁵ *Id.* at 13 (citing *Puget Sound Energy, Inc.*, Opinion No. 537, 151 FERC ¶ 61,173, at P 42 (2015)).

⁵⁵⁶ *Id.*

⁵⁵⁷ *Id.* at 14 (citing Cal. Parties Initial Br. at 68 n.295).

⁵⁵⁸ *Id.* (citing Ex. S-0106 at 5:15-6:2 (Golino Dir. and Ans.) (citing Opinion No. 587's instruction against reliance on MMCP)).

⁵⁵⁹ *Id.*

⁵⁶⁰ *Id.* at 15.

⁵⁶¹ Trial Staff Reply Br. at 15 (citing Cal. Parties Initial Br. at 1, 2, 3, 6, 7, 8, 10, 13, 24, 34, 35, 36, 37, 67, 69, and 74).

⁵⁶² *Id.* at 15.

222. Trial Staff also challenges the California Parties' contention that Docket No. EL00-95, in which the MMCP was developed, also broadly applies to bilateral sales, including forward contracts.⁵⁶³ Trial Staff notes that the California Parties relied on out-of-market transactions and long-term spot market transactions (up to one month in duration) in support of their position. Trial Staff, however, asserts that neither type of transaction is similar to the contract here where CDWR executed for a duration of twelve years.⁵⁶⁴

223. Finally, Trial Staff criticizes the California Parties' argument that Docket No. EL00-95 is instructive based on statements from Opinion No. 587 that distortion in the spot market led to inflated pricing in the forward markets as well.⁵⁶⁵ According to Trial Staff, the California Parties did not establish a level of distortion in forward market pricing. Instead, Trial Staff asserts Mr. Read relied only on the MMCP as his measure of market dysfunction, and therefore, confirmed that the California Parties simply assumed a direct, "one-to-one relationship between the spot market distortion and forward market prices."⁵⁶⁶

224. Trial Staff concludes that the California Parties improperly attempt to relitigate the relevance of the MMCP in spite of clear Commission guidance not to and, therefore, fail to provide an appropriate framework to determine whether the rates in the Shell Contract were unjust and unreasonable.⁵⁶⁷

Discussion

225. According to the California Parties, as of late May 2001, after more than a year of market dysfunction, "expectations of continuing market dysfunction embedded in forward market prices dissipated gradually, but at the same time expectations of market fundamentals could have changed too."⁵⁶⁸ The challenge then in estimating the forward market prices that would have prevailed as of late May 2001 absent fraud and market manipulation is "to distinguish the extent to which changes in market prices were

⁵⁶³ *Id.* at 16 (citing Cal. Parties Initial Br. at 2).

⁵⁶⁴ *Id.*

⁵⁶⁵ *Id.* at 17 (citing Cal. Parties Initial Br. at 5).

⁵⁶⁶ *Id.*

⁵⁶⁷ Trial Staff Reply Br. at 17-18.

⁵⁶⁸ Ex. CAL-00978-REV at 20:16-19 (Read Dir.).

attributable to changes in expectations of continuing market dysfunction versus changes in market fundamentals,” particularly when market fundamentals and market regulations are changing at the same time.⁵⁶⁹ The California Parties attempt to “correct” the forward market prices for the effects of market dysfunction by altering them using two methods. The undersigned will address the Method 2 (the MMCP-based method) first, followed by a discussion of (Method 1).

i. Method 2

226. In discussing their proposed Benchmark 4 and the MMCP, the California Parties indicate that for Method 2, “[w]hile the MMCP is used in the calculation as a measure of corrected spot prices in California, the rates in benchmark [4 and] 6 are not the MMCP--the MMCP adjustments are phased out over 19 months.”⁵⁷⁰ The California Parties refer to their use of the MMCP as “a narrowly tailored adjustment to forward prices.”⁵⁷¹ The record, however, shows that the Method 2 analysis is strongly anchored to the MMCP and its use, which goes well beyond an “input” into the analysis.

227. The California Parties’ starting point for Method 2 was the MMCP that Mr. Read indicated was “the Commission’s assessment of the impact of fraud and market manipulation on spot market prices.”⁵⁷² At the hearing, Mr. Read noted that the difference between actual spot market prices and the MMCP was “a key element” of his correction of the forward prices in Method 2.⁵⁷³ Moreover, Mr. Read admitted at the hearing that he did not conduct any inquiry into the activities of any market participant or particular acts of fraud in order to determine whether material portions of forward prices were caused by fraud and manipulation; those conclusions were based solely on the MMCP as the “entirety of the mechanism” he used to identify the impacts of fraud and manipulation on May 2001 forward prices.⁵⁷⁴

⁵⁶⁹ Ex. CAL-00978-REV at 20:11-21:1 (Read Dir.).

⁵⁷⁰ As will be discussed later, the calculations set forth in proposed Benchmark 4, establish the rates for the first five years in proposed Benchmark 6.

⁵⁷¹ Cal. Parties Initial Br. at 69.

⁵⁷² Tr. 576:4-22 (Read).

⁵⁷³ Tr. 595:1-9 (Read).

⁵⁷⁴ Tr. 604:7-22 (Read).

228. The Commission has provided guidance on using the MMCP. In particular, the Commission stated in Opinion No. 587 that it “has consistently rejected the notion of using the MMCP as a proxy for just and reasonable rates in the context of bilateral contracts. Thus, parties may not relitigate the issue of whether the MMCP constitutes an appropriate basis for calculating remedies here.”⁵⁷⁵ In support of this conclusion, the Commission cited to the *Puget Sound* proceeding in which it explained why the use of a market-wide solution such as the MMCP utilized in the California spot market was not appropriate for a bilateral contract market. Specifically, “[i]n such a [spot] market, all sellers are paid the price bid by the marginal seller. In contrast, in a market that operates solely through bilaterally negotiated contracts, each seller receives only what a specific buyer agrees to pay for a given transaction, and each buyer has the opportunity to attempt to negotiate a lower price.”⁵⁷⁶

229. Given that a bilateral contract is at issue here, the prohibition on the use of the MMCP would seem to apply. Despite the California Parties’ claim that the MMCP is just an “input” in the analysis, it became clear at the hearing that the MMCP is the sole foundation upon which that analysis rests. That analysis then leads to the calculation of how much fraud and manipulation there was in the forward market in May 2001. As Mr. Read indicated, he did not do any independent investigation into how much fraud and manipulation there was in the bilateral forward market at the time the Shell Contract was signed.⁵⁷⁷ Although the Commission has found that fraud and manipulation in the spot market did have an effect on the forward market, the Commission did not measure how much.⁵⁷⁸ Here, Mr. Read used the MMCP as the “sole mechanism” to make that determination. Use of the MMCP in this context does not address the specific differences between California’s spot market and the bilateral contract market in which each contract is independently negotiated, and offers no evidence of specific Shell behavior or its effect on the rates in the Shell Contract.⁵⁷⁹ Because the Commission has determined that the MMCP does not apply to bilateral contracts, with rare exception, the California Parties,

⁵⁷⁵ Opinion No. 587, 185 FERC ¶ 61,197 at P 442.

⁵⁷⁶ *Puget Sound Energy, Inc.*, 137 FERC ¶ 61,001 at P 24.

⁵⁷⁷ Tr. 575:11-21 (Read).

⁵⁷⁸ Opinion No. 587, 185 FERC ¶ 61,197 at PP 90-97.

⁵⁷⁹ See *Puget Sound Energy, Inc.*, 146 FERC ¶ 63,028, at P 962 (2014) (noting that the use of MMCP was rejected for purposes of a bilateral market).

have not conducted an adequate analysis to measure the impact of fraud and manipulation on the Shell Contract here.

230. The California Parties argue that the Commission has in fact applied the MMCP “broadly to bilateral sales, including forward contracts.”⁵⁸⁰ Specifically, the California Parties refer to certain Out-of-Market (OOM) transactions that the Commission mitigated using the MMCP in Docket No. EL00-95. OOM transactions in that context are bilateral out-of-market spot “purchases made by CAISO from sellers outside the CAISO single price auction market.”⁵⁸¹

231. As discussed below, the application of the MMCP to those OOM transactions does not make the MMCP relevant in this proceeding. The Commission has likened those OOM transactions to other CAISO in-market purchases subject to refund because “there was no meaningful distinction to be drawn between the in- and out-of-market transactions.”⁵⁸² According to the Commission, those OOM transactions, although bilateral, were “closely intertwined” with the single-price spot market because the purchases occurred in the same market so the same structural flaws in that market allowed unjust and unreasonable prices in certain CAISO OOM transactions.⁵⁸³

232. Although the OOM transactions were bilateral, the Commission’s ruling there does not control the bilateral forwards contract at issue here such that the MMCP would apply. In the same Ninth Circuit case upon which the California Parties rely, the Court differentiates between transactions in the CalPX and CAISO markets, which were “centralized, single-price, auction markets, involving multiple participants,” and the CERS (a Division of the CDWR) two party contracts which were of “varying prices, terms and duration that were mutually negotiated ostensibly at arms-length-outside the CalPX and CAISO markets.”⁵⁸⁴ The Court further explained that the record did not show any direct nexus between the CalPX and CAISO spot markets and the CERS bilaterally negotiated contracts.⁵⁸⁵

⁵⁸⁰ Cal. Parties Initial Br. at 11.

⁵⁸¹ *Pub. Utils. Comm’n of State of Cal. v FERC*, 462 F.3d at 1051.

⁵⁸² *Id.* at 1053.

⁵⁸³ *Id.*

⁵⁸⁴ *Id.* at 1063.

⁵⁸⁵ *Id.*

233. Those differences matter here as well. The evidence shows that the CAISO was not a party to the Shell Contract, nor was the Shell Contract a transaction in the CalPX or CAISO markets. These facts meaningfully distinguish the OOM transactions discussed above and the Shell Contract at issue here.

234. The single forward transaction to which the California Parties have cited as having been mitigated also does not affect the analysis of the Shell Contract. The single forward market transaction was for a block delivered from December 6, 2000 through December 12, 2000 (6 days), that the Commission mitigated. Significantly, 6 days is a very short period of time when compared to the 11 years of the Shell Contract. That 6- day transaction was a portion of a contract with 3 segments negotiated between CAISO and Constellation. A December 8 segment of the block was determined to be a spot market transaction and mitigated as such. The remaining two segments, however, were originally left unmitigated because they were forward market transactions. Following a Ninth Circuit decision, the Commission determined that it could not treat the forward market transaction portions of the block from the CAISO/Constellation contract differently than the spot market portions of the block and subsequently ordered all parts of the contract to be mitigated.⁵⁸⁶

235. The evidence here shows the Shell Contract is different from the OOM transactions as well as the single mitigated forward contract. With respect to the OOM transaction, CAISO was a party to the contract and is not here. Nor is the Shell Contract a hybrid between a spot market contract and forward market contract. Furthermore, California Parties have failed to show any direct nexus between the CalPX and CAISO spot markets which would indicate the Shell Contract should be treated similarly to previously mitigated spot market transactions. The Shell Contract was executed outside the organized markets. The OOM transactions, therefore, do not provide guidance for how to analyze the Shell Contract here.

236. Finally, the MMCP, which represents a hypothetical price for a centralized spot market with a single clearing price, is not an appropriate proxy for the outcome of bilateral negotiations between individual sellers and buyers for specific, differentiated products because the MMCP “does not include fixed costs, profit margin marketer costs, or transmission costs.”⁵⁸⁷ A benchmark based on the levels set by the MMCP could, therefore result in a loss. The Commission has further recognized that the MMCP construct could have failed to cover seller’s costs and therefore permitted sellers to

⁵⁸⁶ Opinion No. 536, 149 FERC ¶ 61,116 at PP 233-235 (2014) (Opinion No. 536).

⁵⁸⁷ *Puget Sound Energy, Inc.*, 146 FERC ¶ 63,028 at P 961.

recover their actual costs to avoid confiscatory rates for individual sellers.⁵⁸⁸ In conclusion, the MMCP is neither an appropriate starting point, as it may be too low, nor an appropriate mechanism by which to calculate the effects of fraud and manipulation on the bilaterally negotiated Shell Contract.

ii. Method 1

237. The undersigned also finds the California Parties' Method 1 to be unreliable.

238. As an alternative to Method 2, the California Parties' preferred method, Mr. Read developed Method 1. For Method 1, Mr. Read started his analysis in late May 2001 at the time of the execution of the Shell Contract and adjusted those power prices downward based upon forward market prices in late June 2001 after the Commission issued its Mitigation Order.⁵⁸⁹ As Mr. Read described it, he was "looking for evidence of changes in the expectations of fundamentals between the two dates."⁵⁹⁰ Mr. Read explained that it was the change in expectations of fundamentals, not the fundamentals themselves, which would alter prices. Because Mr. Read was unable to discern any changes to the expectations of fundamentals between late May and late June 2001, it was inferred that the remaining difference in the forward prices, with a few other adjustments, is most likely attributable to fraud or manipulation.⁵⁹¹

239. Mr. Read emphasized in his testimony that there are several weaknesses with his Method 1. The first is that since one "cannot observe expectations of fundamentals directly, [one] is left to conjecture."⁵⁹² Mr. Read then discussed in his direct testimony a number of changes in expectations that "could have" or "may have" happened or "may or may not have been anticipated" without any opinions about the expectations of fundamentals being set forth.⁵⁹³ In addition, at the hearing, Mr. Read further discussed the difficulty with discerning the expectations of the Mitigation Order and FERC

⁵⁸⁸ *San Diego Gas & Elec. Co.*, 127 FERC ¶ 61,250, at PP 14-18 (2009).

⁵⁸⁹ See Ex. CAL-00978-REV at 25:3-8 and n.16 (Read Dir.). Specifically, Mr. Read look at forward prices on June 21, 22, 25, and 27, 2001.

⁵⁹⁰ Tr. 606:18-22 (Read).

⁵⁹¹ See sTr. 606:19-607:17 (Read); see Ex. CAL-00978-REV at 25:11-18 (Read Dir.).

⁵⁹² Ex. CAL-00978-REV at 28:9-10 (Read Dir.).

⁵⁹³ Ex. CAL-0097-REV at 27:3-29:9 (Read Dir.).

policy.⁵⁹⁴ Against that backdrop of difficulty and conjecture, Mr. Read indicates that he was not able to “find good evidence that expectations of those fundamentals had changed,”⁵⁹⁵ and was then able to draw conclusions about how much of the Shell Contract pricing needed to be adjusted due to fraud and manipulation under Method 1. As both Mr. Read and Dr. Celebi, consistently cast doubt upon the reliability of Method 1, the undersigned finds that the California Parties have not proven Method 1 trustworthy for determining the impact of fraud and manipulation of prices in the Shell contract. The undersigned, therefore, gives no weight to the analysis associated with Method 1.

240. The undersigned concludes that Benchmark 4 is not an appropriate analog for the Shell Contract. The undersigned bases this conclusion upon Mr. Read’s reliance on “fax sheets,” which are unreliable, as well as the use of forward curves, a methodology the Commission has discredited in the past for determining just and reasonable rates. These deficiencies, coupled with the reliance on the MMCP for Method 2 and conjecture for Method 1, convince the undersigned that Benchmark 4 should not be used as a benchmark to determine the “zone of reasonableness” for the Shell Contract.

3. Benchmark 5: Long Run Marginal Cost-Based Prices

241. For their fifth proposed benchmark, the California Parties calculate a long run marginal cost (LRMC)-based price that approximates the cost of building and operating a new combined cycle natural gas turbine (CCGT) plant at the time the Shell Contract was executed in May 2001.⁵⁹⁶ The California Parties estimate both the fixed and variable cost components of the LRMC.⁵⁹⁷ Fixed costs consist of capital costs, fixed operations and maintenance (O&M) costs, property taxes, and startup costs.⁵⁹⁸ To estimate the levelized (dollar per megawatt-hour) fixed cost component of the LRMC, the California Parties divide the annual fixed costs by the actual volume of contract deliveries in megawatt hours.⁵⁹⁹ Because the Shell Contract included both 7x24 (around the clock or base

⁵⁹⁴ Tr. 607:20-24 (Read).

⁵⁹⁵ Tr. 607:11-14 (Read).

⁵⁹⁶ Ex. CAL-00973-REV2 at 37:11-16 (Celebi Dir.). As discussed below, proposed Benchmark 6 (the California Parties’ preferred benchmark) incorporates the LRMC-based price only for the period from 2006-2012.

⁵⁹⁷ *Id.* at 37:17-19.

⁵⁹⁸ *Id.* at 38:7-8.

⁵⁹⁹ *Id.* at 38:15-18.

energy) and 6x16 (on-peak) products, the California Parties calculate separate levelized fixed costs for each product type.⁶⁰⁰

242. To estimate the variable cost component of the LRMC, the California Parties calculate the sum of fuel costs, variable O&M, and emission compliance costs.⁶⁰¹ The California Parties state that the LRMC is equal to the variable costs plus the levelized fixed costs.⁶⁰²

243. To affix a price to the fuel component of the variable costs, the California Parties use bifurcated natural gas price data based on the delivery period.⁶⁰³ For the delivery period of May 2001 through December 2005, the California Parties use average forward prices for natural gas at the Permian Basin and San Juan hubs, as of May 22, 2001.⁶⁰⁴ The California Parties calculate an adder of \$0.58/MMBtu to account for interstate transport from the hubs to California at the SoCal Border hub and a \$0.43/MMBtu intrastate transport adder for delivery charges from the California border to the new combined-cycle generation plant.⁶⁰⁵ For the delivery period of January 2006 through June 2012, the California Parties use spot market natural gas prices at the SoCal Border hub.⁶⁰⁶ For this delivery period, the California Parties also add a \$0.43/MMBtu intrastate transport adder for delivery charges to the new combined-cycle generation plant.⁶⁰⁷

244. With the above methodology, the California Parties calculate a volume weighted average LRMC based-price of \$60.42/MWh for the delivery years 2001 – 2005,

⁶⁰⁰ *Id.* at 38:18-20.

⁶⁰¹ *Id.* at 39:2-3.

⁶⁰² *Id.* at 39:8-9.

⁶⁰³ *Id.* at 40:3-4.

⁶⁰⁴ *Id.* at 40:5-7.

⁶⁰⁵ *Id.* at 40:7-11.

⁶⁰⁶ *Id.* at 40:12-13.

⁶⁰⁷ *Id.* at 40:15-17.

\$67.62/MWh for the delivery years 2006 – 2012, and \$65.11/MWh for the full 2001 – 2012 delivery period.⁶⁰⁸

245. In response to the California Parties' LRMC analysis, Shell proposes adjustments to several of the California Parties' LRMC model inputs to align with the assumptions made in Dr. Schatzki's cost-of-service analysis.⁶⁰⁹ According to Shell expert Mr. Cavicchi, "[a]djusting Dr. Celebi's LRMC model to reflect the same input assumptions and the Shell contract capacity values produces a weighted average rate that aligns closely with [his] cost-based rate."⁶¹⁰ Shell's proposed adjustments result in a volume weighted average LRMC-based price of \$83.55/MWh for the full 2001 – 2012 delivery period.⁶¹¹

246. Trial Staff, however, argues that an LRMC-based price is not an appropriate benchmark for the Shell Contract, but opines that the differences between the California Parties \$65.11/MWh estimate for the full period and Shell's \$83.55/MWh estimate is largely driven by differences in assumptions regarding the service life amortization period, rate of return on equity, and plant size.⁶¹²

247. The undersigned will first consider whether an LRMC-based price is appropriately used as a benchmark. Second, the undersigned will address arguments concerning the major contested inputs to the LRMC model (ATWACC, amortization period, and plant capacity) followed by a discussion of the LRMC-based price using the modified inputs.

⁶⁰⁸ *Id.* at 43:7-17.

⁶⁰⁹ *See*. SHE-0003_Adjusted_Celebi_LRMC Model REV PUB at Summary of Adjustments Tab.

⁶¹⁰ Ex. SHE-0001 REV2 at 83:14-19 (Cavicchi Ans.). In support of his analysis, Mr. Cavicchi sponsors Ex. SHE-0003_Adjusted_Celebi_LRMC Model REV PUB at Summary of Adjustments Tab. an Excel spreadsheet presenting Dr. Celebi's LRMC calculations, but with Shell's proposed adjustments. This spreadsheet will come into play once the correct inputs for the LRMC analysis have been determined.

⁶¹¹ Ex. SHE-0001 REV2 (Cavicchi Dir.) at 84:1-4.

⁶¹² Ex. S-0106 at 8:11-19 (Golino Dir. and Ans.).

a. Is an LRMC-Based Price an Appropriate Benchmark?

Participant Arguments

California Parties

248. The California Parties argue that the LRMC is an accurate long-run estimate of competitive market prices because economic theory expects that a well-functioning market will have energy prices that are, on average, at LRMC levels in the long run.⁶¹³ The California Parties explain that their expert, Dr. Celebi, asserts LRMC-based prices are an appropriate benchmark for the years 2006 through 2012 (the last six years) of the Shell Contract period because it would allow for enough time from May 2001 to build a new combined-cycle plant in California to serve the Shell Contract delivery obligations.⁶¹⁴ However, the California Parties explain that Dr. Celebi also computed an LRMC price series covering the entire term of the Shell Contract to inform his zone of reasonableness, which resulted in an average price of \$65.11, a value significantly lower than actual Shell Contract prices.⁶¹⁵

249. The California Parties note Shell agrees that the LRMC is a reasonable benchmark to compare to the Shell Contract, but dispute assumptions made by Mr. Cavicchi in his LRMC estimate.⁶¹⁶ The California Parties argue that Mr. Cavicchi's "cost-based" adjusted LRMC analysis has biased inputs which erroneously skew the results upward.⁶¹⁷

Shell

250. Shell agrees with the California Parties that an LRMC analysis is an appropriate benchmark against which to determine whether the Shell Contract rates are just and

⁶¹³ Cal. Parties Initial Br. at 20 (citing Ex. CAL-00973-REV2 at 45:8-46:21 (Celebi Dir.); Tr. 291:1-292:24 (Celebi); Ex. CAL-00988-REV at 33:1-18 (Fox-Penner Dir.)).

⁶¹⁴ *Id.* (citing Ex. CAL-00973-REV2 at 45:8-46:21 (Celebi Dir.); Tr. 309:20-24 (Celebi)).

⁶¹⁵ *Id.*

⁶¹⁶ *Id.* at 28.

⁶¹⁷ *Id.*

reasonable.⁶¹⁸ Shell argues that the LRMC includes the fixed and variable costs of building and maintaining the generation resources needed to serve a contract and represents “an objective benchmark both the buyer and the seller can reference in determining a competitive price point for a long-term contract.”⁶¹⁹ According to Shell, the LRMC is also not affected by the electricity spot markets, so an LRMC benchmark has the distinct advantage of being unaffected by any manipulation that occurred in those markets.⁶²⁰

Trial Staff

251. Trial Staff argues that the California Parties’ reliance on a CCGT proxy plant as the underlying basis for their LRMC-based approach is flawed because the “use of a proxy plant is ill-suited to assessing rates under the Shell Contract, which was generally fulfilled through a power portfolio rather than actual generation resources owned and operated by Shell.”⁶²¹ Trial Staff notes that the rates estimated under the LRMC modeling are similar to the rates actually charged to CDWR during the 2006 through 2012 years of the Shell Contract, but the suggested just and reasonable rates determined by the LRMC-modeling Dr. Celebi uses would have resulted in a more than \$76 million loss to Shell to fulfill its delivery obligations under the contract during the 2006 through 2012 years.⁶²²

252. Trial Staff further argues that, if the information were available, reviewing the actual costs incurred by Shell would be a better assessment than Dr. Celebi’s LRMC benchmark in evaluating the rates in the Shell Contract.⁶²³ Trial Staff asserts that Dr. Celebi’s critique of Shell witness Mr. Cavicchi’s cost-based modeling is similar to those of Dr. Golino’s criticisms of the California Parties’ sixth proposed benchmark, including that a market-based approach would be better to determine the justness and

⁶¹⁸ Shell Initial Br. at 25.

⁶¹⁹ *Id.* (citing Ex. SHE-0052 REV2 at 39:6-12 (Puller Ans.); Ex. SHE-0217 at 5:20-6:9 (Puller Cross Ans.); *see* Ex. CAL-00988-REV at 33:13-15 (Fox-Penner Direct) (“competitive markets are expected to compete such that prices approximate the costs of sellers, which in this case is precisely per-unit LRMC.”)).

⁶²⁰ *Id.* (citing Tr. 295:17-22 (Celebi)).

⁶²¹ Trial Staff Initial Br. at 37.

⁶²² *Id.* at 37-38 (citing Ex. CAL-00973-REV2 at 64, figs. 16-17 (Celebi Dir.)).

⁶²³ *Id.* at 38 (citing Ex. S-0106 at 18:8-20:18 (Golino Dir. and Ans.)).

reasonableness of the Shell Contract rates rather than a cost-based approach because the Shell Contract was served only from market purchases and was not “tied to any specific generation plant.”⁶²⁴ Trial Staff argues that while Dr. Celebi’s assessment references Shell’s cost-of-service (not his LRMC) based modeling, his testimony underscores the “limitations of using a proxy CCGT plant to assess the rates in the Shell Contract.”⁶²⁵ Thus, according to Trial Staff, the California Parties have not met their burden of showing their LRMC-based price benchmark can accurately assess whether the Shell Contract was unjust and unreasonable.⁶²⁶

Discussion

253. The LRMC is an estimate of the levelized all-in prices based on the expected cost of building and operating a new generation plant and an accurate long-run estimate of competitive market processes.⁶²⁷ In this case, the estimate is based upon the building and operation of a new hypothetical CCGT plant, which includes both fixed and variable costs. Importantly, the California Parties and Shell agree that an LRMC-based price is an objective benchmark against which to measure the Shell Contract rates.⁶²⁸ Although Shell advocates primarily for establishing a benchmark strictly using cost-of-service principles, it has nevertheless proposed an LRMC-based price for the entire contract period that accommodates its preferred hypothetical cost of service assumptions. Therefore, the undersigned finds that there is some degree of agreement amongst the parties for using an LRMC-based price as a benchmark to inform a just and reasonable zone of reasonableness. As noted by Shell, the LRMC has the benefit of being unaffected by the electricity spot markets at the time a contract is negotiated, therefore an LRMC-based benchmark is untouched by any spot market manipulation during the California Energy Crisis.⁶²⁹

⁶²⁴ *Id.* at 38-39 (citing Tr. 192:7-23 (Celebi)).

⁶²⁵ *Id.* at 39 (citing Ex. S-0106 at 16:9-20:17 (Golino Dir. And Ans.)).

⁶²⁶ *Id.* at 40.

⁶²⁷ *See* Ex.. CAL-00973-REV2 at 37:2-6 (Celebi Dir.); *see* CAL-00988-REV at 33:15-18 (Fox-Penner Dir.).

⁶²⁸ *See* Cal. Parties Initial Br. at 20; Shell Initial Br. at 25; *see also* 2016 Initial Decision, 155 FERC ¶ 63,004 at P 316.

⁶²⁹ *See* Shell Initial Br. at 25 (citing Tr. 295:17-22 (Celebi)); Opinion No. 587, 185 FERC ¶ 61,197 at P 268.

254. After consideration of all points of view, the undersigned finds it persuasive that multiple experts find an LPMC-based price is an objective and appropriate benchmark against which to measure the Shell Contract. Although Dr. Golino reasonably points out that the LPMC framework has some vulnerabilities and recommends use of Shell's actual average cost to evaluate the Shell Contract rates instead, evidence of Shell's actual costs have not been produced in this proceeding. Shell has repeatedly indicated that it did not rely on a specific power plant to meet its contractual obligations, but instead sourced power from its energy portfolio.⁶³⁰ Shell further emphasizes that it is not possible to calculate its actual cost to supply the power under the Shell Contract.⁶³¹ As a result, it is simply not feasible to use actual average costs in the context of this proceeding, as Trial Staff suggests, because the data is not available.

255. Furthermore, the undersigned disagrees with Dr. Golino, who criticized the LPMC framework as an unsuitable benchmark by which to assess the Shell Contract because Shell did not actually build a CCGT plant to supply power under that contract. Although this is a hypothetical exercise, an LPMC-based price is an objective benchmark against which to measure the competitive price of a long-term contract because the power provided does not have to be tied to one generation source. This method will determine the price of power "wherever the power is going to be generated."⁶³² The LPMC will also determine the price at which a generator is willing to sell its output in the long term and the costs a power marketer will incur to serve a contract because the marketer must ultimately contract with a generator for its output to fulfill that long-term contract.⁶³³

256. Shell's witness, Dr. Puller, further makes clear that whether a contract is tied to the building of a specific new plant or not, the competitive price of a long-term contract during a period of capacity shortage is the LPMC. He explains as follows:

In general, if long-term contract prices were to fall below LPMC, i.e., below the level sufficient to cover variable and fixed costs (including capital costs), that is a signal that there is excess capacity . . . [c]onversely, in periods of capacity shortage, long-term contract prices must be equal to or above

⁶³⁰ See Ex. CAL-00995 at 2-3.

⁶³¹ See *id.* at 3; Ex. SHE-0217 at 18:1-9 (Puller Cross Ans.).

⁶³² Tr. 1380:15-16 (Puller). See also Ex. SHE-0217 at 6:1-9 (Puller Cross Ans.).

⁶³³ See Tr. 1380:15-1381:12 (Puller); Ex. SHE-0217 at 6:1-4 (Puller Cross Ans.)

LRMC to signal that capacity is needed and reward firms that enter the market or expand production capacity.⁶³⁴

Thus, if the right amount of capacity is in place (which will occur in the long run if the market functions sufficiently well), then prices in that market should approximate the LRMC.

257. The record further demonstrates - even if, as Dr. Golino suggests - the use of the LRMC is tied to whether Shell built a CCGT plant, the use of the LRMC as a benchmark is appropriate here because Shell's affiliate did actually build the Wildflower peaking units (215 MW of capacity) to partially fulfill the requirements of the Shell Contract.⁶³⁵ Dr. Golino acknowledged as much at the hearing.⁶³⁶ These units became operational in the summer of 2001.⁶³⁷ Under the Shell Contract, CDWR had the option to dispatch each of the Wildflower units up to 500 hours during calendar years 2002-2005.⁶³⁸

258. Given that Trial Staff's alternative methodology cannot be employed and its major criticisms of the retroactive application of the LRMC model have been addressed, the undersigned concludes that the LRMC-based price is an appropriate benchmark against which to measure the Shell Contract, and the only one not affected by any spot market manipulation. Using the LRMC-based price as a benchmark is, therefore, an advantage given the difficulties of assessing the effects of spot market manipulation on the other benchmarks as described above. As such, the undersigned will use the LRMC-based price (Benchmark 5 modified as discussed below) along with modified Benchmark 1 to form a zone of reasonableness against which to assess the justness and reasonableness of the Shell Contract rates. The undersigned will next address the contested LRMC model assumptions and determine the appropriate inputs.

⁶³⁴ Ex. SHE-0217 at 12:6-13 (Puller Cross Ans.).

⁶³⁵ *Id.* at 16:1-4. *See* Ex. CAL-31 at § 10.14 (Generating Facilities).

⁶³⁶ Tr. 1789:16-24 (Golino) (When asked by the undersigned if he acknowledged Shell built the Wildflower peaking units in California, Dr. Golino responded with "[c]orrect.")).

⁶³⁷ *See* Ex. SHE-0217 at 16:1-4 (Puller Cross Ans.) (citing Ex. COR-1 at Summary, 6:18-21 (Brown Dir.)).

⁶³⁸ *See* Ex. CAL-31 § 10.18 (Dispatch of Generating Facilities).

b. Which LRMC Model Inputs Are Appropriate?

259. Both the California Parties and Shell compute an LRMC-based price for the entire contract term as a measure against which to compare the Shell Contract rates, but they use different inputs for the LRMC model. Each side argues that if the other would just use the correct inputs, then the two analyses would be nearly the same.⁶³⁹ The main areas of disagreement involve the ATWACC, the amortization period, and the plant capacity with the associated fixed costs. Each will be discussed in detail below.

i. The ATWACC

260. The cost of capital represents the cost of raising the capital needed to undertake infrastructure investment.⁶⁴⁰ It further reflects the return that debt and equity holders expect to earn for making certain investments. The ATWACC accounts for the after-tax costs of debt and equity weighted by a capital structure. The California Parties and Shell disagree over how to compute two components of the ATWACC, the cost of equity and the cost of debt.⁶⁴¹ The undersigned will examine each of these components in turn below.

(a) Cost of Equity

261. The cost of equity (or return on equity (ROE)) is the rate of return that equity investors would expect in exchange for investment in a company.⁶⁴² The Commission prescribes a methodology for estimating the cost of equity, with the current iteration requiring screening for the appropriate proxy group and use of both the Discounted Cash Flow (DCF) model and Capital Asset Pricing Model (CAPM).⁶⁴³ The parties dispute the

⁶³⁹ See Ex. SHE-0001 REV2 at 83:4-19 (Cavicchi Ans.); Ex. CAL-00990 REV at 46:3-13, fig. 4 (Celebi Reb.).

⁶⁴⁰ Ex. SHE-0155 REV2 at 13:5-6 (Schatzki Ans.).

⁶⁴¹ It is noteworthy that Dr. Celebi and Mr. Cavicchi agree on two other elements of the ATWACC calculation: the capital structure and the corporate tax rate. See Ex. CAL-653_Merchant Gen WACC PUB at Summary Tab; Ex. SHE-0155 REV2 at 54:13-55:2 (Schatzki Ans.).

⁶⁴² See Ex. SHE-0155 REV 2 at 13:14-16 (Schatzki Ans.).

⁶⁴³ See *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator*, 169 FERC ¶ 61,129 (Opinion No. 569) (2019); Opinion No. 569-A, 171 FERC ¶ 61,154 (2020); Opinion No. 569-B, 173 FERC ¶ 61,159 (2020), Order on Remand, 189

appropriate proxy group composition, which models to utilize, and where within the composite zone of reasonableness to place the CCGT plant. As discussed below, the undersigned first concludes that the California Parties have proposed the correct proxy group as of 2001, and as a result, use of the CAPM only is appropriate here. The undersigned also finds that the risk profile associated with the CCGT plant is average risk, and not high risk as compared to the proxy group. With these determinations, the appropriate cost of equity is the California Parties' recommended estimate of 11.52%.⁶⁴⁴ The undersigned will explore each of these issues in turn.

Participant Arguments

California Parties' Arguments

262. The California Parties argue that Shell's witness, Dr. Schatzki, inflated the cost-of-capital inputs in several ways. First, the California Parties argue that Dr. Schatzki overstated the cost of capital by improperly using companies that do not pay dividends in his DCF model, violating Commission precedent.⁶⁴⁵ When those companies are properly excluded from the calculation, only two companies remain in Dr. Schatzki's proxy group.⁶⁴⁶ In such cases, the California Parties argue that it is appropriate to rely solely on the CAPM and drop the DCF model.⁶⁴⁷

263. Although the California Parties recognize that Shell does perform a CAPM analysis, they criticize Shell's use of recently spun off companies lacking sufficient trading history for a CAPM analysis, a cost of debt that is unrepresentative of the debt market, and improperly elevated risk.⁶⁴⁸ According to the California Parties, Shell's use

FERC ¶ 61,036 (2024).

⁶⁴⁴ Although California Parties' witness Dr. Celebi assumes a cost of equity of 11.25% in his LRMC model (*see* Ex. CAL-00977 User Inputs Tab), California Parties' witness Dr. Villadsen computes a cost of equity of 11.52% set at the median of the composite zone of reasonableness derived using only CAPM and the appropriate proxy group. CAL-01044-REV at 35, fig. 4 (Villadsen Reb.).

⁶⁴⁵ Cal. Parties Initial Br. at 50.

⁶⁴⁶ *Id.* (citing Ex. CAL-01044-REV at 18:11-13 (Villadsen Reb.)).

⁶⁴⁷ *Id.* at 50-51 (citing *PJM Interconnection, L.L.C.*, 149 FERC ¶ 61,183, at P 76 (2014)).

⁶⁴⁸ *Id.* at 51.

of flawed inputs leads to a result over 250 basis points higher than another ATWACC proposed in this proceeding for 2001.⁶⁴⁹ The California Parties further argue that estimates by a prior Shell witness (Dr. Niemann in 2015) were lower than Dr. Schatzki's.⁶⁵⁰

264. On reply, the California Parties further criticize Dr. Schatzki's cost of capital analysis, focusing on his assessment of risk.⁶⁵¹ The California Parties argue that Shell unreasonably assumes that a hypothetical company will have higher risks than the overall sector.⁶⁵² The California Parties also argue that Shell's claims that there were "few opportunities" for long term contracts in the 1999-2001 time frame is false, noting that the Shell Contract itself was signed during that period.⁶⁵³ In addition, the California Parties assert that Dr. Schatzki's additional "risks" have no support.⁶⁵⁴ According to the California Parties, the Commission has rejected ROE adders similar to the risk premium Shell proposes.⁶⁵⁵

265. The California Parties instead support the analysis of Dr. Villadsen who modifies Dr. Schatzki's analysis, employs vertically integrated state utility ROEs as a comparison, and calculates an average ATWACC for 2000-2001 of 7.56-7.85%, based on a cost of equity of 11.52%.⁶⁵⁶ According to the California Parties, Dr. Celebi's and Dr. Villadsen's recommended return allows for a "non-trivial risk premium over the integrated electric utility rate."⁶⁵⁷ Moreover, the California Parties assert that Dr.

⁶⁴⁹ *Id.*

⁶⁵⁰ *Id.* at 51-52 (citing Ex. CAL-01044-REV at 38:11-14 (Villadsen Reb.)).

⁶⁵¹ Cal. Parties Reply Br. at 33 (citing Tr. 837:6-20 (Villadsen)).

⁶⁵² *Id.* (citing Ex. CAL-01044-REV at 25:15-26:2 (Villadsen Reb.); Tr. 836:23-837:1 (Villadsen); *S. Cal. Edison Co.*, 92 FERC ¶ 61,070, at 61,266 (2000); *Emera Me v. FERC*, 854 F.3d 9, 30 (D.C. Cir. 2017)).

⁶⁵³ *Id.* at 33-34.

⁶⁵⁴ *Id.* at 34 (citing Shell Initial Br. at 65-66).

⁶⁵⁵ *Id.* at 34.

⁶⁵⁶ *Id.* at 35. *See* Ex. CAL-01044-REV at 35, fig. 4 (Villadsen Reb.); Ex. CAL-01044-REV at 41, fig. 6 (Villadsen Reb.).

⁶⁵⁷ *Id.* (quoting Ex. CAL-01044-REV at 41:3-4 (Villadsen Reb.)).

Schatzki's ROE analysis of non-independent power producer (IPP) companies is actually lower than the one that Dr. Villadsen recommends.⁶⁵⁸

266. According to the California Parties, they have provided multiple cost of capital analyses that are appropriate for this proceeding and Dr. Villadsen offers a revised CAPM analysis that supports Dr. Celebi's determination that a 9.0% ATWACC is reasonable.⁶⁵⁹

Shell's Arguments

267. Shell argues that Dr. Schatzki's use of the two-step DCF model is consistent with Commission precedent.⁶⁶⁰ According to Shell, to support his conclusions, Dr. Schatzki also presents supplemental analyses, including an economy-wide DCF and analyses of the ROE for vertically integrated state utilities and companies that own IPPs as well as assets subject to less risk.⁶⁶¹

268. Shell counters the California Parties' criticisms of Dr. Schatzki's assumptions. Shell argues that Dr. Schatzki's two-step DCF analysis relies on FERC's current methodology and the best information available while other participants do not even perform an independent DCF analysis.⁶⁶² Furthermore, Shell asserts that the DCF model can in fact be used to estimate the cost of equity for companies that do not pay dividends.⁶⁶³ As to concerns raised about growth rates, Shell argues that the Commission has never established a growth rate threshold for the two-step DCF and that the methodology itself resolves any concerns about growth rates.⁶⁶⁴ Shell also asserts that

⁶⁵⁸ *Id.* (citing Ex. SHE-0222 at 31:9-10 (Schatzki Cross Ans.)).

⁶⁵⁹ *Id.* at 35-36. Dr. Celebi performs both a CAPM and an eCAPM analysis. *See* Ex. CAL-653_Merchant Gen WACC PUB at WACC Summary Tab. As the Commission has not previously accepted the use of the eCAPM as a basis for determining the cost of equity (*See Pac. Gas & Elec. Co.*, 178 FERC ¶ 61,175, at P 196 (2022); *DATC Path 15*, 177 FERC ¶ 61,115, P 109 (2021)), the undersigned will not address it further.

⁶⁶⁰ Shell Initial Br. at 65.

⁶⁶¹ *Id.* at 65-69.

⁶⁶² Shell Reply Br. at 35-36.

⁶⁶³ *Id.* at 36 (citing Ex. SHE-0222 at 10:3-9 (Schatzki Cross Ans.)).

⁶⁶⁴ *Id.*

other record evidence, including Dr. Niemann's proposed cost of capital analysis from an earlier phase, is not relevant and should be disregarded.⁶⁶⁵

269. Using an economy-wide DCF, Dr. Schatzki determined the midpoint of the zone of reasonableness to be 16.81% in 1999 and 15.43% in 2001.⁶⁶⁶ Shell explains that Dr. Schatzki also presented ROEs from rate cases before state public service commissions during the relevant period that ranged from 10% - 12.9%. According to Shell, these numbers were lower because those cases showed there was lower operating risk compared to a merchant IPP in development.⁶⁶⁷ Finally, Dr. Schatzki presented an additional DCF analysis of dividend-paying public utilities with less IPP exposure to underscore how low the recommendations from opposing experts really are.⁶⁶⁸

270. Shell also argues that Dr. Schatzki's cost of capital analysis is the only analysis that properly accounts for the risk associated with the proxy plant, and therefore, it is appropriate to rely on his proposed ROE or costs of equity of 15.78% for 1999 and 18.24% for 2001.⁶⁶⁹ According to Shell, Dr. Schatzki tailored his proxy group to the specific risks facing IPP developers and the increased risk in developing a generation project without a long-term taker for the power.⁶⁷⁰ Among these risks is the lack of opportunities for IPPs to enter into long-term contracts in California during the timeframe at issue, among others.⁶⁷¹

271. Shell criticizes the analyses from Dr. Celebi, Dr. Villadsen, and Mr. Green, arguing that they have materially underestimated the risk here and their proposals are better suited to regulated utilities with a lower risk profile.⁶⁷²

⁶⁶⁵ *Id.* at 37.

⁶⁶⁶ Shell Initial Br. at 68 (citing Ex. SHE-0222 at 23:13-23:2, fig. 2, fig. 3).

⁶⁶⁷ *Id.* at 69.

⁶⁶⁸ *Id.*

⁶⁶⁹ *Id.* at 64.

⁶⁷⁰ *Id.* at 65.

⁶⁷¹ *Id.* at 65-66.

⁶⁷² *Id.* at 66-67.

272. Shell further argues that Dr. Schatzki's use of the two-step DCF model is appropriate under the circumstances here to affirm his ROE recommendations. According to Shell, their expert selected his proxy group members from the Electric Power Supply (EPSA) list of owners of merchant plants with a capacity of at least 1,000 MW.⁶⁷³ Shell explains that Dr. Schatzki calculated the betas (systematic risk) of securities to "best understand all underlying assumptions and produce more accurate results" and then confirmed those results with values from Bloomberg.⁶⁷⁴

273. Shell argues that the 2007 California Energy Commission (CEC) report further confirms Dr. Schatzki's recommended ROE. According to Shell, the report reflects a ROE of 15.19% for merchant and non-merchant gas-fired developers in California between 2001 and 2006.⁶⁷⁵ Shell interprets this figure as an "independent third-party verification that Dr. Schatzki's proposed ROE is aligned with the actual experience of similarly situated generation owners from the Relevant Period, *and* that the ROEs proposed by other witnesses in this proceeding are unrealistically low."⁶⁷⁶

Trial Staff's Arguments

274. Trial Staff's arguments related to cost of equity are focused on the proxy group and whether to use the DCF model or the CAPM. Trial Staff argues, through its expert Mr. Green, that use of the DCF model is not appropriate here.⁶⁷⁷ Mr. Green opines that Dr. Schatzki's DCF analyses cannot be considered valid estimates of investors' required ROEs because most of the companies in Dr. Schatzki's proposed proxy groups are non-dividend paying companies.⁶⁷⁸ Mr. Green further argues that, once the non-dividend paying companies are removed from the proxy group, Dr. Schatzki's proxy group is left with one company in the 1999 proxy group and two companies in the 2001 proxy group.⁶⁷⁹ According to Mr. Green, DCF results for only one or two companies is too

⁶⁷³ *Id.* at 67 (citing Ex. SHE-0222 at 26:16-21 (Schatzki Cross Ans.).

⁶⁷⁴ *Id.*

⁶⁷⁵ *Id.* at 69-70 (citing Ex. SNA-247 PUB at 33 (2007 CEC Report)); Ex. SHE-0155 REV2 at 45:19-46:2 (Schatzki Ans.).

⁶⁷⁶ *Id.* at 70.

⁶⁷⁷ *See generally* Trial Staff Initial Br. at 47.

⁶⁷⁸ *See* Ex. S-0107 at 10:7-11 (Green Ans.).

⁶⁷⁹ *See id.* at 16:1-7. Mr. Green does not opine on whether the proxy group should

small of a sample to produce valid ROE results.⁶⁸⁰ Because there are not enough members in the proxy group, Trial Staff argues, that return on equity should be determined only through the use of the CAPM model.⁶⁸¹

Discussion

275. The Commission determines the cost of equity using two different models: the DCF and the CAPM.⁶⁸² Each of those models relies on the use of an appropriate proxy group⁶⁸³ composed of companies with risk comparable to the subject entity, in this case, a hypothetical IPP.

276. The Commission has long relied upon proxy groups as a means to account for a utility's relative risk profile.⁶⁸⁴ Proxy groups measure the level of investors' required rate of return on equity by comparing public companies with overall risk similar to that of the company whose rates are the subject of the proceeding.⁶⁸⁵ Both the DCF and the CAPM models, discussed further below, rely on proxy groups in order to conduct the analysis. The participants' disagreement concerning the appropriate composition of members for the proxy groups is twofold. First, Dr. Schatzki conducts his analysis using proxy groups

be selected in 1999 or 2001.

⁶⁸⁰ *Id.* at 16:16-18.

⁶⁸¹ *Id.* at 22:3-9. *See also* Trial Staff Initial Br. at 50-51.

⁶⁸² *See Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, 190 FERC ¶ 61,184, PP 13-18 (2025) (reviewing FERC Opinions discussing the use and application of the DCF and CAPM models).

⁶⁸³ Dr. Schatzki also refers to the proxy group as a peer group.

⁶⁸⁴ *Coakley, Mass. Attorney Gen. v. Bangor Hydro-Elec. Co.*, 147 FERC ¶ 61,234, at P 17 (2014) (Opinion No. 531) ("The Commission developed the two-step DCF methodology used for determining the cost of capital for individual gas and oil pipelines in a series of orders during the mid-1990s. Under that methodology, the Commission determines a single cost of equity estimate for each member of a proxy group.").

⁶⁸⁵ *See Petal Gas Storage, L.L.C. v. FERC*, 496 F.3d 695, 699 (D.C. Cir. 2007) ("proxy groups . . . provide market-determined stock and dividend figures from public companies comparable to a target company for which those figures are unavailable.").

for two periods, 1999 and 2001, while California Parties contend that 2001 is the only relevant period. Second, Dr. Schatzki performs a DCF analysis using proxy group members that either did not pay dividends, have high growth rates, have less than six months of stock price data, or have been involved in a recent merger during the periods of analysis. This second issue concerning the DCF proxy group will be encompassed in the separate discussion of the DCF analysis below. A CAPM analysis will follow at the end of the cost-of-equity section. But first, the undersigned determines the relevant proxy group period.

(1) The Relevant Proxy Group Period Is 2001.

277. With respect to the relevant period in which to conduct the analysis and construct a proxy group, Dr. Celebi looks only at 2001⁶⁸⁶ while Dr. Schatzki looks at both 1999 and 2001.⁶⁸⁷ Dr. Villadsen argues that the ATWACC is an opportunity cost “represent[ing] the rate of return that investors could expect to earn elsewhere without bearing more risk.”⁶⁸⁸ As the calculations are being used to value the Shell Contract, Dr. Villadsen further argues that the appropriate date at which to form an expectation on the discount rate is just before the contract was signed, namely 2001.⁶⁸⁹ The undersigned finds that 2001 is the appropriate time frame for which to construct the proxy groups for the DCF and CAPM models.

278. The undersigned relies on the fact that the experts all generally agree that 2001, at a minimum, should be considered. Dr. Schatzki presented proxy groups for both 1999 and 2001, explaining that 1999 was intended to represent the halfway point in the completion of a proxy plant that could fulfill the requirements of the Shell Contract. But, the Commission establishes the relevant time period of analysis as the most recent six-month study period: data for the six-month study period is used to construct a proxy group and perform the DCF and CAPM analysis.⁶⁹⁰

⁶⁸⁶ See Ex. CAL-00976 at 2.

⁶⁸⁷ See Shell Initial Br. at 64; Ex. SHE-0155 REV 2 at 47:8-11, fig. 5 (Schatzki Ans.).

⁶⁸⁸ Ex. CAL-01044-REV at 7:12-14 (Villadsen Reb.).

⁶⁸⁹ See Ex. CAL-01044-REV at 7:14-16 (Villadsen Reb.).

⁶⁹⁰ For example, see Opinion No. 569, 169 FERC ¶ 61,129 at PP 98, 101, 238, and 365 (2019) (Opinion No. 569).

279. Furthermore, the period between 1999 and 2001 encompasses the California Energy Crisis and the volatility that came with it. Throughout parts of its testimony and analysis of the Shell Contract rates, Shell has argued in other contexts that it is important to look at the time period close to the execution of the contract given the volatility of the time.⁶⁹¹ The same logic would apply here. An analysis performed for the proxy group in 1999 would simply be outdated at the time the parties executed the Shell Contract.⁶⁹² Dr. Schatzki has cited to no authority in support of constructing a proxy group outside of the relevant study period or having more than one study period and proxy group. It stands to reason, therefore, that 2001 is the critical time frame to look at to construct the proxy groups for the DCF and CAPM analysis. The undersigned, therefore, finds that 2001 is the appropriate period for which to conduct the ROE analysis.

(2) The Discounted Cash Flow Model Is Not Reliable Here.

280. Having determined that 2001 is the correct timeframe during which to select a proxy group, the undersigned provides a brief explanation of the DCF model and the criteria for the proxy group. She then turns to the selecting proxy group members according to those well-established criteria, and then determines, based on that proxy group, if the DCF model is reliable here.

Background

281. The DCF model is based on “the premise that an investment in common stock is worth the present value of the infinite stream of dividends discounted at a market rate commensurate with the investment’s risk.”⁶⁹³

With simplifying assumptions, the formula for the DCF methodology reduces to: $P = D / (k - g)$, where “P” is the price of the common stock, “D” is the current dividend, “k” is the discount rate (or investors’ required rate of return), and “g” is the expected growth rate in dividends. For ratemaking purposes, the Commission rearranges the DCF formula to solve for “k”, the discount rate, which represents the rate of

⁶⁹¹ See Shell Initial Br. at 47, 53 (criticizing proposed Benchmarks 2 and 3 because they were not based on prices at the time the Shell Contract was executed); see also Trial Staff Initial Br. at 29-30.

⁶⁹² See Ex. CAL-01044 REV at 7:14-18 (Villadsen Reb).

⁶⁹³ Opinion No. 569, 169 FERC ¶ 61,129 at P 87.

return that investors require to invest in a company's common stock, and then multiplies the dividend yield by the expression $(1+.5g)$ to account for the fact that dividends are paid on a quarterly basis. Multiplying the dividend yield by $(1+.5g)$ increases the dividend yield by one half of the growth rate and produces what the Commission refers to as the "adjusted dividend yield." The resulting formula is known as the constant growth DCF model and can be expressed as follows: $k=D/P (1+.5g) + g$.⁶⁹⁴

Under the Commission's two-step DCF methodology, the input for the expected dividend growth rate, "g," is calculated using both short-term and long-term growth projections.⁶⁹⁵ Those two growth rate estimates are averaged, with the short-term growth rate estimate receiving two-thirds weighting and the long-term growth rate estimate receiving one-third weighting.⁶⁹⁶

282. In Opinion No. 569, the Commission prescribes the following selection criteria for constructing a proxy group to use in a DCF analysis:

(1) the use of a national group of companies considered electric utilities by *Value Line*; (2) the inclusion of companies with credit ratings no more than one notch above or below the utility or utilities whose ROE is at issue; (3) the inclusion of companies that pay dividends and have neither made nor announced a dividend cut during the six month study period; (4) the inclusion of companies with no merger activity during the six-month study period that is significant enough to distort the study inputs; and (5) companies whose ROE results pass threshold tests of economic logic, including the low-end outlier test and high-end outlier test.⁶⁹⁷

⁶⁹⁴ Opinion No. 531, 147 FERC ¶ 61,234 at P 15.

⁶⁹⁵ *Id.* at PP 15-17, 36-40; *See Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, 149 FERC ¶ 61,032, at P 10 (2014) (Opinion No. 531-A).

⁶⁹⁶ *See* Opinion No. 531, 147 FERC ¶ 61,234 at PP 17, 39.

⁶⁹⁷ Opinion No. 569, 169 FERC ¶ 61,129 at P 461.

283. The Commission has indicated that the first four screens listed above evaluate particular characteristics of the companies in question that do not vary depending upon the results of the DCF or CAPM analyses. As a result, those screens may be used to develop a starting group of proxy companies eligible for inclusion in the DCF and CAPM proxy groups.⁶⁹⁸ The low-end and high-end outlier tests must then be applied separately to the results of the DCF and CAPM models to determine the final DCF and CAPM proxy groups.⁶⁹⁹ Significantly, as both parties recognize, however, while the Commission has a well-established proxy group criteria for electric utilities, this criteria may not be suitable for IPPs, as the Commission has only occasionally addressed returns for IPPs in a Cost of New Entry (CONE) context with less restrictive criteria.⁷⁰⁰

Participant Arguments

284. In brief, the participants disagree as to whether the use of the DCF model is reliable here. Shell argues that the use of the DCF model is appropriate and conducts a full-fledged DCF analysis.⁷⁰¹ The California Parties and Trial Staff disagree because the proxy group has too few dividend-paying members.⁷⁰²

285. The California Parties' witnesses do not conduct a DCF analysis because they argue that the DCF model cannot be relied upon to estimate a ROE for an IPP in 2001.⁷⁰³ Trial Staff further argues that return on equity should be determined only through the use of the CAPM.⁷⁰⁴

⁶⁹⁸ *Id.*

⁶⁹⁹ *Id.*

⁷⁰⁰ See SHE-0155 REV2 at 24:19-27:20 (Schatzki Ans); CAL-01044-REV at 9:12-10:10 (Villadsen Reb).

⁷⁰¹ See Ex. SHE-0155 REV2 at 31:12-36:22.

⁷⁰² See Ex. CAL-01044 REV at 18:3-13 (Villadsen Reb.); *see also* Ex. S-0107 at 9:14-10:11 (Green Dir.).

⁷⁰³ See Ex. CAL-00990-REV (Celebi Reb) at 2:6-10, 45:7-10; CAL-01044-REV at 32:7-14 (Villadsen Reb).

⁷⁰⁴ See Ex. S-0107 at 22:3-9 (Green Dir.).

Discussion

286. Shell witness Dr. Schatzki performs a 2001 DCF analysis using the proxy group shown in the chart below.⁷⁰⁵ The undersigned first examines Shell's proposed proxy group and then discusses whether the DCF model should ultimately be part of the ROE analysis.

	Schatzki 2001 DCF Proxy Group	Annual Dividend
Companies		
AES Corporation	✓	No
Calpine Corporation	✓	No
Dynegy, Inc.	✓	Yes
Mirant Corp.	✓	No
NRG Energy, Inc.	✓	No
TransAlta	✓	Yes

287. Dr. Schatzki explained that his criteria for a proxy group included companies that are all listed on the Electric Power Supply Association (EPSA) website as owners of merchant plants that were operational or whose construction had been announced as of January 19, 2000.⁷⁰⁶ Dr. Schatzki restricted his proxy group to merchant plants with a total capacity of at least 1000 MW (according to the EPSA) and were publicly listed on a US stock exchange.⁷⁰⁷ Only two of the companies in the chart above paid dividends during the relevant 2001 time period.⁷⁰⁸

288. The undersigned concludes that after properly applying the screens and excluding non-dividend paying companies from the DCF proxy group, there are too few companies with which to reliably perform a DCF analysis. Opinion No. 569 makes it clear that the

⁷⁰⁵ See Ex. SHE-0155 REV2 at 27:14-20.

⁷⁰⁶ Ex. SHE-0155 REV2 at 26:22-27:2 (Schatzki Ans.).

⁷⁰⁷ *Id.* at 27:5-13.

⁷⁰⁸ The undersigned notes that the information for the proxy group chart can be found at CAL-01044-REV at fig. 1 and 31:1-5 (Villadsen Reb.).

undersigned can only include dividend-paying companies in the DCF proxy group.⁷⁰⁹ While it is unclear if the proxy group criteria specified in Opinion No. 569 applies to IPPs in all instances, historically, in utilizing the DCF model to estimate an ROE, the Commission has held that the “underlying premise of the DCF model is that an investment in common stock is worth the present value of the infinite stream of *dividends*[.]”⁷¹⁰ Thus, it stands to reason that applying the DCF model to non-dividend paying companies is unworkable or would produce distorted DCF results.

289. Dr. Schatzki, however, disagreed that only dividend-paying members can be part of the proxy group, pointing to number of successful non-dividend-paying companies like Amazon, Alphabet, Tesla, and Berkshire Hathaway.⁷¹¹ According to Dr. Schatzki, capital gain yield is another valuable component of a stock price and that investors in those successful companies see capital gains as an alternative to dividends as a source of value.⁷¹² Based on the experience of these companies, Dr. Schatzki concluded that using proxy group members with a dividend yield equal to zero is economically sound.⁷¹³ However, he cited to no Commission authority indicating that this practice is permissible at FERC.⁷¹⁴

290. Following clear Commission precedent, however, the undersigned must exclude non-dividend paying companies from the DCF 2001 proxy group.⁷¹⁵ In 2001, AES, Calpine, Mirant, and NRG did not pay dividends, which leaves only Dynegy and TransAlta in Dr. Schatzki’s proxy group.⁷¹⁶ Neither Dr. Villadsen nor Dr. Schatzki are

⁷⁰⁹ Opinion No. 569, 169 FERC ¶ 61,129 at P 365. Criteria number three specifically included “companies that pay dividends and have neither made nor announced a dividend cut during the six-month study period[.]”

⁷¹⁰ Opinion No. 531, 147 FERC ¶ 61,234 at P14 (emphasis added) (citing *Canadian Ass’n of Petroleum Producers v. FERC*, 254 F.3d 289, 293 (D.C. Cir. 2001)).

⁷¹¹ See Ex. SHE-0222 at 8:19-9:1 (Schatzki Cross Ans.).

⁷¹² See *id.* at 9:1-10:2.

⁷¹³ See *id.* at 9:7-10:18.

⁷¹⁴ See *id.* at 8:14-10:18.

⁷¹⁵ Opinion No. 569, 169 FERC ¶ 61,129 at P 461. The DCF model will be discussed further below.

⁷¹⁶ See Ex. CAL-01044-REV at 11:11-12:1 (Villadsen Reb.). In 1999, neither AES nor Calpine paid dividends. See Ex. CAL-01044-REV at 11:11 (Villadsen Reb.);

aware of any Commission precedent that would permit only one or two companies to serve as a proxy group.⁷¹⁷

291. With respect to Dr. Schatzki's 2001 proxy group, the undersigned therefore concludes that two is too few companies upon which to base a DCF analysis because "it fails to provide a statistically meaningful result and may be biased by any one company."⁷¹⁸ Dr. Schatzki's argument that there is no minimum number of companies required for a proxy group because it is more important to focus on including companies with the same financial risks rather than the number of companies in the proxy group is unconvincing.⁷¹⁹ The Commission has not adopted this view. Although the Commission has in previous cases accepted proxy groups with small numbers, the Commission has never used a proxy group with only one or two members to determine a return on equity,⁷²⁰ and Dr. Schatzki has cited to none.⁷²¹

292. As an alternative to his original 1999 and 2001 proxy groups, Dr. Schatzki did provide another proxy group comprised of companies on the EPSA website owning

see S-0108 REV at 8-13. Thus, were the Commission to consider a proxy group as of 1999, it would be appropriate to exclude AES and Calpine.

⁷¹⁷ See Ex. CAL-01052 at 4-5; Ex. CAL-01044-REV at 18:9-13 (Villadsen Reb.). Trial Staff, however, did identify a situation in which the Commission relied upon a proxy group with only 3 members. See Ex. S-0107 at 17:1-4 (Green Ans.) (citing *Allegheny Power*, 103 FERC ¶ 63,001, at PP 21-23 and 32.c (2003), *aff'd*, 106 FERC ¶ 61,241, at P 24 (2004) (Opinion No. 469)).

⁷¹⁸ Ex. CAL-01044-REV at 18:12-13 (Villadsen Reb.).

⁷¹⁹ See Ex. S-0108 at 20.

⁷²⁰ Mr. Green identified a case in which the Commission relied upon a proxy group with three members. See Ex. S-0107 at 17:1-6 (Green Ans.) (citing *Allegheny Power*, 103 FERC ¶ 63,001 at PP 21-23 and 32.c, *aff'd* Opinion No. 469, 106 FERC ¶ 61,241 at P 24).

⁷²¹ Dr. Schatzki has admitted that he is unaware of any time in which the Commission has relied upon a proxy group with only one or two members. See Ex. S-0108 at 20. He further acknowledges that "a larger sample size increases statistical power, which results in more precise estimates." See Ex. SHE-0155 REV2 at 26:4-5 (Schatzki Ans.).

operational or announced merchant plants with a total capacity of at least 1,000 MW.⁷²² He removed any company that did not pay dividends or for which he was unable to obtain the necessary information to estimate the dividend yield and growth rate.⁷²³ Unlike the original list, this list was not limited to companies with large IPP business activity.⁷²⁴ Dr. Schatzki indicates that this revised proxy group “would not reflect IPP risks most commensurate with a merchant plant in California because a larger fraction of these companies’ business would reflect cost-of-service regulated operations and thus more predictable earnings and guaranteed cost recovery due to captive customer rate base.”⁷²⁵ Dr. Schatzki explains that this is the “biggest shortcoming” of the revised sample and indicates that it will understate the cost of equity of a merchant power plant in California.⁷²⁶

293. As Shell’s expert does not believe his own revised proxy group is reliable,⁷²⁷ and Shell only uses the analysis as support for Dr. Schatzki’s original conclusions,⁷²⁸ the undersigned finds that this alternative proxy group is not reliable. Although the alternative proxy group has a larger number of members, the risk profiles of those companies may differ significantly from that of the hypothetical IPP. Thus, the undersigned will give little weight to that alternative proxy group.⁷²⁹

⁷²² Ex. SHE-0222 26:16-21 (Schatzki Cross Ans.).

⁷²³ *Id.* at 26:21-23.

⁷²⁴ *Id.* at 27:3-6.

⁷²⁵ *Id.* at 27:6-10.

⁷²⁶ *Id.* at 27:13-15.

⁷²⁷ *Id.* at 27:6-10.

⁷²⁸ Shell Initial Br. at 69.

⁷²⁹ Trial Staff has challenged the composition of the proposed proxy groups for the additional reason that all but one of the companies included has a composite growth rate above 13.2%. *See* Ex. S-0107 at 10:12-12:2 (Green Ans.). According to Mr. Green, the Commission has determined that constant growth rates of 13.3% or higher are unsustainable in the long run and, “therefore do not meet the threshold tests of economic logic [.]” *Id.* at 13:10-12 (Green Ans.). Dr. Villadsen concurs, but does not provide any specific reasoning. *See* Ex. CAL-01044 REV at 19:1-8 (Villadsen Reb.). Dr. Schatzki argues that the 13.2% threshold does not apply when using the two-step DCF model as he does in his analysis. *See* Ex. SHE-0222 at 13:10-16:6 (Schatzki Cross Ans.). As the

294. In conclusion, after the application of the appropriate screens defined in Opinion No. 569, the undersigned concludes that the proxy groups Dr. Schatzki proposed are not reliable for purposes of the DCF analysis for two reasons. First, the appropriate period in which to conduct the DCF analysis is 2001, not 1999. Second, the members of the proxy group must pay dividends, leaving only two members in Dr. Schatzki's 2001 proxy group. Without an adequately-sized proxy group, the DCF analysis is not reliable. Therefore, although the Commission prefers the use of multiple methods for estimating the cost of equity,⁷³⁰ the undersigned will nevertheless rely only upon the CAPM model for the determination of the cost of equity here, as a DCF analysis will not give a reliable result.⁷³¹

(3) The CAPM Produces a Reliable Result.

295. The undersigned next considers the CAPM and finds that a CAPM analysis does produce a reliable result.

Background

296. The Commission set forth the following description of the CAPM as follows:

Investors use CAPM analysis as a measure of the cost of equity relative to risk. The CAPM methodology is based on the theory that the market-required rate of return for a security is equal to the risk-free rate, plus a risk premium associated with the specific security. Specifically, the CAPM methodology determines the cost of equity by taking the "risk-free rate" and adding to it the "market-risk premium" multiplied by "beta." The risk-free rate is represented by a proxy, typically the yield on 30-year U.S. Treasury bonds. Betas, which are published by several commercial sources,

result of this issue will not make a difference to the outcome of this matter, the undersigned does not discuss it further here.

⁷³⁰ See Opinion No. 569, 169 FERC ¶ 61,129 at P 23.

⁷³¹ This approach is not new. In *PJM Interconnection, L.L.C.*, 149 FERC 61,183, at P 76 (2014), the Commission, in determining the cost of new entry for a hypothetical new generation project with a proxy group that included IPP companies that did not pay dividends, found it appropriate to use only the CAPM model on the proxy group to determine the allowed ROE.

measure a specific stock's risk relative to the market. The market risk premium is calculated by subtracting the risk-free rate from the expected return. The expected return can be estimated either using a backward-looking approach, a forward-looking approach, or a survey of academics and investment professionals. A CAPM analysis is backward-looking if the expected return is determined based on historical, realized returns. A CAPM analysis is forward-looking if the expected return is based on a DCF analysis of a large segment of the market. Thus, in a forward-looking CAPM analysis, the market risk premium is calculated by subtracting the risk-free rate from the result produced by the DCF study.⁷³²

The relationship between risk and return can be mathematically expressed as follows:

$R_j = R_f + R_j \times (R_m - R_f)$ where:

R_j = Required return for stock

R_f = Risk free rate

R_m = Expected return for the market portfolio

R_j = Beta – Measure of the risk for the stock⁷³³

Participant Arguments

297. The California Parties and Shell both agree that it is appropriate to use the CAPM model to determine the cost of equity in this proceeding.⁷³⁴ The parties, however,

⁷³² *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, 156 FERC ¶ 61,234, at P 138 (2016) (Opinion No. 551) (citing Opinion No. 531, 147 FERC ¶ 61,234 at PP 146, 147; Roger A. Morin, *New Regulatory Finance* at 150, 151, 155-162, (Public Utilities Reports, Inc. 2006)).

⁷³³ *Ass'n. of Bus. Advocating Tariff Equity v. MISO, Inc.*, 153 FERC ¶ 63,027, at P 259 (2015) (Corrected Initial Decision).

⁷³⁴ Shell represents that practitioners heavily relied upon the CAPM during the time of the California Energy Crisis. *See* Ex. SHE-0155 REV2 at 35:1-3; Ex. SHE-0191 at 15 (J.R. Graham & C. R. Harvey, *The Theory and Practice of Corporate Finance: Evidence from the Field*, 60 J. of Fin. Econ. 187, 201 (2001) (noting a survey conducted

disagree as to the range the CAPM produces because they have adopted different proxy groups. Trial Staff takes no position on that issue.⁷³⁵

298. For their 2001 CAPM analysis, Shell witness Dr. Schatzki and California Parties witness Dr. Celebi proposed the following competing proxy groups.⁷³⁶

-	Schatzki 2001 CAPM Proxy Group	Celebi 2001 CAPM Proxy Group
Companies		
AES Corporation	✓	✓
Calpine Corporation	✓	✓
Dynegy, Inc.	✓	✓
Mirant Corp.	✓	
NRG Energy, Inc.	✓	
TransAlta	✓	✓

California Parties

299. The California Parties challenge some of Dr. Schatzki's proxy group members due to the lack of five years of stand-alone trading data for several of the proposed companies.⁷³⁷ The California Parties indicate that, for Mirant, less than six months of data was available at the time of the Shell Contract in 2001, and only eight weeks of that was available following Mirant's spin-off from Southern Company.⁷³⁸ For NRG, less than one year of data was available upon which to base an estimate, and for most of that year, NRG was majority owned by Northern States Power.⁷³⁹

in 1999 found that more than 73% of finance practitioners reported that they "always or almost always use the CAPM" to calculate the cost of equity capital).

⁷³⁵ See Ex. S-0107 at 22:7-9 (Green Ans.).

⁷³⁶ See Ex. CAL-01044 REV at 11 (Chart Summarizing Proxy Companies).

⁷³⁷ See *id.* at 20:3-12 (Villadsen Reb.).

⁷³⁸ *Id.* at 20:5-8.

⁷³⁹ See *id.* at 20:8-10. For this model, whether the company pays dividends is less important because dividends are not an input into the CAPM model. See Opinion No. 569, 169 FERC ¶ 61,129 at PP 131, 229.

Shell

300. Shell, on the other hand, argues that all six of the members of Dr. Schatzki's proxy group should remain in the group. With reference to Mirant and NRG, Dr. Schatzki explains that these two companies belong in the proxy group in 2001 because they are active IPP companies with substantial assets in the U.S. but with limited (or no) other business activities.⁷⁴⁰ Dr. Schatzki argues that despite the limited data available pertaining to these two companies, "including information about Mirant and NRG Energy in 2001 will lead to more accurate estimates than simply ignoring it."⁷⁴¹

Discussion

301. In order to determine a proxy group for the CAPM analysis, the undersigned looks to Commission practice for guidance. The Commission has consistently required five years of trading data for use in the CAPM.⁷⁴² Betas used in the CAPM are calculated preferably over a period of five years; but using at least two years' worth of historical data is the minimum.⁷⁴³ Additionally, the Commission has affirmed as reasonable the use of *Value Line* betas, which are calculated from five years' worth of data, as reasonable.⁷⁴⁴

302. Mirant and NRG must therefore be excluded from the proxy group. Although Mirant and NRG are both IPPs, as Dr. Schatzki indicated, less than a year of trading data exists for each company, with only 34 weeks for Mirant, less than one quarter of the data required for reliable beta calculations.⁷⁴⁵ This is problematic for the calculations needed here. As the beta is the measure of risk of a stock, having that measurement be as accurate as possible is important to the cost of equity calculation. Betas estimated over short sets of data and impacted by divestiture from parent companies will reflect the systematic risk of Mirant and NRG, but also that of the divestiture, and therefore, may

⁷⁴⁰ See Ex. SHE-0155 REV2 at 28:3-10 (Schatzki Ans.).

⁷⁴¹ See *id.* at 28:10-12.

⁷⁴² See Ex. CAL-01044-REV at 21:1-5 (Villadsen Reb.) (citing Opinion No. 531, 147 FERC ¶ 61,234 at P 88).

⁷⁴³ See Ex. CAL-01051 at 3 (Excerpts from Roger A. Morin, *Modern Regulatory Finance* (2021) (Morin)).

⁷⁴⁴ See Opinion No. 569, 169 FERC ¶ 61,129 at P 297.

⁷⁴⁵ See Ex. CAL-1051 at 3 (Excerpts from Morin).

not reliably represent the underlying financial parameters.⁷⁴⁶ Dr. Schatzki has not pointed to any instances in which the Commission has relied on proxy companies for the CAPM with only six months of trading data available. Thus, Mirant and NRG must be excluded from this proxy group.

303. Based upon Commission practice, the undersigned finds that AES, Calpine Dynegy, and TransAlta are the correct members of the proxy group for purposes of the CAPM analysis.

**(4) The Cost of Equity Should Be Placed
at the Median of the Zone of
Reasonableness**

304. The next issue is where the cost of equity should be placed in the zone of reasonableness. The parties dispute the proper placement within the zone. For the following reasons, the undersigned determines that the cost of equity is properly placed at the median.

305. Using the CAPM, the California Parties determined that the median ROE for the entire zone is 11.52% and if the ROE is set at the midpoint of the upper third of the zone at 11.93% (discussed more below).⁷⁴⁷ These calculations depend upon the use of the proxy group adopted in the previous section as of 2001. The California Parties, through Dr. Villadsen, appear to agree to Dr. Schatzki's proposed risk-free rate of 5.91% and his Market Risk Premium of 7.76% for purposes of their CAPM calculations.⁷⁴⁸

306. Dr. Schatzki develops a competing zone from 9.94% to 14.56% with a median of 12.11% for 2001 with his CAPM analysis.⁷⁴⁹ Significantly, Dr. Schatzki derived his results using all six members of his proposed proxy group including AES, Calpine, Dynegy, Mirant, NRG Energy, and TransAlta.⁷⁵⁰

⁷⁴⁶ See Ex. CAL-01044-REV at 13:15-14:6 (Villadsen Reb.).

⁷⁴⁷ See *id.* at 35, fig. 4.

⁷⁴⁸ No one argued that there were outliers which needed to be addressed. See Ex. SHE-0155 REV2 at 44:18-22 (Schatzki Ans.).

⁷⁴⁹ See *id.* at 44:13-17.

⁷⁵⁰ In his testimony, Dr. Schatzki determined the cost of equity to be 15.78% in 1999 and 18.24% in 2001. See Ex. SHE-0155 at 47:8-11. These figures, however, utilized both the DCF and the CAPM models. For reasons explained above, the

307. Given that the undersigned has adopted the California Parties proposed 2001 CAPM proxy group, she also adopts Dr. Villadsen's cost of equity figures for the zone of reasonableness.⁷⁵¹ The undersigned will next determine the appropriate placement of the ROE in the CAPM zone of reasonableness, based on the risk profile of the hypothetical IPP.

Participant Arguments

308. According to Dr. Schatzki, additional risks justify placing the ROE at the midpoint of the upper-third of the range of potential costs of equity.⁷⁵² Shell argues that risks associated with the IPP industry generally, and California merchant generation facilities specifically, are above average risks.⁷⁵³ According to Dr. Schatzki, these risks include: (1) few opportunities for IPPs in California to enter into long-term contracts; (2) increased uncertainties of general construction and project execution for new plants; (3) privately-owned IPPs developing a project on a stand-alone basis facing higher risks than larger IPPs having a more diverse portfolio of investments; (4) flotation costs (costs associated with raising new capital for new investment); and (5) higher risks associated with liquidity for non-publicly traded merchant power plants than publicly-traded IPPs.⁷⁵⁴

309. The California Parties challenge Shell's assertions through the testimony of Dr. Villadsen. Dr. Villadsen argues that it is unreasonable to assume that a hypothetical company will have higher risks than a sector overall without evidence.⁷⁵⁵

Discussion

310. The undersigned finds that the hypothetical IPP has average risk relative to the proxy group. The Commission has traditionally addressed a utility's risk profile by comparing the utility at issue to other utilities facing similar risks through the development of a proxy group of comparable risk companies. Once the proxy group has

undersigned will only consider the CAPM in final calculations for the cost of equity.

⁷⁵¹ Ex. CAL-01044-REV at 35, fig. 4 (Villadsen Reb.).

⁷⁵² Ex. SHE-0222 at 2:22-24 (Schatzki Cross Ans.).

⁷⁵³ Shell Initial Br. at 65.

⁷⁵⁴ See *id.* at 65-66. (citing Ex. SHE-0155 REV2 at 19:2-11, 20:1-3 (Schatzki Ans.)).

⁷⁵⁵ See Ex. CAL-01044-REV at 25:15-26:2 (Villadsen Reb.).

been developed, “[t]o the extent a utility or other participants then demonstrate that the utility has materially higher or lower risks than other proxy group companies, the Commission may then determine that such utility is of higher or lower risk.”⁷⁵⁶ Here Shell has not persuasively demonstrated that the risk is higher.

311. Shell argues that a higher cost of equity is justified by the higher risk profile for an IPP developing a stand-alone project during 2001 and identifies a number of potential risks that, when considered together, might justify raising the level of risk for that company to above average if appropriately quantified. The problem, however, is that not all of the risks described are substantial risks when compared to the proxy group members, and none of them have been quantified. For example, Dr. Schatzki argued that it would have been difficult for a new merchant plant to benefit from long-term contracts. But this first assertion is belied by the fact that Shell was actually signing long-term contracts, like the Shell Contract, at this very point in time. In fact, beginning in 2001, the evidence shows that the State of California began signing numerous long-term contracts, so the opportunities existed during the relevant time period.⁷⁵⁷

312. Furthermore, increased uncertainties of general construction and project execution for merchant plants and higher risks for privately-owned IPPs building stand-alone facilities are certainly plausible, but Dr. Schatzki failed to quantify these risks in any meaningful way to justify higher costs of equity. Moreover, potential flotation costs also do not justify a cost of equity adjustment.⁷⁵⁸

313. If it cannot be demonstrated that a subject company whose ROE is at issue is of “materially higher or lower risk than other proxy group companies,” the default is to presume that the subject company is of average risk.⁷⁵⁹ Something quantifiable is necessary to move that mark, and there simply is nothing here tied to the specific companies in the proxy group or the proxy plant at issue justifying an above-average risk

⁷⁵⁶ *Pac. Gas & Elec. Co.*, 178 FERC ¶ 61,175, at P 121 (2022).

⁷⁵⁷ See Opinion No. 587, 185 FERC ¶ 61,197 at P 6; see Ex. CAL-01044-REV at 26:3-8 (Villadsen Reb.) (citing Ex. CAL-638 PUB; Ex. CAL-639 PUB (including examples of long-term contracts signed during 2000 and 2001)).

⁷⁵⁸ See *Pepco Holdings, Inc.*, 124 FERC ¶ 61,176, at P 117 (2008) (citing *Allegheny Generating Co.*, 65 FERC ¶ 63,026, at 65,179 (1993)). Moreover, “if flotation costs are justified, there is a set formula to apply,” that is not in the record. See *id.*

⁷⁵⁹ *Pacific Gas and Electric Company*, 178 FERC ¶ 61,175 at P 121.

determination. Accordingly, the undersigned concludes that the hypothetical IPP at issue here has average risk relative to the proxy group, and not high risk, as Shell has argued.

314. Thus, the cost of equity should be placed at the median, or 11.52%.⁷⁶⁰

(b) Cost of Debt

315. The second component of the ATWACC the parties contest is the cost of debt. Debt generally refers to long-term debt issued by third parties,⁷⁶¹ and the cost of debt is the average interest rate associated with that debt.

Participant Arguments

316. The California Parties' witnesses Drs. Celebi and Villadsen determined the cost of debt to be 9.5% based upon Dr. Celebi's 2001 proxy group.⁷⁶² The California Parties argue that Dr. Schatzki's cost of debt is unrepresentative of the debt market. Dr. Villadsen criticizes Dr. Schatzki's reliance on only half of the proxy group to determine the cost of debt.⁷⁶³ According to Dr. Villadsen, the relevant cost of debt would be the market rate for a new merchant plant, such as the yield on BB-rated debt.⁷⁶⁴

317. In calculating Shell's cost of debt, Dr. Schatzki first estimated the cost of debt for the proxy group by looking at credit ratings, a common metric for evaluating the riskiness of company debt.⁷⁶⁵ Using this approach, Dr. Schatzki determined that the cost of debt for the proxy group ranged between 7.82% and 10.58% in 2001.⁷⁶⁶ Dr. Schatzki argued

⁷⁶⁰ See Ex. CAL-01044-REV at 35, fig. 4 (Villadsen Reb.).

⁷⁶¹ *Panda Stonewall LLC*, 174 FERC ¶ 61,266, at P 176 (2021) (Opinion No. 574).

⁷⁶² See Ex. CAL-653_Merchant Gen WACC PUB at Summary Tab.

⁷⁶³ See CAL-01044-REV at 26:13-27:4 (Villadsen Reb.).

⁷⁶⁴ See *id.* at 27:1-13. Dr. Villadsen explains that she used BB rated debt yields because that was the most common rating for an IPP. See *id.* at n.66.

⁷⁶⁵ See Ex. SHE-0155 REV2 at 50:1-6 (Schatzki Ans.).

⁷⁶⁶ *Id.* at 50:17-22. Dr. Schatzki determined the cost of debt for his proxy group to be between 7.94% and 10.53% in 1999. *Id.* As noted above, however, the undersigned has determined that is appropriate to only utilize the proxy group from 2001. See *supra* PP 277-279.

that the cost of debt, therefore, must be 10.58% in 2001.⁷⁶⁷ To determine the cost of debt, Dr. Schatzki used the average cost of debt from only AES and Calpine, the companies from his proxy group with the highest costs of debt.⁷⁶⁸ Dr. Schatzki reasoned that the higher cost of debt is necessary to ensure all of the IPP companies in the proxy group can attract debt capital, but also because of the increased financial risk of new generation projects.⁷⁶⁹ According to Dr. Schatzki, two of the four companies in Dr. Celebi's proxy group would be unable to attract capital using the 9.5% cost of debt Dr. Celebi proposed.⁷⁷⁰

318. Shell relies on Dr. Schatzki's determination that a new merchant project developer in California would face an above-average credit risk. Dr. Schatzki argues for a cost of debt in the upper end of the range for the same reasons he asserted the cost of equity should be in the upper range.⁷⁷¹ According to Shell, it is most important to select a cost of debt at the upper end of the range to recognize "the unique risks associated with a project company – which has higher risks due to a lack of diversification – rather than with a company that owns a portfolio of assets."⁷⁷² Shell argues that only Dr. Schatzki does that sufficiently.

319. Trial Staff does not take a position on the cost of debt.

Discussion

320. The undersigned agrees with the California Parties. Evidence supports a finding that applicable 2001 average yields on BB-rated corporate debt were 9.42%, 9.39%, and 9.22% for the six month average yields as of December 31, 1999, April 30, 2001, and May 31, 2001, respectively.⁷⁷³ Thus, the undersigned concludes that, although slightly higher, Dr. Celebi's cost of debt estimate of 9.5% is appropriate because it is consistent

⁷⁶⁷ Ex. SHE-1055 REV2 at 51:9-11 (Schatzki Ans.).

⁷⁶⁸ *See id.* at 8:7-18.

⁷⁶⁹ *See id.* at 51:9-20.

⁷⁷⁰ *See id.* at 52:1-9.

⁷⁷¹ Shell Initial Br. at 66 (citing SHE-0155 REV2 at 51:10-20) (Schatzki Ans.)).

⁷⁷² *Id.* (citing SHE-0155 REV2 at 51:13-16 (Schatzki Ans.)).

⁷⁷³ *See* Ex. CAL-01044-REV at 27:9-13 (citing to Ex. No. CAL-01056 PRIV (Workpaper re. bond yields) (Villadsen Reb.)).

with reported yields for a BB-rated company and conceivable for a new merchant plant. Dr. Schatzki's preferred 10.58% estimate is unreasonable because it is based only on the average of the two highest yields for members of his proxy group.

(c) ATWACC Calculation

321. The undersigned also agrees with the California Parties as to the final ATWACC calculation.

322. The ATWACC is calculated from the cost of equity, the cost of debt, the capital structure and the tax rate. As discussed above, the undersigned has adopted a cost of equity of 11.52% and a cost of debt of 9.5% from the California Parties witness Dr. Villadsen. Given the agreed upon capital structure of 60% equity / 40% debt and an agreed upon tax rate of 40.7%⁷⁷⁴, the undersigned finds that the correct ATWACC is as Dr. Villadsen has calculated it at the median: 9.16%.⁷⁷⁵

ii. Amortization Period

323. The Commission, in its Uniform System of Accounts Prescribed for Public Utilities and Licensees Subject to the Provisions of the Federal Power Act (US of A), defines amortization as "the gradual extinguishment of an amount in an account by distributing such amount over a fixed period, over the life of the asset or liability to which it applies, or over the period during which it is anticipated the benefit will be realized."⁷⁷⁶ The undersigned concludes that a 25-year amortization period is the correct input for the LRMC analysis.

Participant Arguments

California Parties

324. The California Parties argue that Shell witness, Dr. Schatzki, provides an amortization period for Shell's proposed proxy plant that is too short, which in turn,

⁷⁷⁴ See Ex. CAL-653_Merchant Gen WACC PUB at Summary Tab; Ex. SHE-0155 REV2 at 54:13-55:2 (Schatzki Ans.).

⁷⁷⁵ See Ex. CAL-0144-REV at 35:3-7 and fig. 4 (Villadsen Reb.). Dr. Villadsen notes that this ATWACC is in line with what Dr. Celebi calculated. See *id.* at 35:3-6.

⁷⁷⁶ 18 C.F.R., Part 101, Definition 4 (2025).

inflates Shell's cost-based benchmarks.⁷⁷⁷ The California Parties assert that Dr. Schatzki's recommended 20-year amortization period is on the low end of publicly available information for comparison and fails to take into account Trial Staff witness Dr. Turan's analysis of national data for CCGTs indicating an average operating period of 27-28 years.⁷⁷⁸ Based on that analysis, the California Parties conclude that Dr. Celebi's recommended 25-year amortization period is reasonable.⁷⁷⁹ On reply, the California Parties contend that Shell misstates Commission precedent regarding amortization and "improperly conflates the demonstrated economic life with unsupported 'additional investment decisions.'"⁷⁸⁰

Shell

325. Shell argues that the Commission should adopt Dr. Schatzki's 20-year amortization period because he is the only witness "to account for the unique risks associated with developing and operating a merchant power generation facility in California during the relevant period."⁷⁸¹ Shell further contends that considering the investor risks and interests is necessary to establish an amortization period, which it claims is different than an asset's useful or economic life.⁷⁸² Shell asserts that the California Parties and Trial Staff have conflated the amortization period with useful or economic life and that relying on a proxy plant's economic life is an inappropriate framework for establishing the amortization period for a merchant facility.⁷⁸³

Trial Staff

326. Trial Staff argues that Shell's proposed 20-year amortization period is not reasonable and instead, the 25-year amortization period proposed by Dr. Celebi and Trial

⁷⁷⁷ Cal. Parties Initial Br. at 52.

⁷⁷⁸ *Id.* at 52-53.

⁷⁷⁹ *Id.* at 53.

⁷⁸⁰ Cal. Parties Reply Br. at 36 (citing Shell Br. at 72 (citing *N.Y. Indep. Sys. Op., Inc.*, 146 FERC ¶ 61,043, at PP 117-18 (2014))).

⁷⁸¹ Shell Initial Br. at 71-72.

⁷⁸² *Id.* at 72.

⁷⁸³ *Id.*

Staff witness, Dr. Turan, is the appropriate amortization period.⁷⁸⁴ Trial Staff explains that a 25-year amortization period may be a conservative estimate, with Dr. Turan testifying that he would expect a 30-year or longer amortization period for a CCGT plant.⁷⁸⁵ Trial Staff contends that Dr. Turan's analysis of a 25-year amortization period is well-supported by submitted evidence and testimony.⁷⁸⁶ Trial Staff concludes that Shell did not demonstrate that the 25-year amortization period is unreasonable and that Dr. Schatzki's analysis lacks actual data, like that used in Dr. Turan's analysis.⁷⁸⁷

327. On reply, Trial Staff further argues that Shell's claim that "Dr. Turan's analysis conflate[s] the amortization period with useful or economic life"⁷⁸⁸ is unconvincing because: (1) the reports Dr. Schatzki uses himself do not make such a distinction; (2) Dr. Turan clarified that the terms are generally understood to be "similar" terms; (3) Shell has not sufficiently explained how Dr. Turan's understanding is incorrect; and (4) Shell has not been able to provide evidence that the amortization period "should be shorter than a useful or economic life."⁷⁸⁹

Discussion

328. The primary issue is whether a 25-year amortization period is appropriate for the LRMC analysis, as the California Parties and Trial Staff argue, or a 20-year amortization period as Shell argues.

329. As an initial matter, Shell's contention that Dr. Turan's analysis conflated the amortization period with "useful" or "economic" life is unpersuasive. As noted by Trial Staff, Shell did not provide any evidence that there is a meaningful distinction between "useful life" or "economic life" and "depreciable life" or "amortization period" for purposes of determining an appropriate amortization period for a CCGT plant.⁷⁹⁰ In fact,

⁷⁸⁴ Trial Staff Initial Br. at 55.

⁷⁸⁵ *Id.* at 56-57.

⁷⁸⁶ *Id.* at 57.

⁷⁸⁷ *Id.* at 61.

⁷⁸⁸ Trial Staff Reply Br. at 33 (citing Shell Initial Br. at 72) (internal quotations omitted).

⁷⁸⁹ *Id.* at 33.

⁷⁹⁰ *Id.* at 33.

the reports used by Dr. Schatzki for his amortization analysis do not define or rely on a distinction of the various terms.⁷⁹¹ When questioned by Shell at hearing, Dr. Turan testified that the ordinary understanding of these terms is generally synonymous.⁷⁹² This explanation makes sense. Therefore, the undersigned finds that relying on the CCGT proxy plant's economic life is an appropriate framework for determining an amortization period because there is no evidence to support an alternative conclusion.

330. Shell asserts that the "unique risks" associated with developing and operating a merchant power generation facility in California during the relevant period "[are] fundamental" and the undersigned must account for them when developing an amortization rate.⁷⁹³ The Commission, however, does not typically consider investor risk when engaging in an amortization analysis. Rather, when setting an amortization period, the Commission considers the estimated service life of an asset.⁷⁹⁴ This analysis entails reviewing (1) engineering studies that determine the physical life of the materials that make up the asset, and/or (2) studies estimating the number of years for which there will be demand for the service provided by the asset.⁷⁹⁵

331. In recommending a 25-year amortization period, Dr. Celebi reviewed and provided information from five publicly available contemporaneous studies published around the date of the execution of the Shell Contract.⁷⁹⁶ According to Dr. Celebi, these sources indicate that the assumed economic life for a CCGT plant is approximately

⁷⁹¹ *Id.*; see also Ex. SHE-0207 at 67; CAL-156 at 19; and SHE-0208 at 22.

⁷⁹² Trial Staff Reply Br. at 33; Tr. 1818:4-1820:18 (Turan).

⁷⁹³ Shell Initial Brief at 71-72 (citing SHE-0222 at 40:18-20 (Schatzki Cross Ans.).

⁷⁹⁴ See generally *Entergy Services, Inc.*, 142 FERC ¶ 61,022, at P 28 (2013) ("Depreciation is a process of cost allocation, *not of valuation*; the primary objective of recording depreciation expense is to allocate the cost of utility property to the periods during which the property is used in utility operations, i.e., over the useful service life and in a systematic and rational manner.") (emphasis added). Amortization and depreciation both refer to the allocation of costs and are often used interchangeably as terminology for such assessments. See generally 18 C.F.R. Part 101 (2025).

⁷⁹⁵ See 18 C.F.R., Part 101, General Instructions 22 (2025).

⁷⁹⁶ Ex. CAL-00990-REV at 43:9-12 (Celebi Reb.) (citing Ex. CAL-653 (Public Sources for Economic Life.xlsx)).

twenty to forty years, therefore, Shell's recommended 20-year amortization period is on the lower end of an assumed economic life for a CCGT plant.⁷⁹⁷ Dr. Celebi also explains that, as of 2024, the average age of a CCGT plant in California was thirty years, ten years beyond the recommended amortization period of Shell.⁷⁹⁸ Dr. Schatzki cites to several sources in support of his 20-year amortization period, the undersigned finds them informative, but unpersuasive.⁷⁹⁹

332. Bolstering the California Parties' argument, Trial Staff provides ample evidence that a 25-year amortization period is appropriate. At hearing, Dr. Turan testified that he would normally expect a 30 to 40-year amortization period for a CCGT plant, making his overall 25-year recommendation a conservative approach.⁸⁰⁰ Countering Dr. Schatzki's reliance on the EIA's 2000 AEO report, Trial Staff explains that the report "projected major growth in natural gas markets, mainly due to rising demand for electricity generation."⁸⁰¹ In his analysis, Dr. Turan compiled EIA data from all known actual retirements of CCGT plants from 2002 through 2024 and found that CCGT plants in the United States operated twenty-eight to thirty years and plants in California operated twenty-four to twenty-seven years before retirement.⁸⁰² Based upon the experience of actual CCGT plants, Dr. Schatzki's 20-year estimate is too low.

333. Moreover, the adoption of a 20-year amortization period would result in ratepayers in the first twenty years paying higher rates over a 20-year period while the next generation of ratepayers would receive a windfall through lower rates in years twenty-one through twenty-five.⁸⁰³ This would violate the principle of intergenerational

⁷⁹⁷ *Id.*

⁷⁹⁸ Cal. Parties Initial Br. at 53; Ex. CAL-00990-REV at 43:12-14 (Celebi Reb.); Ex. CAL-01006 (Gas Plant Lifespan.xlsx).

⁷⁹⁹ Ex. SHE-0155 REV 2 at 58:12-59:11 (Schatzki Ans.). These sources include (1) the Energy Information Agency (EIA), which applied a 20-year capital recovery period for an analysis of the levelized costs for new units in its 1999 and 2000 Annual Energy Outlook (AEO) reports and (2) CONE studies performed by NYISO, ISO-NE, and PJM which used 20-year amortization periods for determining the cost of new entry.

⁸⁰⁰ Trial Staff Initial Br. at 56-57; Tr. 1809:20-1810:25 (Turan).

⁸⁰¹ Trial Staff Initial Br. at 57 (referencing EX. S-0109 at 5:1-7:9 (Turan Ans.)).

⁸⁰² Trial Staff Initial Br. at 57 (citing Ex. S-0109 at 7:10-8:13 (Turan Ans.)).

⁸⁰³ Ex. S-0109 at 10:12-19 (Turan Ans.).

equity⁸⁰⁴ which “is the fair distribution of the costs and benefits of a long-lived project when those costs and benefits are borne by different generations’ project users.”⁸⁰⁵ A 25-year amortization period would ensure a more equitable distribution of the rates paid by ratepayers for a CCGT plant that is likely to operate for at least 25-30 years.

334. The testimony provided by Dr. Celebi and Dr. Turan demonstrates that a 25-year amortization period is reasonable and that adopting a 20-year amortization period would be inappropriate. Therefore, the undersigned finds that a 25-year amortization period is proper for the hypothetical CCGT proxy plant and for purposes of the alternative LRMC model.

iii. Plant Capacity

335. Under the terms of the Shell Contract, Shell was required to deliver as much as 925 MW of power per month, but not in every month. The participants dispute whether to use a CCGT proxy plant with a 900 MW-capacity as an input into the LRMC model or something lower because the 900 MW was not required to fulfill the Shell Contract every month. As explained further below, the undersigned finds that assigning a 900-MW capacity to the proxy CCGT plant for purposes of the LRMC analysis is reasonable.

Participant Arguments

California Parties

336. The California Parties assert that for the LRMC benchmark, Dr. Celebi appropriately assigned fixed costs in each month of the 11-year contract period for a proxy plant that directly mimicked the monthly delivery obligations in the Shell Contract.⁸⁰⁶ According to the California Parties, Shell did not.

337. The California Parties argue that Shell “assume[s] a proxy plant with generation capacity that substantially exceeds Shell’s delivery obligations under the Shell Contract.”⁸⁰⁷ The California Parties claim that the fixed costs Mr. Cavicchi used in his

⁸⁰⁴ Ex. S-0109 at 4:18-21 (Turan Ans.); *BP Pipelines (Alaska), Inc.*, 125 FERC ¶ 61,215, at P 18 n.16 (2008)).

⁸⁰⁵ *BP Pipelines (Alaska), Inc.*, 125 FERC ¶ 61,215 at P 18 n.16.

⁸⁰⁶ Cal. Parties Initial Br. at 45-46.

⁸⁰⁷ *Id.* at 45 (citing Ex. CAL-00990-REV at 20:1-22:2, 24:1-25:7, fig. 2 (Celebi Reb.)).

LRMC analysis (600-MW generation plant through June 2002 and 900-MW generation plant for July 2003 through the end of the contract term) includes fixed costs for a proxy generation plant with capacity larger than necessary to serve the Shell Contract, resulting in excess generation, which CDWR had no right to use.⁸⁰⁸ The California Parties further contend that in 87 of the 134 months (65%) of the Shell Contract, “Mr. Cavicchi assigned fixed costs for generation capacity that exceeds Shell’s delivery obligation in that month by more than 100 MW.”⁸⁰⁹ The California Parties argue that at the end of the Shell Contract, Mr. Cavicchi’s fixed costs for generation capacity exceeds Shell’s actual delivery obligations by 30%.⁸¹⁰

338. Moreover, the California Parties claim the hearing record provides examples of Shell profiting from such sales of excess capacity.⁸¹¹ The California Parties assert that Shell could have, but did not, provide offsets for the use of a 900 MW plant by considering the revenue the proxy plant may have earned from the sale of excess capacity to the market.⁸¹²

339. The California Parties also argue that Shell’s use of CPUC’s Resource Adequacy Program to justify its assignment of costs of a 900 MW plant to CDWR is inappropriate.⁸¹³ To support this claim, the California Parties point to the testimony of CPUC witness Ms. Gannon, who oversees the RA Program, where she explains that CPUC only accounted for the MW value of the Shell Contract’s actual delivery obligations for the RA Program.⁸¹⁴

340. On reply, the California Parties once again reject Shell’s assertion that a proper “LRMC benchmark must support the full cost of a plant that could deliver the products in

⁸⁰⁸ *Id.* at 46-47.

⁸⁰⁹ *Id.* at 47 (citing Tr. 423:24-424:3 (Celebi); Ex. CAL-01006 (Cavicchi Contract Volumes.xlsx)).

⁸¹⁰ *Id.*

⁸¹¹ *Id.* at 48.

⁸¹² *Id.*

⁸¹³ *Id.*

⁸¹⁴ *Id.* (citing Ex. CAL-01057 at 16:3-12 (Gannon Reb.); Tr. 481:11-13, 488:13-15, 505:19-506:24 (Gannon)).

the Shell Contract – up to 925 MW during peak periods.”⁸¹⁵ The California Parties assert that Shell did not provide 925 MW of “capacity” over the full term of the Shell Contract, but instead only had a delivery obligation of 925 MW in 39 of 134 months (29%).⁸¹⁶ The California Parties further contend that Shell’s “maximum delivery obligation when it signed the Shell Contract in May 2001 was 500 MW,” and that all deliveries over 500 MW were made at Shell’s own discretion.⁸¹⁷ The California Parties allege that CDWR did not have the right to demand that Shell deliver more than 500 MW, much less 925 MW.⁸¹⁸

341. The California Parties conclude that Shell’s “capacity value” arguments are an attempt to “inflate Shell’s cost-based benchmarks in order to offset the “artificially inflated” Crisis-era prices Shell locked-in to the Shell Contract,”⁸¹⁹ and that Dr. Celebi’s inclusion of the fixed costs associated with Shell’s actual monthly delivery obligations in his LRMC benchmark was conservative.⁸²⁰

Shell

342. Shell argues that a proper LRMC analysis must support the full cost of a plant with delivery obligations, like those in the Shell Contract, of up to 925 MW during peak periods.⁸²¹ Shell asserts that Mr. Cavicchi’s benchmark, which takes into account “actual development, engineering, procurement, and construction costs for plants built during the relevant time period,” is based on the costs of building a 900 MW plant.⁸²²

343. Shell counters the California Parties’ critique that the Shell Contract provided for delivery volumes lower than 900 MW in some months by explaining that CDWR itself requested these lower deliveries in “shoulder” months where demand was generally

⁸¹⁵ Cal. Parties Reply Br. at 27 (citing Shell Initial Br. at 26, 59, 62).

⁸¹⁶ *Id.*

⁸¹⁷ *Id.* at 28.

⁸¹⁸ *Id.*

⁸¹⁹ *Id.* at 29 (citing Opinion No. 587, 185 FERC ¶ 61,197 at P 227).

⁸²⁰ *Id.*

⁸²¹ Shell Initial Br. at 62.

⁸²² *Id.*

lower in California.⁸²³ Shell further asserts that it was reasonable for Mr. Cavicchi not to take into account possible excess capacity sales because there was no market for such sales in the months where Shell's delivery obligation was lower.⁸²⁴ To support this argument, Shell notes that Dr. Celebi was unable to provide evidence regarding an excess capacity market prior to 2006 and that Dr. Celebi was also unable to provide a quantification of what revenues may have been for such sales.⁸²⁵

344. On reply, Shell responds to the California Parties' assertion that the proxy plant is larger than necessary and provides capacity beyond what CDWR had the right to use. Shell contends the argument is improper because it ignores the reality that to meet peak demand, a generator must be constructed to provide capacity for peak periods, "even if some of that capacity might not be needed during lower-demand periods."⁸²⁶ Furthermore, Shell asserts that Mr. Cavicchi did in fact take possible sales for excess capacity into consideration, contrary to the California Parties' accusation, but found that it would not have been profitable for the proxy plant to operate at a higher capacity value in order to allow excess sales.⁸²⁷

345. Last, Shell argues that it did not use the RA program to justify its assignment of costs for a 900 MW plant. Based on the cross examination of Ms. Gannon, Shell asserts there is no dispute that "the CPUC counted the amount of capacity that Shell Energy delivered every month," which is reflected in a CPUC report that Mr. Cavicchi included as an exhibit in his answering testimony.⁸²⁸ According to Shell, the California Parties' claim that Mr. Cavicchi overstated the CPUC's reliance on the Shell Contract's capacity for the RA program is unfounded.⁸²⁹

⁸²³ *Id.* at 62-63 (citing Ex. COR-1 at 22:15-23:3, 24:4-7 (Brown Direct); Tr.300:19-301:24, 304:9-306:23 (Celebi)).

⁸²⁴ *Id.* at 64.

⁸²⁵ *Id.*

⁸²⁶ Shell Reply Br. at 33 (citing Shell Initial Br. at 63 n.252 (citing Tr. 1208:13-1210:5 (Cavicchi))).

⁸²⁷ *Id.* at 34.

⁸²⁸ *Id.* at 35 (citing Ex. SHE-0001 REV2 at 16:18-20 (Cavicchi Ans.); Ex. SHE-0013E (PG&E 2006 long-term procurement plan)).

⁸²⁹ *Id.*

Discussion

346. It is undisputed that CDWR did not receive deliveries of 900 MW from Shell during all months of the Shell Contract.⁸³⁰ In fact, the California Parties have provided evidence that supports the claim that Mr. Cavicchi assigned fixed costs to his LRMC analysis that exceeded Shell's delivery obligations in 87 of the 134 months of the Shell Contract.⁸³¹ However, the undersigned also finds that it is reasonable that the proxy plant must be "built" to be able to provide the largest megawatt delivery required by the Shell Contract.

347. Adequate plant capacity is essential during peak demand periods, thus, to provide sufficient power during these peak periods, power plants will logically provide more power than necessary during non-peak periods or "shoulder months."⁸³² As such, the capacity required to meet peak demand periods must be appropriately compensated so the plant may remain operational during months even when it is not called upon to meet peak demand periods.⁸³³ Therefore, it is reasonable to "build" a proxy plant that could provide the maximum delivery obligations required for peak periods as specified in the Shell Contract, and apply the fixed costs for that 900 MW proxy plant to the LRMC model.

348. The California Parties' argument that sales of excess capacity should be accounted for when assessing the plant capacity input for an LRMC analysis has merit. It would go against the Commission's directive to ensure just and reasonable rates if Shell was able to charge CDWR for 900 MW of capacity, which CDWR does not have the right to call upon, while at the same time, selling that excess capacity to the market. In such a case, Shell would receive an unjust windfall.

349. The California Parties have provided relevant evidence that CDWR did not call upon Shell to deliver 900 MW of power throughout all months of the Shell Contract.⁸³⁴ Dr. Celebi's LRMC analysis provides fixed costs for each month of the Shell Contract period consistent with a proxy plant that would provide that month's specific delivery

⁸³⁰ See generally Cal. Parties Initial Br. at 46-47; Shell Initial Br. at 62-63.

⁸³¹ Cal. Parties Initial Br. at 47; Tr. 423:24-424:3 (Celebi); see Ex. CAL-01006 (Cavicchi Contract Volumes.xlsx).

⁸³² See Ex. SHE-0001 REV2 at 56:11-14 (Cavicchi Ans.).

⁸³³ See *Id.* at 56:14-17.

⁸³⁴ See Cal. Parties Initial Br. at 45-46; Tr. 410:25-411:15, 418:8-419:13 (Celebi).

volumes.⁸³⁵ This analysis also supports the California Parties' assertion that Mr. Cavicchi assigned fixed costs to his LRMC analysis that exceeded Shell's actual delivery obligations to CDWR in 87 of the 134 months of the Shell Contract.⁸³⁶

350. However, it stands to reason that a buyer who contracts with a seller for specific delivery obligations must compensate the seller for the maximum capacity that may be demanded by the buyer during peak delivery periods. This principle is called into question when a seller has the opportunity to sell this excess capacity to the market when the buyer does not fully utilize the maximum delivery obligation enumerated in a bilateral contract.

351. Why then did Shell not provide for offsets for the sale of excess capacity not required under the Shell Contract in its LRMC model? Mr. Cavicchi testified that he did not make any excess energy sale adjustments to his LRMC analysis because the analysis is "illustrative" and at the time the Shell Contract was executed, producing excess energy would have been more costly than what the excess energy could be sold for.⁸³⁷ Mr. Cavicchi also found there was no attributable value to accounting for excess capacity sales in his LRMC analysis because there was no market for it.⁸³⁸ Furthermore, claims that Shell engaged in the sale of excess energy lean on a single sale from the La Rosita Plant in October 2003.⁸³⁹ One example of the sale of excess energy over the course of a 134 month contract is not sufficient to prove that there was a market for Shell to sell excess capacity.

352. The California Parties also point to a capacity contract that Iberdrola executed in the summer of 2001 for 300 MW of deliverable power to CDWR during all months of the year.⁸⁴⁰ At hearing, Mr. Cavicchi testified that the Iberdrola capacity contract was not

⁸³⁵ Cal. Parties Initial Br. at 46; Tr. 410:25-411:15, 418:8-419:13 (Celebi). *See* Ex. CAL-00990-REV at 34, fig. 3 (Celebi Reb.).

⁸³⁶ Cal. Parties Initial Br. at 47; Tr. 423:24-424:3 (Celebi); Ex. CAL-01006 (Cavicchi Contract Volumes.xlsx).

⁸³⁷ Tr. 1217:9-1218:6 (Cavicchi). Mr. Cavicchi did, however, account for excess energy sales in his cost-of-service analysis which lowered the cost-of-service benchmark. Shell Initial Br. at 63-64 n.257; Ex. SHE-0001 REV2 at 75:11-76:4 (Cavicchi Ans.).

⁸³⁸ Tr. 1218:7-1218:23 (Cavicchi).

⁸³⁹ Cal. Parties Initial Br. at 48; Ex. CAL-01069-REV at 29.

⁸⁴⁰ Cal. Parties Initial Br. at 48-49; Tr. 1216:2-23 (Cavicchi).

utilized during shoulder months and again reiterated that a buyer who is receiving capacity during on-peak demand periods must also compensate a power plant even when there is a diminished delivery obligation during off-peak periods.⁸⁴¹ The fact that CDWR did not call on the full delivery obligation of the Iberdrola excess capacity contract during off-peak months supports Shell's argument that there was no excess capacity market during the months CDWR did not utilize the maximum delivery obligation provided for in the Shell Contract.

353. Although CDWR did not call on Shell to deliver 900 MW of power for all months of the Shell Contract period, there is no clear evidence in the record for how to establish a market price for the excess plant capacity and appropriately adjust the LRMC model to account for such estimated sales. The California Parties' approach to grow and shrink the CCGT plant in their LRMC analysis to meet the exact delivery obligations of the Shell Contract is unrealistic as to how a power plant would operate. Therefore, attaching the exact megawatt delivery in each month of the Shell Contract to the hypothetical power plant, as proposed in California Parties' LRMC model is unreasonable. The undersigned recognizes that in its cost-of-service analysis, Shell did account for and estimate excess *electricity* sold into the CAISO market,⁸⁴² but accounting for and estimating excess *capacity* sales in the LRMC model is a different exercise that was not undertaken by the witnesses. Additionally, the California Parties did not provide sufficient evidence to show that Shell engaged in, or benefited from, the sale of excess capacity from Shell's then existing plants during the periods in which CDWR did not utilize the maximum delivery obligation provided for under the Shell Contract.

354. Both the California Parties and Shell provide arguments claiming the CPUC's RA program supports their respective proposed plant capacity for their proxy CCGT plants. The undersigned does not find either parties' argument relevant to determining an appropriate plant capacity for a proxy CCGT plant to be used in an LRMC analysis. How the CPUC assessed or used information regarding the megawatt values of the Shell Contract's monthly delivery obligations may be pertinent in determining the actual megawatt delivery provided to CDWR by Shell each month.⁸⁴³ But, as discussed above,

⁸⁴¹ Tr. 1216:14-1217:8 (Cavicchi).

⁸⁴² Ex. SHE-0137 REV (Hauert Ans.) at 9:1-17.

⁸⁴³ Therefore, the undersigned does not accept Shell's argument that failure to account for the Shell Contract RA Capacity goes against the requirements of *French Broad*. Shell Initial Br. at 59. *French Broad* requires the Commission to weigh the relevant benefits and burdens over the "life of the contract[.]" but because the undersigned finds that the CPUC's assessment of capacity value is irrelevant to determining the LRMC benchmark, Shell's argument is unpersuasive. See *French*

the pertinent inquiry is whether Shell should be compensated by CDWR for the value of the maximum delivery obligation required under the Shell Contract, even in months where Shell provided lower delivery volumes. Thus, the undersigned finds CPUC's RA Program is not relevant in determining the correct plant capacity input for the LRMC model.

355. The undersigned acknowledges that there is tension between the California Parties' argument that CDWR did not call upon Shell to deliver 900 MW of power throughout all months of the Shell Contract and being able to provide an accurate LRMC analysis that appropriately models the operating conditions of a merchant plant. An LRMC model is an estimate of the levelized all-in prices based on the expected cost of building and operating a new generation plant.⁸⁴⁴ It is unrealistic, for the purposes of an LRMC analysis, to grow and shrink the proxy CCGT plant to account for the exact delivery obligations of the Shell Contract as the California Parties propose in their LRMC model. Additionally, none of the witnesses provided an estimate of excess capacity sales that could be used as an adjustment in their LRMC models. Therefore, the undersigned finds that assigning a 900 MW plant capacity to the proxy CCGT plant is appropriate for the LRMC analysis in this instance, and results in a conservative estimate.

iv. Recommended LRMC Model Assumptions

356. After reviewing the evidence provided by both parties, the undersigned recommends that the following inputs are used in the LRMC model: cost of equity of 11.52%, cost of debt of 9.5%, plant operating life of 25 years, and assumed plant size of 895.2 MW (approximately 900 MW). Because the undersigned recommends Shell's input of a 900 MW plant capacity, Shell's LRMC model⁸⁴⁵ is utilized for the purposes of estimating an LRMC-based price benchmark. Additionally, other LRMC model inputs adjusted by Shell are also accepted, as credible arguments were not raised concerning the merits and accuracy of Mr. Cavicchi's other changes to Dr. Celebi's LRMC model. The undersigned accepts the additional adjustments as follows: capital cost of \$732/kW, property tax rate of 1.07%, fixed O&M of \$4.33/kW-year, variable O&M of \$4.78/MWh, inflation rate of 2.76%, and heat rate of 7,310 Btu/kWh. Given these recommended LRMC model inputs, the undersigned estimates the volume-weighted average rate to be

Broad, 92 FERC ¶ 61,283 at 6-7.

⁸⁴⁴ See Ex. CAL-00973-REV2 at 37:2-6 (Celebi Dir.); Ex. CAL-00988-REV at 33:15-18 (Fox-Penner Dir.).

⁸⁴⁵ Ex. SHE-0003_Adjusted_Celebi_LRMC Model REV PUB at Summary of Adjustments Tab.

\$73.91/MWh using Shell's LRMC model.⁸⁴⁶ Thus, the undersigned recommends that Benchmark 5 be modified from California Parties' estimate of \$65.11/MWh to \$73.91/MWh over the 2001-2012 Shell Contract term. A summary table of the major LRMC model inputs assumed by California Parties and Shell, and the undersigned's recommended inputs that support a modified Benchmark 5 LRMC-based price of \$73.91/MWh, is shown below. This modified Benchmark 5 will be used to inform the zone of reasonableness for the Shell Contact.

LRMC Model Major Assumptions				
LRMC Input		California Parties' Assumptions (Ex. No. CAL-00977)	Shell's Assumptions (Ex. No. SHE-0003)	Undersigned's Recommendation
1	Capital Cost	\$722/kW	\$732/kW	\$732/kW
2	Property Tax Rate	1.00%	1.07%	1.07%
3	Plant Operating Life	25 Years	20 Years	25 Years
4	Debt Rate	9.50%	10.53%	9.50%
5	Equity Rate	11.25%	15.78%	11.52%
6	Tax Rate	40.70%	40.75%	40.75%
7	Fixed O&M	\$15.01/kW-year	\$4.33/kW-year	\$4.33/kW-year
8	Variable O&M	\$2.00/MWh	\$4.78/MWh	\$4.78/MWh
9	Assumed Plant Size	500 MW	895.2 MW	895.2 MW
10	Inflation Rate	Combination of CPI-U from FRED and expected inflation from CBO. 2.5% for all years after 2003.	Expected annual inflation of 2.76%	Expected annual inflation of 2.76%
11	Heat Rate	6,970 Btu/kWh	7,310 Btu/kWh	7,310 Btu/kWh

⁸⁴⁶ To get to the final \$73.91/MWh calculation consistent with the undersigned's conclusions, it is necessary to place several different inputs into Dr. Schatzki's LRMC model. That model is located at Ex. SHE-0003_Adjusted_Celebi_LRMC_Model REV PUB at User Inputs Tab. Specifically in Column F, 25 years must be input for the Operating Life; 11.52% must be input for the Equity Rate; and 9.5% must be input for the Debt Rate. After those changes have been made, a new volume-weighted average rate of \$73.91 appears in the same exhibit under the tab labeled Calculated Adjusted Rate.

4. Benchmark 6: Hybrid Benchmark

357. The California Parties put forth a hybrid method for their sixth proposed benchmark. This hybrid approach uses the “corrected” May 2001 forward market power prices for the 2001 – 2005 delivery period (proposed Benchmark 4) and the LRMC prices for the 2006 – 2012 delivery years (proposed Benchmark 5).⁸⁴⁷

358. In this methodology, the California Parties consider three factors: (1) the expected time it would take for a new combined-cycle power plant to be built in California as of May 2001;⁸⁴⁸ (2) the expected time it would take for long-run equilibrium conditions to prevail as determined by the rate in which market participants would change their supply and demand decision in response to changes in the near-term market price outlook;⁸⁴⁹ and (3) the year in which the pricing of power in the Shell Contract switched from fixed prices to prices indexed to monthly spot gas prices.⁸⁵⁰

359. From the three factors, the California Parties conclude that the corrected May 2001 forward market power prices benchmark (Benchmark 4) is appropriate to use for the 2001 – 2005 delivery period and the LRMC-based price benchmark (Benchmark 5) is appropriate to use for the 2006 – 2012 delivery period.⁸⁵¹ Thus, the California Parties propose a corrected forward price of \$51.75/MWh for the 2001 – 2005 delivery period and a LRMC-based price of \$67.62/MWh for the 2006 – 2012 delivery period, with the full delivery period price being \$62.09/MWh.⁸⁵²

Participant Arguments

California Parties

360. The California Parties assert that Dr. Celebi’s sixth benchmark, which combines the corrected May 2001 forward prices for the period 2001-2005 (Benchmark 4) with the LRMC-based prices for the period 2006-2012 (Benchmark 5) is the just and reasonable

⁸⁴⁷ Ex. CAL-00973-REV2 at 44:1-45:7 (Celebi Dir.).

⁸⁴⁸ *Id.* at 45:11-17.

⁸⁴⁹ *Id.* at 45:18-46:8.

⁸⁵⁰ *Id.* at 46:9-17.

⁸⁵¹ *Id.* at 46:18-21.

⁸⁵² *Id.* at 47:1-17.

rate for the Shell Contract.⁸⁵³ The California Parties argue that the sixth benchmark, by implementing a two-phased approach, accounts for the actual structure of the Shell Contract which switched from fixed pricing to index-based pricing in 2006.⁸⁵⁴ The California Parties explain that this two-phased pricing approach “reflects the four-year lag time for a combined-cycle plant to become operational, the similar time frame within which it would take LRMC pricing to prevail in a workably competitive market [.]”⁸⁵⁵ According to the California Parties, the bifurcated approach of Benchmark 6 is further supported due to limitations of information available to the parties in negotiating the contract.”⁸⁵⁶ Specifically, forward prices were only available for delivery dates through the end of 2005.⁸⁵⁷ Beginning 2006 through the end of the Shell Contract, the LRMC was used because it was “the best long run estimate of competitive market prices [.]”⁸⁵⁸

361. Based upon Dr. Fox-Penner’s testimony, the California Parties conclude that Benchmark 6 is the best measure of a just and reasonable rate. Dr. Fox-Penner reached his conclusions because Benchmark 6 uses a market-based rate approach to prices which acknowledged that the parties negotiated the Shell Contract in a market-based environment.⁸⁵⁹ Dr. Fox-Penner further argued that proposed Benchmark 6 ensures that the just and reasonable rates are developed in an environment that was not corrupted by market dysfunction, manipulation or fraud.⁸⁶⁰ Finally, Dr. Fox-Penner asserts that Benchmark 6 uses “actual market condition data and actual market-based rates for equivalent products under fundamental market conditions that are similar to those that would have been present in May 2001 without the dysfunction, fraud, and manipulation,

⁸⁵³ Cal. Parties Initial Br. at 20-21.

⁸⁵⁴ *Id.* at 21.

⁸⁵⁵ *Id.*

⁸⁵⁶ *Id.* at 59 (citing Ex. CAL-00988-REV at 30:3-6 (Fox-Penner Dir.)).

⁸⁵⁷ *Id.* (citing Ex. CAL-00988-REV at 30:6-10 (Fox-Penner Dir.)).

⁸⁵⁸ *Id.* (citing Ex. CAL-0988-REV at 33:12-18 (Fox-Penner Dir.)).

⁸⁵⁹ *Id.* at 60 (citing Ex. CAL-098-REV at 39:18-40:12 (Fox-Penner Dir.)).

⁸⁶⁰ *Id.* (citing Ex. CAL-0988-REV at 39:18-40:12 (Fox-Penner Dir.)).

thereby respecting the core principle that market-based rates should reflect competitive market conditions rather than sellers' costs."⁸⁶¹

362. On reply, the California Parties emphasize that Benchmark 6 properly computes the rates that would have prevailed in an unmanipulated, competitive forward market.⁸⁶² The California Parties assert that lacking any other substantive basis upon which to object to proposed Benchmark 6, Shell primarily argues that the benchmark is "MMCP" or "MMCP- like."⁸⁶³ According to the California Parties, however, Mr. Read used the MMCP for exactly what it was: "a measure of the prices that would have been expected in working spot markets at California delivery points in May 2001."⁸⁶⁴ The California Parties claim that the rates in Benchmark 6 are not the MMPC, and the MMCP adjustments are phased out over 19 months.⁸⁶⁵

363. The California Parties further argue that with respect to the "life of the contract," Benchmark 6 does look at the entire contract term.⁸⁶⁶ Further, they assert that *French Broad* does not require parties to ignore the structure of the contract, which, in the case of the Shell Contract, is bifurcated into two sections.⁸⁶⁷ According to the California Parties, Benchmark 6 tracks that bifurcated structure exactly.⁸⁶⁸

Shell

364. Shell argues that the California's bifurcated approach for the determination of just and reasonable rates is improper because it fails to consider the Shell Contract on a "life

⁸⁶¹ *Id.* (citing Ex. CAL-0988-REV at 39:18-40:12 (Fox-Penner Dir.)).

⁸⁶² Cal. Parties Reply Br. at 21.

⁸⁶³ *Id.*

⁸⁶⁴ *Id.* (citing *San Diego Gas & Elec. Co.*, 127 FERC ¶ 61,250, at P 12 (2009); *Pub. Utils. Comm'n of State of Cal. v. FERC*, 462 F.3d at 1043).

⁸⁶⁵ *Id.* (citing Ex. CAL-00978-REV at 33:6-34:1 (Read Dir.)).

⁸⁶⁶ *Id.* at 22.

⁸⁶⁷ *Id.* at 22-23.

⁸⁶⁸ *Id.* at 23.

of the contract” basis.⁸⁶⁹ That is, “there is no evidence that CDWR could have obtained the deliveries for the years 2006-2012, if not for the deliveries in 2001-2005.”⁸⁷⁰

365. On reply, Shell reiterates that the California Parties’ benchmarks, including proposed Benchmark 6, are not permissible because they either rely on the MMCP or are calibrated to market conditions which did not exist at the time of the execution of the Shell Contract.⁸⁷¹

Trial Staff

366. Trial Staff asserts that the California Parties’ chosen benchmark, Benchmark 6, suffers from the same flaws as Trial Staff described in its arguments against Benchmarks 4 and 5.⁸⁷² Trial Staff states that the “California Parties use the sixth benchmark to calculate their proposed remedy by subtracting the rate in the benchmark from the actual amounts that CDWR paid under the Shell Contract and applying interest.”⁸⁷³ Trial Staff concludes that the sixth benchmark framework is improper because it is largely based on the disallowed MMCP-based corrected forward-market prices, demonstrating that the California Parties have not provided an appropriate framework to assess whether the Shell Contract rates are just and reasonable.⁸⁷⁴

367. On reply, Trial Staff argues that all seven of the California Parties’ benchmarks, including Benchmark 6 are flawed because forward market prices have been “corrected” using an MMCP-based methodology or reflect markets that are different from those that existed at the time of the execution of the Shell Contract.⁸⁷⁵

⁸⁶⁹ Shell Initial Br. at 43 (citing *French Broad*, 92 FERC ¶ 61,283 at 61,976).

⁸⁷⁰ *Id.*

⁸⁷¹ Shell Reply Br. at 2.

⁸⁷² Trial Staff Initial Br. at 41-42.

⁸⁷³ *Id.* at 42 (citing Ex. CAL-00973-REV2 at 62:3-13 (Celebi Dir.)).

⁸⁷⁴ *Id.* at 43.

⁸⁷⁵ Trial Staff Reply Br. at 18.

Discussion

368. The undersigned rejects the use of Benchmark 6 which is a hybrid of Benchmark 4 (2001-2005) and Benchmark 5 (2006-2012). As noted above, the undersigned has previously rejected Benchmark 4 as unreliable due to certain data reliability issues⁸⁷⁶ as well as the Commission's determination not to rely on forward curves to establish just and reasonable rates for long-term contracts.⁸⁷⁷ Although the undersigned has adopted a modified version of Benchmark 5, combining that method with the results of an unreliable Benchmark 4, cannot lead to just and reasonable rates. Accordingly, the undersigned will not use Benchmark 6 to inform a "zone of reasonableness" or as a measure of the just and reasonable rates for the Shell Contract in this proceeding.⁸⁷⁸

5. Benchmark 7: Adjusted FERC \$74/MWh Benchmark

369. Benchmark 7, the last benchmark the California Parties propose, is calculated by adjusting the \$74/MWh benchmark (FERC Benchmark) that the Commission set forth in *San Diego Gas & Electric Company v. Sellers of Ancillary Services* issued on December 15, 2000 (December 2000 Order).⁸⁷⁹ For this proposed benchmark, the California Parties determined that the \$74/MWh benchmark is not directly applicable to the Shell Contract because: (1) it was developed during the height of the crisis; (2) the benchmark was based on the average embedded generation cost of the California Investor-Owned Utilities (IOUs); (3) the benchmark included ancillary services which were not present in

⁸⁷⁶ See *supra* Section IV.B.2.b.

⁸⁷⁷ See *id.*

⁸⁷⁸ Given the undersigned has rejected use of Benchmark 6 on other grounds, arguments related to *French Broad* will not make a difference here. However, the undersigned finds Shell's conclusion that Benchmark 6's bifurcated approach goes against *French Broad* and the "life of the contract" approach is incorrect. *French Broad* simply held that the Commission must holistically consider the benefits and burdens contained in a contract over its full term. It does not dictate any specifics on how the Commission should weigh these factors or what methods are appropriate. Benchmark 6, though bifurcated, does consider the full term of the Shell Contract.

⁸⁷⁹ See Ex. CAL-00973-REV2 at 48:3-53:9 (Celebi Dir.); see also *San Diego Gas Elec. Co., v. Sellers of Energy and Ancillary Services*, 93 FERC ¶ 61,294 (2000) (December 2000 Order).

the Shell Contract; (4) the benchmark was associated with supplying hourly load; and (5) it was developed for five-year contracts.⁸⁸⁰

370. To make the FERC Benchmark better reflect the products in the Shell Contract, the California Parties put forth several adjustments to the FERC Benchmark.⁸⁸¹ These adjustments are as follows: (1) removing the 10% increase reflecting post-restructuring rate reduction; (2) removing the embedded cost of ancillary services; (3) adjusting for the price difference between hourly load product in the \$74/MWh benchmark and the specific products in the Shell Contract; and (4) adjusting for the difference in the 5-year term applicable to the \$74/MWh benchmark and the 11-year Shell Contract term.⁸⁸² The California Parties decreased the FERC Benchmark based on the first two adjustments, and these “corrections” result in an adjusted benchmark price of \$62.86/MWh, which they contend is a conservative overestimate in light of the latter two adjustments for which they did not specifically reduce the FERC Benchmark price.⁸⁸³ The adjusted FERC Benchmark constitutes the California Parties’ proposed Benchmark 7, which they contend applies only to the first five years of the Shell Contract.⁸⁸⁴ Shell and Trial Staff disagree.

Participant Arguments

California Parties

371. The California Parties explain that, for the proposed seventh benchmark, Dr. Celebi adjusted the FERC Benchmark down to a rate of \$62.86/MWh to account for errors in the Commission’s original calculation of the benchmark, the cost of ancillary services, and the specific mix of products in the Shell Contract.⁸⁸⁵ The California Parties argue this provides a reasonable baseline for comparison to the rates in the Shell

⁸⁸⁰ Ex. CAL-00973-REV2 at 49:5-50:17 (Celebi Dir.).

⁸⁸¹ *Id.* at 50:20-52:18.

⁸⁸² *Id.*

⁸⁸³ *Id.* at 51:1-52:18.

⁸⁸⁴ *Id.* at 52:13-18.

⁸⁸⁵ See Cal. Parties Initial Br. at 21; *see also* Ex. CAL-00973-REV2 at 51:1-52:18 (Celebi Dir.).

Contract's initial years.⁸⁸⁶ The California Parties contend that the price of the Shell Contract in the first five years of its term was significantly higher than the FERC Benchmark, with an average rate of \$116.27/MWh.⁸⁸⁷

372. The California Parties dispute Shell's argument that it is improper to compare their proposed Benchmark 7 to only the first portion of the contract term and argue that, even if Dr. Celebi had compared the adjusted benchmark to the full contract term, the Shell Contract rates would still exceed the proposed benchmark.⁸⁸⁸ The California Parties also assert that Dr. Celebi's adjustments to the FERC Benchmark are reasonable because, as the highest price point in the zone of reasonableness, the adjusted benchmark adds to the "conservatism" of the analysis.⁸⁸⁹ Finally, the California Parties contend that the FERC Benchmark refers to contracts for "around-the-clock" power, a service which they claim is more valuable than the services in the Shell Contract.⁸⁹⁰ Therefore, the California Parties conclude that Dr. Celebi's downward adjustments to the costs in the Shell Contract are reasonable.

Shell

373. Shell agrees that it is appropriate to include the FERC Benchmark in the zone of reasonableness because CDWR had access to this information in May 2001 when the Shell Contract negotiations occurred.⁸⁹¹

374. Shell maintains, however, that the Commission should adjust the FERC Benchmark upward to account for the value of services in the Shell Contract.⁸⁹² According to Shell, the California Parties' downward adjustments are improper.⁸⁹³ Shell contends that the Commission should adjust the benchmark upward because the Shell

⁸⁸⁶ Cal. Parties Initial Br. at 21.

⁸⁸⁷ *Id.*

⁸⁸⁸ *See id.* at 29.

⁸⁸⁹ *Id.* (citing CAL-00990-REV at 80:7-12 (Celebi Reb.).

⁸⁹⁰ *See* CAL-00973-REV2 at 51:18-52:12 (Celebi Dir.)

⁸⁹¹ Shell Initial Br. at 59 (citing Tr. 318:3-319:7 (Celebi)).

⁸⁹² *Id.* at 59-60.

⁸⁹³ *See id.*

Contract provided “primarily on-peak (6x16) power, which is generally more expensive than the ‘around-the-clock,’ *i.e.* 7x24, product described in the December 2000 Order.”⁸⁹⁴ Shell maintains that “around the clock power” is the same as 7x24 power and that Dr. Celebi misinterprets the term.⁸⁹⁵

Trial Staff

375. Trial Staff asserts that it is not appropriate to include the FERC Benchmark in the zone of reasonableness. Trial Staff argues, quoting Dr. Celebi’s own testimony, that the FERC Benchmark is “unrelated to the market prices that would have been available to CDWR in May 2001 in the absence of market manipulation” because the Commission created the benchmark using information from California IOUs gathered before the energy crisis.⁸⁹⁶ Trial Staff maintains that Dr. Celebi’s adjustments “arbitrarily distort” the FERC Benchmark but also contends that this fundamental issue compromises the benchmark regardless of upward or downward adjustments.⁸⁹⁷

376. Trial Staff asserts that even if Dr. Celebi’s adjustments to the FERC Benchmark were valid, the outcome would be inconclusive because the benchmark is not a ceiling on just and reasonable rates for long-term contracts.⁸⁹⁸

Discussion

377. The undersigned will rely on the \$74/MWh FERC Benchmark for advisory purposes only rather than to inform the zone of reasonableness. The undersigned also rejects any proposed adjustments to the FERC Benchmark as flawed or unsupported.

⁸⁹⁴ *Id.* at 59-60 (citing Ex. SHE-0001 REV2 at 47:19-48:13 (Cavicchi Ans.); Ex. CAL-112 PUB at 29:24-30:1 (Pechman & Ringo Reb.); Ex. COR-1 at 49:16-50:11 (Brown Dir.).

⁸⁹⁵ *Id.* at 60.

⁸⁹⁶ Trial Staff Initial Br. at 40 (quoting Ex. CAL-00973-REV2 at 49:11-15 (Celebi Dir.) (emphasis omitted)).

⁸⁹⁷ *Id.* at 41.

⁸⁹⁸ *Id.*

a. The Unadjusted FERC Benchmark

378. As explained in detail above, the zone of reasonableness for the Shell Contract's rates spans between \$70.07/MWh (using modified Benchmark 1) to \$73.91/MWh (using modified Benchmark 5). The unadjusted FERC Benchmark is \$74/MWh, which is just beyond the top end of the zone of reasonable rates. The Commission created the FERC Benchmark as a "reference point in addressing any complaints regarding the pricing of long-term contracts negotiated [from December 2000 to December 2001]." ⁸⁹⁹ Specifically, the Commission explained that "[w]hile we have not mandated a price for long-term sales, we are establishing, effective for one year an advisory benchmark for a five-year product which buyers and sellers can consider as instructive for evaluating the reasonableness of long-term prices and which we will consider in addressing any complaints about prices in the long-term markets." ⁹⁰⁰ The Shell Contract is a long-term contract executed in May 2001, so it falls squarely within the category of contracts that the Commission intended the FERC Benchmark to address. As it is the only benchmark for long-term sales the Commission has endorsed, the undersigned will consider it as a potential benchmark in this proceeding.

379. The undersigned acknowledges that there are, however, significant difficulties with using the FERC Benchmark to inform the zone of reasonableness for the Shell Contract. Although the Shell Contract generally aligns with the type of contract contemplated by the FERC Benchmark, some significant differences exist. The Commission calculated the FERC Benchmark to measure the reasonableness of "five-year contracts for supply [of] around-the-clock" power. ⁹⁰¹ The Shell Contract, on the other hand, is an eleven-year contract for supply of a mix of 6x16 (on peak) and 7x24 (around the clock) power. ⁹⁰² Shell and the California Parties propose conflicting adjustments to the FERC Benchmark to correct for these differences. Because of these differences between the FERC Benchmark and the Shell Contract, and the difficulty in precisely accounting for them, the undersigned will utilize the FERC Benchmark as a check that the range itself is reasonable, but its use here will be for "advisory" purposes, as the Commission intended, rather than to inform or extend the zone of

⁸⁹⁹ December 2000 Order, 93 FERC ¶ 61,294 at 61,994.

⁹⁰⁰ *Id.* at 62,000.

⁹⁰¹ *Id.* at 61,994-61,995.

⁹⁰² Ex. CAL-031 PUB.

reasonableness.⁹⁰³ As such, the FERC Benchmark will not carry significant weight in this proceeding.

b. Proposed Adjustments to the FERC Benchmark

380. To transform the FERC Benchmark into Benchmark 7, the California Parties proposed several adjustments to the FERC Benchmark. The December 2000 Order suggests that the FERC benchmark may be adjusted to reflect the realities of a contracting relationship.⁹⁰⁴ The California Parties' proposed adjustments, however, are flawed.

381. Dr. Celebi proposes two downward adjustments to the FERC Benchmark: (1) removal of a 10% adder that he claims the Commission improperly included when originally calculating the benchmark and (2) removal of the embedded cost of ancillary services. Also, Dr. Celebi notes that the resulting adjusted benchmark is a conservative overestimate because it does not account for the difference in price between the "around the clock" product the FERC Benchmark covers and the product mix in the Shell Contract.⁹⁰⁵

382. Addressing the first adjustment, the undersigned finds the proposal to remove the 10% adder is flawed. Regardless of whether Dr. Celebi is correct that the Commission erred in its calculations, the validity of the December 2000 Order is not within the scope of this proceeding, and the Commission has not adopted Dr. Celebi's alternate version of the benchmark. The California Parties should not have proposed using the FERC Benchmark if they believed that the Commission calculated it incorrectly. This is not a forum for collaterally attacking a FERC Order; therefore, Dr. Celebi's proposal to remove the 10% adder is improper.

383. Addressing the second adjustment, the undersigned finds that Dr. Celebi does not support his proposed 6.8% downward adjustment that is supposed to account for the value of ancillary services. Dr. Celebi contends that the FERC Benchmark artificially inflates the cost of generation as compared to the Shell Contract because the FERC benchmark includes the cost of ancillary services, that are not included in the Shell

⁹⁰³ December 2000 Order, 93 FERC ¶ 61,294 at 61,995.

⁹⁰⁴ See *id.* at ¶ 61,995; see also *Nev. Power Co. v. Enron Power Mktg., Inc.*, 105 FERC ¶ 61,185, at P 49 (2003) (stating "buyers may elect to negotiate above [the FERC Benchmark] to the extent they believe the particular contract or supplier brings value which suits their needs.").

⁹⁰⁵ See Ex. CAL-00973-REV2 at 51:18-52:12 (Celebi Dir.).

Contract.⁹⁰⁶ But the December 2000 Order does not specify that the FERC Benchmark includes the cost of ancillary services and Dr. Celebi did not properly substantiate this claim.⁹⁰⁷ As the December 2000 Order does not affirmatively support the proposed adjustment and the California Parties have not met their burden of proof, it is not appropriate to apply the 6.8% downward adjustment.

384. Moreover, the undersigned finds unsupported Dr. Celebi's assertion that his adjusted FERC Benchmark is a "conservative overestimate."⁹⁰⁸ Dr. Celebi argues that the adjusted benchmark does not properly account for the mix of products in the Shell Contract because it covers products that are more valuable than those covered within the Shell Contract.⁹⁰⁹ This opinion appears to be based on a misunderstanding of the term "around-the-clock" power which Dr. Celebi argues is more valuable than the Shell Contract's mix of 6x16 and 7x24 block energy.⁹¹⁰

385. The FERC Benchmark refers to contracts for "around-the-clock" power. Shell claims this term refers to 7x24 power, a service that both Dr. Celebi and Mr. Cavicchi agree is less valuable than the mix of peak (6x16) and non-peak power (7x24) the Shell Contract contains.⁹¹¹ Dr. Celebi, on the other hand, distinguishes 7x24 power from "around-the-clock" power. He argues that "around-the-clock" power refers to a "load-

⁹⁰⁶ *Id.* at 51:11-17.

⁹⁰⁷ To substantiate his claim that the FERC Benchmark includes the cost of ancillary services, Dr. Celebi relies on Drs. Pechman and Ringo's testimony from another phase of this proceeding. Ex. CAL-00973-REV2 at 51:11-17 (Celebi Dir.). But Drs. Pechman and Ringo do not adequately substantiate their claim that that pre-restructuring generation costs included ancillary services. Ex. CAL-112 PUB at 11:24-12:3 (Pechman and Ringo Reb.). Specifically, Drs. Pechman and Ringo testified that CDWR's energy budget separately accounts for the cost of ancillary services, which arguably suggests that the Shell Contract may not include ancillary services. *Id.* at 12:4-12. Moreover, Drs. Pechman and Ringo's rebuttal testimony is of lesser weight here because these witnesses did not testify in this proceeding and were not subject to cross examination.

⁹⁰⁸ Ex. CAL-00973-REV2 at 51:18-52:12 (Celebi Dir.).

⁹⁰⁹ *Id.*

⁹¹⁰ *Id.*

⁹¹¹ Ex. CAL-031 PUB; Ex. CAL-00973-REV2 at 52:4-12 (Celebi Dir.); Ex. CAL-00990-REV at 82:1-12 (Celebi Reb.); Ex. SHE-0001-REV2 at 45:19-47:9 (Cavicchi Ans.).

weighted average cost of generation,” that he contends is more valuable than the products in the Shell Contract.⁹¹² The undersigned disagrees. Dr. Celebi infers the meaning of “around-the-clock” from how the Commission calculated the FERC Benchmark, but the December 2000 Order does not explicitly confirm Dr. Celebi’s interpretation.⁹¹³ Furthermore, FERC precedent confirms that the Commission uses the terms “around-the-clock” and 7x24 interchangeably, and even has described the FERC Benchmark as a measurement of 7x24 energy.⁹¹⁴ Therefore, it is more likely that the Commission intended the FERC Benchmark to serve as a gauge for contracts covering the sale of 7x24 power, which the experts testified is less valuable than the mix of services in the Shell Contract.⁹¹⁵

386. In sum, the California Parties have not demonstrated any adjustments to the FERC Benchmark are proper. The undersigned, therefore, will rely on the unadjusted \$74/MWh FERC Benchmark for advisory purposes.

c. The FERC Benchmark Will Be Compared to the Shell Contract in Its Entirety.

387. The participants also dispute the period against which the FERC Benchmark should be applied. For the reasons that follow, the undersigned will compare that unadjusted FERC Benchmark to the Shell Contract over the full contract term.

⁹¹² Ex. CAL-00973-REV2 at 52:1-12 (Celebi Dir.).

⁹¹³ Ex. CAL-00990-REV at 81:12-82:12 (Celebi Ans.); *see generally* December 2000 Order, 93 FERC ¶ 61,294.

⁹¹⁴ Opinion No. 587, 185 FERC ¶ 61,197 at P 42 (In summarizing Iberdrola’s position, the Commission describes the FERC Benchmark as “a price that reflected energy prices for 7x24 products prior to the Western Energy Crisis”); *Pub. Utils. Comm’n of Cal. v. Sellers of Long-Term Contracts*, 103 FERC ¶ 61,354 at P 57 (“[CDWR] began by negotiating commitments to buy around-the-clock power (7x24) and then began to shift its focus toward meeting on-peak requirements”); *Exelon Corp. Constellation Energy Group, Inc.*, 138 FERC ¶ 61,167, P 52 (2012) (“Applicants commit to enter into fixed price power sales contracts to sell 500 MW per hour of around-the-clock baseload energy (24 hours per day/7 days a week).”)

⁹¹⁵ *See* December 2000 Order, 93 FERC ¶ 61,294 at 33-34; *see also* Ex. CAL-00990 at 82:1-5 (Celebi Dir.); Ex. SHE-0001-REV2 at 46:8-11 (Cavicchi Ans.).

388. The California Parties only compare the FERC Benchmark against the first five years of the Shell Contract.⁹¹⁶ The California Parties claim that the FERC Benchmark demonstrates the Shell Contract rates are not just and reasonable because the “average Shell Contract price for the first five years of its term . . . exceeds both the adjusted and unadjusted FERC benchmark prices.”⁹¹⁷ The undersigned disagrees that it is proper to apply the FERC Benchmark by comparing it only to the first five years of the Shell Contract.

389. As Mr. Cavicchi points out, Dr. Celebi’s attempt to isolate the first five years of the Shell Contract is misleading. The contract “combined early period higher revenues with later period lower revenues.”⁹¹⁸ Thus, looking at the entire contract period results in a lower average price over the full term than looking solely at the first five years suggests.⁹¹⁹ Furthermore, the Commission has explicitly rejected Dr. Celebi’s approach. In *CPUC v. Sellers of Energy*, the complainants compared the first five years of contract prices to the FERC Benchmark and compared the second five years of contract prices to forward curve prices.⁹²⁰ The Commission held that it “never intended such a hybrid approach to be used for benchmark comparisons” and that such an approach is “unsupported and unacceptable.”⁹²¹

390. Dr. Celebi provided two defenses against these critiques. First, he acknowledged that the adjusted FERC Benchmark is not “directly comparable” to the Shell Contract prices but argued that the adjusted benchmark is still reasonable because it is the highest of all his benchmarks; therefore, including the adjusted FERC Benchmark in the range only increases the “conservatism in [his] analysis.”⁹²² But adding conservatism to the

⁹¹⁶ See Ex. CAL-00973-REV2 at 52:13-18 (Celebi Dir.).

⁹¹⁷ Cal. Parties Initial Br. at 21.

⁹¹⁸ See Ex. SHE-0001-REV2 at 45:10-16 (Cavicchi Ans.); Ex. CAL-031.

⁹¹⁹ See *id.*

⁹²⁰ *Pub. Util. Comm’n of the State of Cal. v. Sellers of Long-Term Contracts to the Cal. Dept. of Water Res. Cal. Elec. Oversight Bd.*, 105 FERC ¶ 61,182, P 46 (2003) (*CPUC v. Sellers of Energy*).

⁹²¹ *Id.*

⁹²² Ex. CAL-00990 REV at 80:7-12 (Celebi Reb.).

range of just and reasonable rates is not a proper justification for using an otherwise flawed benchmark.

391. Dr. Celebi also argued that even if he had compared the FERC Benchmark to the full contract term, by “using the adjusted FERC benchmark through 2005 and the expected competitive market prices in the long-run for the later period deliveries,” the resulting average would still be lower than the Shell Contract price.⁹²³ Dr. Celebi’s proposed method of averaging the adjusted FERC Benchmark for the first half of the term with “expected competitive market prices” for the second half of the term runs afoul of *CPUC v. Sellers of Energy*, in which the Commission condemned this type of hybrid approach.⁹²⁴ The undersigned therefore concludes that the California Parties’ approach of comparing FERC Benchmark to only the first five years of the Shell Contract is unsupportable. Consequently, the undersigned will apply the \$74/MWh FERC Benchmark to the entirety of the Shell Contract’s term without any of the California Parties’ proposed adjustments.

E. ISSUE 2C: WHETHER THE CALIFORNIA PARTIES ARE REQUIRED TO USE COST OF SERVICE PRINCIPLES TO DEMONSTRATE THAT THE SHELL CONTRACT RATE IS UNJUST AND UNREASONABLE

392. The issue here is whether the California Parties are required to use cost-of-service principles to show that the Shell Contract’s rates are unjust and unreasonable. The undersigned concludes that the California Parties are not.

Participant Arguments

California Parties

393. The California Parties argue Shell is wrong to claim the comparator rates for the Shell Contract must be cost-based.⁹²⁵ The California Parties explain that “[c]ost-based rates are for sellers that have no MBR authority, or whose MBR authority is rejected or withdrawn,” but Shell maintained its MBR authority in 2001 at the time of the contract negotiation.⁹²⁶ The California Parties assert that Commission precedent has been to adopt

⁹²³ *Id.* at 80:12-19 (Celebi Reb.).

⁹²⁴ *CPUC v. Sellers of Energy*, 105 FERC ¶ 61,182, at P 46.

⁹²⁵ Cal. Parties Initial Br. at 32.

⁹²⁶ *Id.* at 32-33 (citing Ex. CAL-01027-REV at 42:13-16, 44:7-16 (Fox-Penner

price corrections at a level which the markets would have produced if the markets had not been manipulated.⁹²⁷ Therefore, the California Parties argue, “Shell’s cost-based approach is an incorrect remedy applicable to different circumstances that are not present here.”⁹²⁸

394. The California Parties also argue that Shell’s hypothetical proxy plant used to develop its cost-based rate analysis is contrary to Commission precedent and that the cost inputs used for the proxy plant are inflated and directly inconsistent with cost inputs previously used by Shell’s experts in prior phases of this proceeding.⁹²⁹

395. The California Parties assert that if a cost-based rate is to be used, there is no foundation to use the cost of a proxy generator to estimate the cost to serve the Shell Contract.⁹³⁰ The California Parties claim that Shell’s proxy generator uses exaggerated assumptions that do not actually reflect Shell’s real or expected costs to serve the Shell Contract.⁹³¹ The California Parties conclude that if a cost-based rate is to be used, the appropriate rate would be the cost-of-service rate in the Western Systems Power Pool (WSPP) Agreement Rate Schedule C that Shell had on file with the Commission in 2001 for a rate of \$58.92/MWh.⁹³²

396. On reply, the California Parties emphasize their argument that the Shell Contract should be analyzed based on Shell’s market-based rates, and that if a cost-based rate is required, the Commission should rely on the WSPP rate.⁹³³ California Parties assert that

Reb.)).

⁹²⁷ *Id.* at 33.

⁹²⁸ *Id.*

⁹²⁹ *Id.* at 32.

⁹³⁰ *Id.* at 33.

⁹³¹ *Id.*

⁹³² *Id.*

⁹³³ Cal. Parties Reply Br. at 30-31.

the cases Shell relies on are inapposite to this proceeding because they prospectively apply cost-based rates when a seller has lost its MBR authority.⁹³⁴

Shell

397. Shell argues that if market-based rates do not apply, then a cost-of-service or LRMC benchmark is the only proper method to determine whether the Shell Contract rate is just and reasonable.⁹³⁵ Shell asserts that “[a] proper cost-of-service or LRMC benchmark must support the full costs of a plant that could deliver the products in the Shell Contract – up to 925 MW during peak periods.”⁹³⁶ Shell explains that Mr. Cavicchi’s cost-of-service based analysis provides a rate based on the costs of building a 900 MW plant, which is the capacity needed to support the deliveries under the Shell Contract.⁹³⁷

398. Shell argues that the California Parties’ criticism of its cost-based rate approach is misplaced. According to Shell, recovery of the full costs of a 925 MW plant is supported because CDWR itself requested that Shell reduce deliveries in shoulder months during which demand is typically lower in California.⁹³⁸ Shell asserts that, as Mr. Cavicchi explained, it is appropriate to recover the full amount of the costs of the plant throughout the year because the power plant does not become smaller when the demand is lower.⁹³⁹ Shell argues that the California Parties’ LRMC benchmark fails to capture “the world in which Shell operated when determining how much it would cost to deliver the power it was agreeing to deliver to CDWR under the contracts.”⁹⁴⁰

399. Shell also asserts that Dr. Celebi’s reliance on Trial Staff’s and Shell’s prior 2015 -LRMC analyses, which did not account for the full costs of building a proxy plant, is misguided. Shell argues that in 2015, the LRMC was used to “determine what a buyer could have expected to pay at the time for long term power in the absence of the Shell

⁹³⁴ *Id.* at 31 (citing Cal Parties Initial Br. at 34-38).

⁹³⁵ Shell Initial Br. at 62.

⁹³⁶ *Id.*

⁹³⁷ *Id.* (citing Ex. SHE-0001 REV2 at 25 n.40, 76:9-77:2 (Cavicchi Ans.)).

⁹³⁸ Shell Initial Br. at 62-63.

⁹³⁹ *Id.* at 63 (citing Tr. 1208:13-1210:5 (Cavicchi)).

⁹⁴⁰ *Id.* (citing Ex. SHE-0052 REV at 11:16-20 (Puller Ans.)).

Contract – which is a different inquiry than whether the Shell Contract is just and reasonable.”⁹⁴¹ Shell further argues that Mr. Cavicchi did not assume that excess capacity sales could be made in months where Shell’s delivery obligations were lower because there was no market for those types of sales, therefore, there is no evidence in the record to establish the amount of any supposed offsets, contrary to Dr. Celebi’s criticism of Dr. Cavicchi’s analysis.⁹⁴²

Trial Staff

400. Trial Staff states that “Opinion No. 587 did not advocate for any certain approach for determining whether the Shell Contract rates are unjust and unreasonable,” but the California Parties have not shown their seven benchmarks, which are generally not based on cost-of-service principles, are a reliable approach for assessing the Shell Contract.⁹⁴³ Trial Staff therefore concludes that the California Parties have not provided “a workable approach for using non-cost-of-service principles for assessing the Shell Contract.”⁹⁴⁴

Discussion

1. A Cost-Based Approach Does Not Generate an Appropriate Benchmark

401. After consideration of the record, the undersigned concludes that a cost-of-service benchmark is not an appropriate measure of the Shell Contract.

402. As a threshold matter, the California Parties are not *required* to use any specific methodology, including cost-of-service rate making principles, to provide a just and reasonable rate for the Shell Contract. In a FPA Section 206 review proceeding, the Commission is not bound to any one ratemaking formula but must approve a method that appropriately balances investor and consumer interests.⁹⁴⁵ The burden of proof lies with the California Parties to persuade the undersigned and the Commission that the Shell

⁹⁴¹ *Id.* (citing 2016 Initial Decision, 155 FERC ¶ 63,004 at PP 292, 311-12; Opinion No. 587, 185 FERC ¶ 61,197 at P 442 (internal quotations omitted)).

⁹⁴² *Id.* at 63-64.

⁹⁴³ Trial Staff Initial Br. at 45 (citing Opinion No. 587, 185 FERC ¶ 61,197 at P 442) (internal quotations omitted).

⁹⁴⁴ *Id.* at 45-46.

⁹⁴⁵ *Morgan Stanley*, 554 U.S. at 532.

Contract rates are unjust and unreasonable and that the California Parties' methodologies provide an alternative just and reasonable rate by a preponderance of the evidence.⁹⁴⁶ Moreover, in Opinion No. 587, the Commission expressly stated that it did "not advocate for any specific approach for determining whether the Shell Contract rates are unjust and unreasonable," and only clarified "that the Commission has consistently rejected the notion of using the MMCP as a proxy for just and reasonable rates in the context of bilateral contracts."⁹⁴⁷

403. The Commission has "traditionally reviewed and set tariff rates under the "cost-of-service" method, which *ensures* that a seller of electricity recovers its costs plus a rate of return sufficient to attract necessary capital."⁹⁴⁸ Whereas "[m]arket-based rate regulation is based on the premise that, in a competitive market, where neither buyer nor seller has significant market power, the terms of their voluntary exchange are reasonable, and the price they negotiate will be close to marginal cost, such that the seller makes only a normal return on its investment."⁹⁴⁹ This is a fundamental difference. Market-based rates are dependent on how the market is functioning; it follows that there is also no guarantee that a contract entered into pursuant to market-based rate authority will result in a return.

404. A competitive market is fundamentally different than cost of service ratemaking. Using a cost-of-service benchmark to gauge a market-based rate contract, such as the Shell contract, is problematic and unsuitable. As all parties have noted, there is no dispute that the Shell Contract was entered into pursuant to Shell's market-based rate authority, which was intact throughout the term of the Shell Contract and has never been revoked by the Commission.⁹⁵⁰ The undersigned finds that the California Parties are not required to use cost-of-service principles to demonstrate that the Shell Contract rate is unjust and unreasonable, and it would in fact be inappropriate to use such analysis. Because the California Parties carry the burden to provide an appropriate framework to determine a just and reasonable rate for the Shell Contract, the Shell Contract rate is a market-based rate (not a cost-based rate), and Shell has maintained its MBR authority at

⁹⁴⁶ Opinion No. 536, 149 FERC ¶ 61,116 at P 45.

⁹⁴⁷ Opinion No. 587, 185 FERC ¶ 61,197 at P 442.

⁹⁴⁸ *Morgan Stanley*, 554 U.S. at 532 (emphasis added).

⁹⁴⁹ *Pub. Citizen, Inc. v. FERC*, 7 F.4th at 1193 (internal quotations omitted) (internal citation omitted).

⁹⁵⁰ See generally Cal. Parties Initial Br. at 8-9; Shell Initial Br. at 38; Trial Staff Initial Br. at 15-16. See also 18 C.F.R. § 35.36(a)(1).

all relevant times, it is unnecessary to consider Shell's cost-of-service analysis in further detail.⁹⁵¹

405. An appropriate method to determine a just and reasonable rate for a market-based rate contract, such as the Shell Contract, is an LRMC analysis. The California Parties provide an LRMC analysis for the full length of the Shell Contract in their proposed Benchmark 5 methodology,⁹⁵² which is based upon Dr. Celebi's LRMC calculations for the Shell Contract in Ex. CAL-00976. Notably, Shell does not oppose the use of an LRMC analysis but instead takes issue with Dr. Celebi's calculations for the various LRMC input categories and argues that Shell's cost-of-service inputs show that the Shell Contract is just and reasonable.⁹⁵³

406. As noted above, the undersigned has determined that a cost-of-service analysis is not appropriate. Shell's argument that its inputs to the LRMC are more appropriate are discussed in great detail in Benchmark 5.⁹⁵⁴

2. The Western Systems Power Pool Agreement is Not an Applicable Cost-Based Approach

407. Because the undersigned has already determined that a cost-of-service analysis is not appropriate for this proceeding, the parties' arguments regarding the Western System Power Pool Agreement (WSPP) warrant only a brief review.⁹⁵⁵ The California Parties argue that if a cost-of-service approach is adopted by the undersigned to review the Shell Contract rate, then the rate must be administered under a rate cap set forth in the WSPP

⁹⁵¹ Although Shell's cost-of-service rate is not analyzed in detail, many of the inputs into that rate model are the same as Shell used in its proposed- LRMC rate which inputs are discussed in detail above in the section on Benchmark 5. *See supra* Section IV.B.3.b.

⁹⁵² Cal Parties Initial Br. at 20

⁹⁵³ *See* Shell Initial Br. at 62-74; Shell Reply Br. at 32-37.

⁹⁵⁴ *See supra* Section IV.B.3.b.

⁹⁵⁵ The undersigned notes that this WSPP argument was presented by the California Parties for the first time via live testimony during the evidentiary hearing and was not introduced by any California Parties' witness in their pre-filed testimony. Such presentation has resulted in limited expert testimony on the WSPP Agreement and its applicability to this proceeding, resulting in very little information to build the kind of complete and full record required by the Commission in a hearing proceeding.

agreement.⁹⁵⁶ In 1986, PG&E, eight FERC jurisdictional IOUs, and several non-jurisdictional utilities entered into the WSPP Agreement to provide “experimental rates for power products and transmission service with the Commission[.]”⁹⁵⁷

408. The California Parties explain that the WSPP “permits sellers of electric energy to charge either an uncapped market-based rate (if the seller has authority for such sales), or an “up to” cost-based ceiling rate,”⁹⁵⁸ which is reflected in Schedule C at Section C-3.7 for firm electricity sales.⁹⁵⁹ As Trial Staff argues in its reply, the California Parties’ reliance on Section C-3.7 is misplaced because Section C-3.7 states that its terms apply “[e]xcept as provided for in Section C3.6.”⁹⁶⁰ Section C3.6 states that:

[t]he price for Firm Capacity/Energy Sale or Exchange Service . . . shall not be subject to the rate caps in Section C3.7 . . . (1) where the Seller is a FERC regulated public utility and that Seller has been authorized to sell power . . . at market-based rates; or (2) where the Seller is not a FERC regulated public utility.⁹⁶¹

409. Shell maintains that while Shell was a member of the WSPP, it had market-based authority and was, therefore, not subject to the rate ceilings provided for in Section C-3.6 of the WSPP Agreement.⁹⁶² The undersigned agrees that the WSPP would not be an applicable cost-of-service benchmark to determine the justness and reasonableness of the Shell Contract. Regardless, the argument is moot as it has already been determined above that a cost-of-service benchmark is not an appropriate benchmark for determining whether the Shell Contract rates are just and reasonable.

⁹⁵⁶ See Cal Parties Initial Br. at 38-41; Cal Parties Reply Br. at 30-32.

⁹⁵⁷ See Ex. CAL-048 (WSPP Agreement); Shell Initial Br. at 74 (citing *Pac. Gas & Elec. Co.*, 38 FERC ¶ 61,242, 61,782 (1987)).

⁹⁵⁸ Cal Parties Initial Br. at 38 (internal citation omitted).

⁹⁵⁹ *Id.* at 38; Ex. CAL-048, Schedule C, Section C-3.7.

⁹⁶⁰ See Trial Staff Reply Br. at 20; Ex. CAL-048, Schedule C, Section C-3.7.

⁹⁶¹ See Trial Staff Reply Br. at 20-21; Ex. CAL-048 Schedule C, Section C-3.6.

⁹⁶² Shell Initial Br. at 75.

**F. ISSUE 2D: WHETHER THE CALIFORNIA PARTIES
DEMONSTRATED THE SHELL CONTRACT RATE IS UNJUST
AND UNREASONABLE BY A PREPONDERANCE OF THE
EVIDENCE**

410. Having established a range of just and reasonable rates above, the next question is whether the Shell Contract rates fall within that range. Based on the range of just and reasonable rates established using modified Benchmarks 1 and 5, the undersigned concludes that a preponderance of evidence in the record shows that the Shell Contract rate is not just and reasonable.

Participant Arguments

California Parties

411. The California Parties argue that they have demonstrated by a preponderance of the evidence that the Shell Contract rates are unjust and unreasonable. The California Parties point to Dr. Celebi's seven benchmarks and assert that the Shell Contract prices far exceed any estimate of what prices would have been in a workable competitive market.⁹⁶³ According to the California Parties, their proposed Benchmark 6 properly corrects the Shell Contract for any manipulation and also accounts for market fundamentals.⁹⁶⁴

412. The California Parties further contend that a cost-based approach should be rejected. According to the California Parties, "Shell's cost-based approaches are conceptually inapt; technically flawed; inexplicably inconsistent with Shell's previous experts' position as to allocation of a hypothetical plant's fixed costs, cost of capital and useful life; and ... starkly at odds with Shell's own contemporaneous internal estimates and Shell's own internal board presentations that indicate that Shell actually realized the profits it projected at the time of the contract execution."⁹⁶⁵

413. Finally, the California Parties challenge Shell's argument that market fundamentals drove the Shell Contract's unjust and unreasonable rates and that Shell Contract negotiations were competitive.⁹⁶⁶ The California Parties conclude that the

⁹⁶³ Cal. Parties Initial Br. at 56.

⁹⁶⁴ *See id.* at 58-60.

⁹⁶⁵ *Id.* at 57.

⁹⁶⁶ *Id.*

weight of the evidence “compels a finding that the Shell Contract rate is unjust and unreasonable.”⁹⁶⁷

Shell

414. Shell Argues that the California Parties have failed to demonstrate that the Shell Contract rate is above the zone of reasonableness for a “large 11-year contract executed in May 2001, during a period of recognized supply shortages and market turmoil.”⁹⁶⁸ According to Shell, the California Parties’ benchmarks were unreasonably low, improperly rely on the MMCP, fail to properly account for market fundamentals, and do not account for the benefits of the Shell Contract over the life of the contract.⁹⁶⁹ Shell concludes that the California Parties have failed to meet their burden of proof under Step 1 of the Section 206 test.⁹⁷⁰

Trial Staff

415. Trial Staff argues that the California Parties have not demonstrated by a preponderance of the evidence that the Shell Contract rates are unjust and unreasonable.⁹⁷¹ Trial Staff further notes that there are “significant defects” in the California Parties’ analysis.⁹⁷²

Discussion

416. A preponderance of the evidence in the record supports the conclusion that the Shell Contract rates are unjust and unreasonable. Benchmarks 1 and 5, as modified above, serve to establish a range of just and reasonable rates ranging from \$70.07/MWh to \$73.91/MWh.⁹⁷³ The unadjusted FERC Benchmark at \$74/MWh serves as an advisory

⁹⁶⁷ *Id.* at 58.

⁹⁶⁸ Shell Initial Br. at 75.

⁹⁶⁹ *See id.*

⁹⁷⁰ *See id.*

⁹⁷¹ Trial Staff Initial Br. at 46.

⁹⁷² *See id.*; Trial Staff Reply Br. at 23.

⁹⁷³ *See supra* Sections IV.B.1.c. and IV.B.3.b.iv.

confirmation of that range.⁹⁷⁴ To be just and reasonable, the Shell Contract rates must fall within that range. Because the weighted average Shell Contract price at \$82.51/MWh⁹⁷⁵ does not fall within that range, it is unjust and unreasonable.

V. ISSUE 3: IF THE SHELL CONTRACT RATES ARE UNJUST AND UNREASONABLE, WHAT IS THE JUST AND REASONABLE RATE TO BE ESTABLISHED FOR THE CONTRACT

A. ISSUE 3A: WHETHER THE CALIFORNIA PARTIES PROVIDED AN APPROPRIATE FRAMEWORK TO DETERMINE A JUST AND REASONABLE RATE FOR THE SHELL CONTRACT

417. Having determined that the rate in the Shell Contract is not just and reasonable, the undersigned turns to whether there is an appropriate framework by which to determine what the just and reasonable rate is. The undersigned concludes that the evidence in the record does provide such a framework using modified Benchmarks 1 and 5.

Participant Arguments

California Parties

418. The California Parties claim they provide a just and reasonable rate by evaluating what prices should have been in a competitive market.⁹⁷⁶ The California Parties argue that because the contract operates as a market-based rate, Dr. Fox-Penner has demonstrated that a market-based rate method is appropriate to determine a just and reasonable rate for the Shell Contract.⁹⁷⁷ The California Parties assert Dr. Fox-Penner determined Dr. Celebi's Corrected May 2001 Forward Prices for 2001-2005 and LRMC Prices for 2006-2012 produce the just and reasonable rate for the Shell Contract.⁹⁷⁸ The California Parties conclude that Dr. Fox-Penner's just and reasonable rate is

⁹⁷⁴ See *supra* Section IV.B.5.a.

⁹⁷⁵ See Ex. CAL-00973-REV2 at 55, fig. 14 (Celebi Dir.),

⁹⁷⁶ Cal. Parties Initial Br. at 58.

⁹⁷⁷ *Id.*

⁹⁷⁸ *Id.* at 59.

economically rational because it uses a market-based rate approach, ensures a just and reasonable rate free of market dysfunction, and uses actual market condition data.⁹⁷⁹

Shell

419. Shell claims that even if the California Parties prove the Shell Contract rate is unjust and unreasonable, they have not provided an appropriate framework to determine a just and reasonable rate.⁹⁸⁰ Shell asserts the California Parties' proposed use of the MMCP is inappropriate because the Commission has expressly found it is inapplicable to bilateral contracts.⁹⁸¹ Shell concludes the California Parties' LRMC-based rate is flawed for reasons stated in previous sections of Shell's brief.⁹⁸²

Trial Staff

420. Trial Staff argues the California Parties have not provided an appropriate framework to determine a just and reasonable rate for the Shell Contract.⁹⁸³

Discussion

421. To determine a just and reasonable rate for the Shell Contract, the California Parties provided 7 benchmarks for the undersigned and Commission to consider. Based on Benchmarks 1 and 5, as modified above, the evidence in the record provides a market-based framework that reasonably addresses market dysfunction at the time the Shell Contract was executed.

422. In particular, the undersigned modified the California Parties' proposed Benchmark 1 based upon four factors the experts agreed were important for identifying generally comparable contracts for comparison to the Shell Contract. Modified Benchmark 1 thus examines Other CDWR Contracts executed at approximately the same time as the Shell Contract. Application of the four factors identified three generally comparable contracts for the Shell Contract.⁹⁸⁴ The undersigned adjusted the weighted

⁹⁷⁹ *Id.* at 60.

⁹⁸⁰ Shell Initial Br. at 76.

⁹⁸¹ *Id.*

⁹⁸² *Id.*

⁹⁸³ Trial Staff Initial Br. at 36.

⁹⁸⁴ *See supra*, Section IV.B.1.a.

average prices in those three contracts to account for any market dysfunction that may have affected those prices. The result of this modified Benchmark 1 analysis was a weighted average price of \$70.07/MWh which establishes the bottom end of the zone of reasonable rates.⁹⁸⁵

423. Modified Benchmark 5, the long-term marginal cost-based prices benchmark, provides a methodology that the parties agree on to some degree.⁹⁸⁶ With the adoption of Shell's LRMC framework,⁹⁸⁷ the undersigned determined various inputs into the model, some from Shell and some from the California Parties. When all the new inputs are used in the model, the resulting calculation was an average weighted price of \$73.91/MWh.⁹⁸⁸ This figure establishes the upper end of the zone of reasonableness for the Shell Contract. The undersigned will discuss factors she uses to determine where in the zone to set the just and reasonable rate in the next section.

424. Benchmark 7, as the undersigned adjusted it, returns the benchmark to the original \$74/MWh price established in the December 200 Order. The original FERC Benchmark is a useful data point that serves as a check on the zone of reasonableness.⁹⁸⁹ However, because the Commission intended the FERC Benchmark to gauge contracts for 7x24 power for five-year contracts, the undersigned finds Benchmark 7, when applied to the entirety of the Shell Contract's term and without the use of the California Parties' proposed adjustments, is an appropriate benchmark only for advisory purposes.⁹⁹⁰

425. The remaining proposed benchmarks are not useful in determining a just and reasonable rate for the Shell Contract. Benchmarks 2 – 4, the forward curve benchmarks, are each flawed and therefore not instructive for setting a zone of reasonableness for the Shell Contract rate. Furthermore, the Commission, in an earlier phase of this proceeding, rejected the use of forward curves as a means to measuring justness and reasonableness

⁹⁸⁵ See *supra*, Section IV.B.1.c.

⁹⁸⁶ See *supra* Section IV.B.3.a. As noted in the cited section, Trial Staff does not agree with the parties that the LRMC is an appropriate method to use as a benchmark for the Shell Contract.

⁹⁸⁷ This framework is provided in Ex. SHE-0003_Adjusted_Celebi_LRMC_Model REV PUB at Summary of Adjustments Tab).

⁹⁸⁸ See *supra* Section IV.B.3.b.iv.

⁹⁸⁹ See *supra* Section IV.B.5.a.

⁹⁹⁰ See *supra* Section IV.B.5.c.

of contract rates.⁹⁹¹ The California Parties' preferred benchmark, Benchmark 6, is also flawed for similar reasons. The hybrid approach of Benchmark 6 uses corrected forward market power prices from Benchmark 4 for the delivery period from 2001 – 2005 and consequently, suffers from the same deficiencies as Benchmark 4.⁹⁹²

B. ISSUE 3B: WHAT IS THE JUST AND REASONABLE RATE FOR THE SHELL CONTRACT

Participant Arguments

California Parties

426. The California Parties argue \$62.09/MWh is the just and reasonable rate for the Shell Contract.⁹⁹³ The California Parties claim this rate is supported by Mr. Read's forward curve methodology, which uses the same data that other sellers, including Shell, used to develop forward price curves in 2001.⁹⁹⁴ The California Parties contend that Shell's criticism of Mr. Read's data is unpersuasive.⁹⁹⁵ The California Parties also argue Mr. Read's assessment of the effects of spot market manipulation on forward prices is well founded and supported by the Commission's finding that inflated spot market prices did elevate forward market prices.⁹⁹⁶ Last, the California Parties assert Mr. Read's analysis comports with the Commission's directive for the use of the MMCP and neither Shell nor Trial staff were able to rebut Mr. Read's analysis of forward prices absent manipulation.⁹⁹⁷ The California Parties conclude Mr. Read did not recommend the use of the MMCP as the corrected forward price but performed narrowly tailored adjustments to forward prices.⁹⁹⁸

⁹⁹¹ See *supra* Section IV.B.2.b.

⁹⁹² See *supra* Section IV.B.4.

⁹⁹³ Cal. Parties Initial Br. at 60.

⁹⁹⁴ *Id.* at 61.

⁹⁹⁵ See *generally id.* at 61-65.

⁹⁹⁶ *Id.* at 65 (citing Opinion No. 587, 185 FERC ¶ 61,197 at P 91).

⁹⁹⁷ *Id.* at 68.

⁹⁹⁸ *Id.* at 68-69.

Shell

427. Shell argues Mr. Cavicchi presented a cost-of-service analysis which supports a just and reasonable rate of \$92.63/MWh in nominal dollars (\$80.96 in 2001 dollars) for the Shell Contract.⁹⁹⁹

Trial Staff

428. Trial Staff states it does not take an affirmative position on a just and reasonable rate for the Shell Contract.¹⁰⁰⁰ Rather, Trial Staff provides critiques for several of Shell's inputs for the Shell Contract rates, including various elements of Shell's ROE calculations and its proposed 20-year amortization period.¹⁰⁰¹

Discussion

429. Benchmarks 1 and 5, as modified deliver a zone of reasonableness that ranges from \$70.07/MWh (Benchmark 1),¹⁰⁰² and \$73.91/MWh¹⁰⁰³ While the undersigned concludes that any price within the zone of reasonableness would be an appropriate rate for the Shell Contract, the undersigned recommends that the Commission set the rate at the upper bound of the zone of reasonableness, \$73.91/MWh.

430. The undersigned makes this recommendation to account for the specific mix of energy products delivered under the three contracts considered for modified Benchmark 1. The undersigned is aware that each of the Allegheny and Sempra Contracts used to create the adjusted Benchmark 1 had higher deliveries of lower priced 7x24 power than the Shell Contract, which largely delivered 6x16 power.¹⁰⁰⁴ This difference justifies moving the just and reasonable rate to the upper end of the range. The undersigned therefore concludes that the just and reasonable rate for the Shell Contract is \$73.91/MWh over the entirety of the contract term.

⁹⁹⁹ Shell Initial Br. at 76 (citing Ex. SHE-0001 REV at 79 tbl. 8 (Cavicchi Ans.)).

¹⁰⁰⁰ Trial Staff Initial Br. at 46.

¹⁰⁰¹ *See generally id.* at 46-61.

¹⁰⁰² *See supra* Section IV.B.1.c.

¹⁰⁰³ *See supra* Section IV.B.3.b.iv.

¹⁰⁰⁴ *See supra* Sections IV.B.1.b.i.(b)(1) and (8).

VI. ISSUE 4: IF THE SHELL CONTRACT RATES ARE UNJUST AND UNREASONABLE, WHAT REFUNDS, IF ANY, SHOULD BE ORDERED BY THE COMMISSION?

431. The participants disagree over what refunds, if any, the Commission should order as a remedy in this proceeding. The California Parties argue that the Commission should order refunds for the full contract term, amounting to \$699 million refund principal and \$1.976 billion with interest.¹⁰⁰⁵ Shell argues that if the contract rates are determined unjust and unreasonable, the Commission should nevertheless decline to order refunds.¹⁰⁰⁶ Trial Staff argues that the Commission should not order refunds within the fifteen-month period.¹⁰⁰⁷ For the reasons that follow, refunds are found to be appropriate for the statutory refund period.

A. ISSUE 4A: FOR WHAT TIME PERIODS SHOULD REFUNDS BE PROVIDED?

Participant Positions

California Parties

432. The California Parties argue that the Commission should order refunds for the fifteen-month period from April 26, 2002, through July 26, 2003 under Section 206(b), and for the full contract term under Section 309.¹⁰⁰⁸ The California Parties acknowledge that Section 206(b) limits the Commission's refund authority to fifteen months, but they assert that Section 309 does not contain time limits for refund orders.¹⁰⁰⁹

433. The California Parties contend that the Commission's incorrect dismissal of the California Parties' complaints in 2003 (2003 Complaints) justifies refunds under the "legal error" doctrine.¹⁰¹⁰ The California Parties note that the Commission has "broad remedial authority" to correct its own legal errors and claim that if the Commission had

¹⁰⁰⁵ Cal. Parties Initial Br. at 70.

¹⁰⁰⁶ Shell Initial Br. at 77, 79.

¹⁰⁰⁷ Trial Staff Initial Br. at 62-64.

¹⁰⁰⁸ Cal. Parties Initial Br. at 70-71; Cal. Parties Reply Brief at 38-39.

¹⁰⁰⁹ Cal. Parties Initial Br. at 71.

¹⁰¹⁰ *Id.* at 72-73; Cal. Parties Reply Br. at 39.

not dismissed the original complaints in 2003, the contract would “have been rescinded or reformed going forward to substitute a just and reasonable price.”¹⁰¹¹ The California Parties cite to *Association of Businesses Advocating Tariff Equity Coalition of MISO Transmission Customers v. Midcontinent Independent System Operator, Inc. (ABATE v. MISO)*, a recent case in which the Commission awarded refunds beyond the fifteen-month limit to correct a legal error, to dispute Shell’s argument that ordering refunds for an extended period conflicts with Section 206(b).¹⁰¹²

434. The California Parties also assert that Shell’s fraud authorizes the Commission to order refunds for an extended period under Section 309.¹⁰¹³ They claim that the Commission may order Section 309 refunds when a seller violates its tariff, and that Shell’s fraud during contract negotiations amounts to a tariff violation.¹⁰¹⁴ The California Parties point to *Public Utilities Commission of the State of California v. Federal Energy Regulatory Commission (CPUC v. FERC)*, a case in which the Ninth Circuit ordered Section 309 refunds for an extended period because a company violated its tariff, to demonstrate that the facts of this case justify an extended refund period.¹⁰¹⁵

Shell

435. Shell argues that no refunds should be ordered.¹⁰¹⁶ Shell contends that the Commission should exercise its discretion to deny refunds during the fifteen-month period, even if the rates in the Shell Contract are not just and reasonable, because equitable considerations weigh against refunds.¹⁰¹⁷ Shell further argues that ordering refunds would be inequitable because the customers who paid the cost of the Shell contract are not necessarily the same customers who would receive refunds.¹⁰¹⁸ Shell

¹⁰¹¹ Cal. Parties Initial Br. at 71-72.

¹⁰¹² *Id.* at 73 (citing *ABATE v. MISO*, 190 FERC ¶ 61,184 (2025)).

¹⁰¹³ *Id.* at 73-74.

¹⁰¹⁴ *Id.*; Cal. Parties Reply Br. at 39.

¹⁰¹⁵ Cal. Parties Initial Br. at 71, 74 (citing *Pub. Utils. Comm’n of State of Cal. v. FERC*, 462 F.3d at 1045).

¹⁰¹⁶ Shell Initial Br. at 79.

¹⁰¹⁷ *Id.*

¹⁰¹⁸ *Id.*

further contends that the contract rates did not impose any “excessive burden” on ratepayers.¹⁰¹⁹

436. Shell argues that the Commission’s legal error in dismissing the 2003 Complaints does not justify refunds for the full contract period because a refund period longer than fifteen months would violate Section 206(b) and the rule against retroactive ratemaking.¹⁰²⁰ Shell argues that *ABATE v. MISO* is inapposite because the Commission’s decision to extend the refund period in that case arose from a unique procedural posture that is not applicable to this proceeding.¹⁰²¹

437. In addition, Shell contends that the Commission may not invoke Section 309 because the Commission has not found that Shell violated its tariff.¹⁰²² Shell asserts that although Opinion No. 587 did find that Shell engaged in fraudulent conduct, the Commission “expressly limited” this finding to the issue of whether to apply the *Mobile-Sierra* presumption, which it determined under a “relaxed standard.”¹⁰²³ Shell argues that *CPUC v. FERC* is inapposite because the petitioners in that case pointed to evidence of specific tariff violations, while here the California Parties did not.¹⁰²⁴ Shell also maintains that the only proper remedy for Section 309 is disgorgement of unjust profits, which the Commission should not grant because the California Parties have not requested this remedy or provided a method to calculate unjust profits.¹⁰²⁵

438. Finally, Shell asserts that the Commission may not order any refunds prior to the refund effective date because Shell lacked notice of refund liability during this period due to a covenant in the Shell Contract prohibiting CDWR from bringing a Section 206 complaint.¹⁰²⁶

¹⁰¹⁹ *Id.*

¹⁰²⁰ *Id.* at 77-78.

¹⁰²¹ Shell Reply Br. at 39-40 (citing *ABATE v. MISO*, 190 FERC ¶ 61,184 at P 75).

¹⁰²² *Id.* at 39.

¹⁰²³ *Id.*; Shell Initial Br. at 77.

¹⁰²⁴ Shell Reply Br. at 38-39.

¹⁰²⁵ *Id.* at 39.

¹⁰²⁶ *Id.* at 38.

Trial Staff

439. Trial Staff argues that the Commission should not order refunds within the fifteen-month statutory period because the California Parties derived their requested remedy from benchmarks that improperly rely on the MMCP.¹⁰²⁷ Trial Staff also asserts that the Commission may only order refunds for the maximum fifteen-month period that Section 206(b) authorizes.¹⁰²⁸

440. With respect to the second argument, Trial Staff acknowledges that, in *CPUC v. FERC*, the Ninth Circuit ordered the Commission refunds beyond the fifteen-month limit pursuant to Section 309.¹⁰²⁹ Trial Staff argues, however, that the Commission later clarified in *California v. Powerex* and *Fern Solar LLC* that the holding in *CPUC v. FERC* does not authorize the Commission to invoke Section 309 to “circumvent [S]ection 206’s temporal limitations” in a Section 206 proceeding.¹⁰³⁰

441. Trial Staff further contends that the Commission’s legal error in dismissing the 2003 Complaints is not grounds for Section 309 relief.¹⁰³¹ Trial Staff claims that the California Parties cite cases that are inapposite: (1) in *ABATE v. MISO* the Commission based its order on a procedural posture that does not apply to this proceeding, and the decision did not explicitly cite Section 309 as the basis of its authority;¹⁰³² (2) in *United Gas*, the court did not reference Section 309 and the dispute concerned NGA refund authority, which does not have a provision analogous to FPA Section 206;¹⁰³³ and (3) in

¹⁰²⁷ Trial Staff Initial Br. at 62.

¹⁰²⁸ *Id.* at 62-63.

¹⁰²⁹ *Id.* at 63-64 (citing *Pub. Utils. Comm’n of State of Cal. v. FERC*, 462 F.3d at 1045); Trial Staff Reply Br. at 36, 39.

¹⁰³⁰ Trial Staff Initial Br. at 64 (citing *State of Cal., ex. rel. v Powerex Corp.*, 135 FERC ¶ 61,178, at P 2 (2011) (*Powerex*)); Trial Staff Reply Br. at 36, 39 (citing *Fern Solar LLC*, Opinion No. 591, 189 FERC ¶ 61,035, at P 495 (2024)).

¹⁰³¹ Trial Staff Reply Br. at 36-38.

¹⁰³² *Id.* at 37-38 (citing *ABATE v. MISO*, 190 FERC ¶ 61,184 at P 65).

¹⁰³³ *Id.* at 38 (citing *United Gas Improvement Co., et al.*, 382 U.S. 223, 229 (1965)).

TNA Merchant, the court referenced Section 309 but did not address its “interplay” with Section 206.¹⁰³⁴

442. Trial Staff also claims that the Commission cannot order Section 309 refunds because the California Parties did not establish that Shell violated its tariff.¹⁰³⁵ Trial Staff notes both that (1) Opinion No. 587 does not characterize Shell’s conduct as a tariff violation; and (2) that Shell retains its market-based rate authority.¹⁰³⁶ Trial Staff also reiterates its position that the Commission cannot invoke Section 309 to “supersede” Section 206(b), even if Shell has violated its tariff.¹⁰³⁷

Discussion

1. Shell Should Provide Refunds From April 26, 2002, Through July 6, 2003.

443. All parties agree that Section 206(b) grants the Commission discretion to order refunds for the fifteen-month period from April 26, 2002, through July 26, 2003.¹⁰³⁸ Given that the undersigned has determined that the Shell Contract rates are not just and reasonable, Shell should provide refunds for the statutory refund period.¹⁰³⁹

444. Shell argues, however, that the Commission should exercise its discretion to deny refunds for this period, even if it finds that the rates are unjust and unreasonable, because equitable considerations weigh against a refund order.¹⁰⁴⁰ While Shell is correct that

¹⁰³⁴ *Id.* at 38 (citing *TNA Merch. Projects, Inc. v. FERC*, 857 F.3d 354, 356 (D.C. Cir. 2017)).

¹⁰³⁵ *Id.* at 38-39.

¹⁰³⁶ *Id.* at 39.

¹⁰³⁷ *Id.*

¹⁰³⁸ Cal. Parties Initial Br. at 70; Shell Initial Br. at 77; Trial Staff Initial Br. at 63. Section 206(b) states that the “Commission may order refunds of any amounts paid, for the period subsequent to the refund effective date through a date fifteen months after such refund effective date.” 16 U.S.C. § 824e(b).

¹⁰³⁹ *See supra* Section IV.D.

¹⁰⁴⁰ Shell Initial Br. at 79.

Section 206 grants the Commission discretion on this matter, the undersigned does not find that equitable considerations weigh against ordering refunds here.

445. Section 206(b) states that the Commission “may order refunds” for a period of fifteen months starting from the refund effective date if it finds the rates are not just and reasonable.¹⁰⁴¹ Moreover, the Commission has a “general policy of granting full refunds” where it finds the rates are not just and reasonable.¹⁰⁴² But the Commission has exercised discretion to deny refunds in cases where there were issues of “administrative practicality,” where the seller was not at fault for the unjust and unreasonable rates, and where the seller’s improper charges significantly benefitted ratepayers.¹⁰⁴³ None of these exceptions apply here, however.

446. The undersigned is unpersuaded by Shell’s argument that the Commission should deny refunds because “[m]any customers that incurred the costs of the Shell Contract are no longer ratepayers that would receive refunds.”¹⁰⁴⁴ Denying relief to the California Parties solely because ratepayer populations inevitably shift over time would systematically disadvantage complainants before the Commission that happen to get caught in a lengthy litigation, and run contrary to the public interest. If anything, the undersigned finds that equity weighs in favor of the California Parties because the Commission has already established that Shell engaged in misconduct during contract negotiations.¹⁰⁴⁵

¹⁰⁴¹ 16 U.S.C. § 824e(b).

¹⁰⁴² *See Towns of Concord, Norwood, and Wellesley, Mass. v. FERC*, 955 F.2d 67, 76 (D.C. Cir. 1992).

¹⁰⁴³ *See Borough of Ellwood City v. FERC*, 583 F.2d 642, 646-48 (3rd Cir. 1978); *Minn. Power & Light Co. v. FERC*, 852 F.2d 1070 (8th Cir. 1988) (the 8th Circuit affirmed the Commission’s finding that MP&L violated its regulations, the court remanded the case to the Commission to consider exercising discretion in waiving refunds); *Minn. Power & Light Co.*, 45 FERC ¶ 61,369, at 62,158 (1988) (the Commission, on remand, waived refunds); *Towns of Concord, Norwood, and Wellesley, Mass. v. FERC*, 955 F.2d at 69-71.

¹⁰⁴⁴ Shell Initial Br. at 79.

¹⁰⁴⁵ Opinion No. 587, 185 FERC ¶ 61,197 at P 176; *see also S. Cal. Edison Co. v. FERC*, 805 F.2d 1068, 1072 (D.C. Cir. 1986) (“Equity does not move in favor of one whose own conduct or action has brought upon it misfortune or pecuniary loss.”).

447. The undersigned is also unconvinced by Shell's reliance on *PJM Interconnection*. In that case, the Commission found on rehearing that it properly exercised discretion to deny refunds even though the rates in question were not just and reasonable.¹⁰⁴⁶ The Commission explained that multiple mergers, acquisitions, and ownership changes among the parties during the refund period would make it nearly impossible to identify the correct entities for surcharges and refunds.¹⁰⁴⁷ The Commission further explained that the difficulty of calculating the correct refunds and identifying the proper payors and recipients would burden ratepayers.¹⁰⁴⁸ *PJM Interconnection*, however, is not analogous to this proceeding.

448. Here, no evidence indicates that calculating refunds is unreasonably difficult – if the Commission finds that the California Parties have provided benchmarks upon which to base just and reasonable rates, then those benchmarks will also suffice to calculate refunds. Additionally, there is no issue here identifying the correct refund recipient (the California Parties) or the correct surcharge payor (Shell).

449. The undersigned is similarly unpersuaded by Shell's reliance on *Louisiana Public Service Commission (LPSC) v. FERC*, a case in which the D.C. Circuit affirmed the Commission's decision to deny refunds for flawed rate design in a cost allocation proceeding.¹⁰⁴⁹ The Commission rested its decision partially on the reasoning that it would be inequitable to “force consumers who neither were at fault nor received any benefit to ‘pay back’ consumers who were disadvantaged by the prior rate regime.”¹⁰⁵⁰ Unlike in *LPSC*, no participant in this proceeding has demonstrated that any party will bear an unmerited burden. Shell is the same entity that it was when it negotiated this contract and the equity concerns of California ratepayers receiving a potentially unearned benefit are less serious than the equity concerns associated with ratepayers bearing an unjust burden as in *LPSC*.¹⁰⁵¹

¹⁰⁴⁶ See *PJM Interconnection, L.L.C.*, 179 FERC ¶ 61,010, at P 14 (2022).

¹⁰⁴⁷ *Id.*

¹⁰⁴⁸ *Id.*

¹⁰⁴⁹ See *La. Pub. Serv. Comm'n v. FERC*, 883 F.3d 929, 931 (D.C. Cir. 2018) (*LPSC*).

¹⁰⁵⁰ *Id.* at 935.

¹⁰⁵¹ See *id.*.

450. Likewise, the undersigned does not find compelling Shell's claims that the Commission should deny refunds because the cost of fulfilling the Shell Contract comprised a small portion of monthly retail bills.¹⁰⁵² Shell notes that Opinion No. 587 found, for the purpose of its *Mobile-Sierra* analysis, that the Shell Contract rates did not pose an "excessive burden" on ratepayers.¹⁰⁵³ This argument is unconvincing. Shell has not pointed to any examples in which the Commission denied refunds on similar grounds or provided any reason why a slight ratepayer burden would be a compelling reason for the Commission to depart from its "general policy of granting full refunds."¹⁰⁵⁴ Furthermore, the Shell Contract imposed a significant burden on the State of California writ large, even if individual customer impact was minor.

451. The undersigned also finds Trial Staff's arguments unconvincing. Trial Staff argues that the Commission should not grant refunds during the fifteen-month statutory period because the California Parties derived their proposed refunds from benchmarks that improperly rely on the MMCP.¹⁰⁵⁵ But, considering the undersigned's holding that the rates in the Shell Contract are unjust and unreasonable,¹⁰⁵⁶ this argument is unsupported.

452. In sum, the Commission has clear discretion under Section 206(b) to order refunds for the fifteen-month period following the refund effective date. Shell failed to demonstrate that equitable considerations weigh against a refund order and Trial Staff did not demonstrate that the California Parties' refund methodology is illegitimate. Therefore, the Commission should order refunds for the statutory refund period from April 26, 2002, to July 26, 2003. Refunds shall be calculated as the difference between the weighted average Shell Contract price of \$82.51/MWh and weighted average benchmark (or just and reasonable) price of \$73.91/MWh for the statutory refund period from April 26, 2002, to July 26, 2003.

¹⁰⁵² Shell Initial Br. at 79.

¹⁰⁵³ *Id.*

¹⁰⁵⁴ *See id.*; see also *Towns of Concord, Norwood, and Wellesley, Mass. v. FERC*, 955 F.2d at 76.

¹⁰⁵⁵ Trial Staff Initial Br. at 62.

¹⁰⁵⁶ *See supra* at Section IV.D.

2. Shell Should Not Provide Refunds for the Remainder of the Full Contract Period (May 2001 Through June 2012).

453. In addition to refunds for the fifteen-month statutory period, the California Parties request refunds through June 2012, the full period that the Shell Contract was in effect.¹⁰⁵⁷ Section 206(b) expressly limits the refund period to fifteen months following the refund effective date, unless there is evidence that the parties engaged in “dilatory conduct.”¹⁰⁵⁸ The California Parties do not allege that Shell attempted to delay the proceeding. Rather, the California Parties contend that a different section, Section 309, authorizes the Commission to extend the refund period beyond fifteen months.¹⁰⁵⁹ Shell and Trial Staff disagree that Section 309 applies in this context.¹⁰⁶⁰

454. Section 309 states, in relevant part, that “[t]he Commission shall have power to perform any and all acts, and to prescribe, issue, make, amend, and rescind such orders, rules, and regulations as it may find necessary or appropriate to carry out the provisions of this chapter.”¹⁰⁶¹ The Commission has invoked Section 309 to order “restitution for profits gained as a result of a statutory or tariff violation”¹⁰⁶² and to allow the Commission to remedy its own legal errors.¹⁰⁶³

455. The California Parties argue that Section 309 authorizes the Commission to extend the refund period to correct the Commission’s incorrect dismissal of the 2003 Complaints and to remedy Shell’s fraudulent behavior.¹⁰⁶⁴ Shell and Trial Staff argue that Section

¹⁰⁵⁷ Cal. Parties Initial Br. at 70; Cal. Parties Reply Br. at 38.

¹⁰⁵⁸ 16 U.S.C. § 824e(b).

¹⁰⁵⁹ Cal. Parties Initial Br. at 73-74; Cal. Parties Reply Br. at 38-39.

¹⁰⁶⁰ Shell Initial Br. at 77-78; Shell Reply Br. at 38-40; Trial Staff Initial Br. at 63-64; Trial Staff Reply Br. at 36-38.

¹⁰⁶¹ 16 U.S.C. § 825h.

¹⁰⁶² *Powerex*, 135 FERC ¶ 61,178 at P 76; *see also Consol. Edison Co. of New York v. FERC*, 347 F.3d 964, 972-976 (D.C. Cir. 2003).

¹⁰⁶³ *Verso Corp. v. FERC*, 898 F.3d 1, 11 (2018); *TNA Merch. Projects*, 857 F.3d at 356; *Xcel Energy Serv. Inc. v. FERC*, 815 F.3d 947, 955-956 (D.C. Cir. 2016).

¹⁰⁶⁴ Cal. Parties Initial Br. at 71; Cal. Parties Reply Br. at 38-39.

309 does not authorize the Commission to contravene Section 206 refund period limitations and that Shell has not violated its tariff.¹⁰⁶⁵

a. The Commission's Legal Error in Dismissing the 2003 Complaints Does Not Justify Refund Relief for the Full Contract Period.

456. The undersigned finds that the Commission's dismissal of the 2003 Complaints, which the Ninth Circuit and the Supreme Court reversed, does not support relief for the full contract period. Even though the Commission may invoke Section 309 to remedy its own legal errors, these remedies may not supersede Section 206(b) refund limitations unless the basis for Section 309 relief is distinct from the complainant's Section 206 claims.¹⁰⁶⁶

457. Section 309 does grant the Commission a certain amount of power to correct its own legal errors.¹⁰⁶⁷ For example, the Commission has endorsed Section 309 remedies to "recoup erroneous refunds," to reconfigure incorrect cost allocations, and to order

¹⁰⁶⁵ Shell Initial Br. at 77-78; Shell Reply Br. at 38-40; Trial Staff Initial Br. at 63-64; Trial Staff Reply Br. at 36-39.

¹⁰⁶⁶ *Verso Corp.* 898 F.3d at 10; *TNA Merch. Projects*, 857 F.3d at 357; *Powerex*, 135 FERC ¶ 61,178 at P 2. The California Parties appear to argue that the Commission has inherent authority to correct its own errors and they do not explicitly invoke Section 309 as the basis for their legal error arguments. Cal. Parties Initial Br. at 73; Cal. Parties Reply Br. at 39. However, the California Parties cite *TNA Merchant Projects*, which conflates the Commission's authority to remedy its own errors with Section 309 authority, so the undersigned finds that the California Parties' "legal error" doctrine argument is effectively the same as invoking Section 309. *See* 857 F.3d at 360. Furthermore, the California Parties did not dispute Shell's contentions that its legal error arguments were effectively Section 309 arguments. *See id.*; Shell Initial Br. At 78. Finally, even if the analysis "legal error" doctrine was distinct in some ways from Section 309, this inherent remedial authority would still be subject to the same limitations as Section 309, which is that exercises of authority must be consistent with other provisions of the FPA. *See TNA Merch. Projects, Inc.*, 857 F.3d at 360-361.

¹⁰⁶⁷ *United Gas Improvement Co., et al.*, 382 U.S. at 229; *TNA Merch. Projects*, 857 F.3d at 360 ("both § 309 and FERC's remedial authority under the Act provide the agency with considerable latitude when it is . . . attempting to undo harms caused by its own mistaken or unlawful acts.").

refunds when the Commission improperly allowed a rate to go into effect without proper review.¹⁰⁶⁸

458. This power, however, is not boundless. The Commission has repeatedly emphasized that “Section 309 . . . permits FERC to advance remedies not expressly provided by the FPA, *as long as they are consistent with the Act.*”¹⁰⁶⁹ One limit on Section 309 refund authority is Section 206(b), which establishes a “strict remedial scheme” that prohibits the Commission from ordering utilities to refund money that has already been collected, even if the Commission later determines that the rates were not just and reasonable.¹⁰⁷⁰

459. The undersigned finds that Section 309 does not authorize the Commission to extend the refund period to remedy its incorrect dismissal of the 2003 Complaints. Even though the Commission may invoke Section 309 as authority to correct its errors in some circumstances, Section 309 only authorizes remedies that can be applied consistently with other provisions of the FPA.¹⁰⁷¹ Invoking Section 309 to extend the refund period in a Section 206 proceeding directly conflicts with the Section 206(b) limit on refund periods.¹⁰⁷²

460. In other cases where courts affirmed the Commission’s Section 309 authority to correct its own legal errors, the Commission’s actions were consistent with other FPA provisions. For example, in *TNA Merchant Projects*, the D.C. Circuit found that the Commission erred in refusing to order recoupment after finding that a prior Commission

¹⁰⁶⁸ *TNA Merch. Projects*, 857 F.3d at 359-360 (affirming Commission order to recoup erroneous refunds); *Verso Corp.*, 898 F.3d at 9-11 (affirming refund to correct flawed cost allocation); *Xcel Energy Services*, 815 F.3d at 952-956 (lack of rate review).

¹⁰⁶⁹ *Verso Corp.*, 898 F.3d at 10 (emphasis added); *see also TNA Merch. Projects*, 857 F.3d at 359 (“§ 309 cannot be used to supersede any statutory strictures”) (“Obviously, any actions that FERC takes under § 309 must ‘conform[] with the purposes and policies of Congress’ and cannot ‘contravene any terms of the Act’”) (citing *Niagara Mohawk Power Corp. v. Fed. Power Comm’n*, 379 F.2d 153, 158 (D.C. Cir. 1967); *Powerex*, 135 FERC ¶ 61,178, at P 82 (“FPA section 309 is not in itself an independent grant of authority . . . [parties] cannot circumvent the temporal limitation of FPA section 206 by seeking relief under FPA section 309.”).

¹⁰⁷⁰ *Exxon Mobil Corp. v. FERC*, 571 F.3d 1208, 1215 (D.C. Cir. 2009).

¹⁰⁷¹ *See Verso Corp.*, 898 F.3d at 10.

¹⁰⁷² 16 U.S.C. § 824e(b).

order had wrongly ordered a generator to pay refunds.¹⁰⁷³ The Commission argued that it could not order recoupment because it did not have Section 205 authority over the refund recipient.¹⁰⁷⁴ The D.C. Circuit found that Section 205 refund limitations do not apply to recoupment, which is “an entirely distinct remedy from a refund.”¹⁰⁷⁵ Thus, in *TNA Merchants Projects*, the Commission could invoke Section 309 to remedy its error because the FPA does not limit recoupment authority the same way that it limits refund authority.¹⁰⁷⁶ Conversely, here the Commission cannot invoke Section 309 correct its error in dismissing the 2003 Complaints because ordering refunds directly implicates and contradicts Section 206(b).¹⁰⁷⁷

461. Similarly, in *Xcel Energy Services*, the D.C. Circuit found that the Commission incorrectly denied retrospective relief after finding that the Commission had violated its Section 205 mandate by allowing rates to go into effect without proper review.¹⁰⁷⁸ The court found that the Commission had Section 309 authority to remedy its error and rejected the Commission’s argument that invoking Section 309 for retrospective refund relief would contradict the FPA.¹⁰⁷⁹ The court explained that the petitioner “[did] not maintain that the Commission erred in failing to apply section 206 retroactively but that it erred in failing to correct its legal error *under section 205*.”¹⁰⁸⁰ Here, the Commission’s legal error in dismissing the 2003 Complaints arose from a misapplication of the *Mobile-Sierra* presumption, which is a part of the analysis of a Section 206 claim, and the

¹⁰⁷³ *TNA Merch. Projects*, 857 F.3d at 356.

¹⁰⁷⁴ *Id.* at 359.

¹⁰⁷⁵ *Id.*

¹⁰⁷⁶ Trial Staff is correct that *TNA Merchant Projects* does not discuss the “interplay” between Section 309 and Section 206(b). *TNA Merchant Projects* discusses the validity of a recoupment order, which does not implicate Section 206(b). *See* 857 F.3d at 359.

¹⁰⁷⁷ *See also Verso Corp.*, 898 F.3d at 10-11 (finding that the Commission may order a rate reallocation where the aggregate rate remains the same because rate reallocation does not implicate Section 206(b) and Section 206(c) implies authority to reallocate costs).

¹⁰⁷⁸ *Xcel Energy Serv. Inc.*, 815 F.3d at 953-954.

¹⁰⁷⁹ *Id.*

¹⁰⁸⁰ *Id.* (emphasis added).

California Parties are explicitly seeking Section 206 remedies.¹⁰⁸¹ Thus, there is no separate basis for Section 309 authority, apart from Section 206, and the refund period limitations apply.

462. The undersigned also finds that the California Parties overstate the similarity of *ABATE v. MISO* to this proceeding. In *ABATE v. MISO*, the Commission ordered refunds for an eight-year period and rejected petitioners' argument that this refund was impermissible because it exceeded the fifteen-month limit.¹⁰⁸² The Commission found that a longer refund period was permissible because the refund order arose from "the procedural facts of [the] proceeding," which is a "separate and distinct matter" from the Section 206(b) refunds.¹⁰⁸³ Specifically, the Commission had already established a numerical rate and an effective date in an earlier order.¹⁰⁸⁴ On appeal, the Circuit Court rejected the numerical rate but did not disturb the original effective date; on remand, therefore, the Commission ordered refunds to effectuate the revised rate while maintaining the original effective date.¹⁰⁸⁵ Contrary to the California Parties' contention, no part of this decision indicates that Section 309 or the "legal error" doctrine permits remedies that supersede Section 206(b).¹⁰⁸⁶

463. In this case, there is no analogous procedural posture that requires an extension of the refund period. The Commission has not established a refund effective date which it must maintain on remand, and the California Parties do not allege any other basis for refunds which would trigger Section 309 relief and would not conflict with another FPA provision. Furthermore, the Commission did not explicitly invoke Section 309 as an authority for its refund order in *ABATE v. MISO* – the opinion merely responded to an argument that such an order would be inconsistent with constraints on Section 309 authority.¹⁰⁸⁷

¹⁰⁸¹ Cal. Parties Initial Br. at 72 ("The Commission's error in dismissing the underlying complaints justifies an extension of Section 206's temporal limits").

¹⁰⁸² *ABATE v. MISO*, 190 FERC ¶ 61,184 at P 75.

¹⁰⁸³ *Id.*

¹⁰⁸⁴ *Id.*

¹⁰⁸⁵ *Id.* at P 53.

¹⁰⁸⁶ *See generally id.*

¹⁰⁸⁷ *Id.* at PP 53, 75.

464. The undersigned does not find convincing the California Parties' policy argument. The California Parties contend that the "corrective power" to extend the refund period is necessary to protect regulated entities from harm arising from the Commission's legal errors.¹⁰⁸⁸ Section 206, however, already reflects a legislative compromise that balances tradeoffs between mitigating harm to regulated entities and cultivating stability in the industry.¹⁰⁸⁹ The fifteen-month refund period established in Section 206(b) is already an exception to the general ban on retroactive ratemaking.¹⁰⁹⁰ The undersigned is not empowered to carve out additional exceptions to the rule.

465. In sum, because the California Parties' requested relief is not a "separate and distinct matter" from its Section 206 claims, the undersigned concludes that the Commission cannot order Section 309 refunds to remedy its error without violating Section 206(b).¹⁰⁹¹ Thus, the Commission's legal error in dismissing the 2003 Complaints does not justify an extension of the statutory refund period.

b. Shell's Fraud Does Not Justify Section 309 Relief for the Full Contract Period.

466. The undersigned finds that Shell's fraud does not justify relief for the full contract period because the Commission's finding of fraud in Opinion No. 587 does not qualify as a tariff violation for Section 309 purposes.

467. Section 309 grants the Commission "authority to order refunds if it finds violations of the filed tariff."¹⁰⁹² To make a valid claim for Section 309 refunds, a petitioner "must . . . prove that individual sellers violated the FPA or their filed tariffs

¹⁰⁸⁸ Cal. Parties Initial Br. at 73.

¹⁰⁸⁹ *Exxon Mobil Corp. v. FERC*, 571 F.3d at 1216 (referring to the FERC as "navigat[ing] the Scylla and Charybdis of section 206—the statute's twin directives that require FERC to ensure reasonable rates and prohibit impermissible refunds").

¹⁰⁹⁰ *Old Dominion Elec. Coop. v. FERC*, 892 F.3d 1223, 1227 (D.C. Cir. 2018).

¹⁰⁹¹ *See ABATE v. MISO*, 190 FERC ¶ 61,184 at P 75.

¹⁰⁹² *Pub. Utils. Comm'n of State of Cal. v. FERC*, 462 F.3d at 1047 ("FERC also has remedial authority to require that entities violating the Federal Power Act pay restitution for profits gained as a result of a statutory or tariff violation"); *see also Consol. Edison Co.*, 347 F.3d at 967 ("FPA section 309 gives FERC authority to order refunds if it finds violations of the filed tariff.").

and that such violation resulted in an unjust and unreasonable contract.”¹⁰⁹³ If the Commission determines that the petitioner has proven its case, the appropriate remedy is for “any seller found to have committed such a violation to disgorge its unjust profits.”¹⁰⁹⁴

468. To resolve this question, the undersigned must address the following issues: (1) whether fraud may constitute a tariff violation for Section 309 purposes, (2) whether Shell’s fraud, as determined in Opinion No. 587, qualifies as a tariff violation that would trigger Section 309 relief, (3) whether Shell’s fraud resulted in an unjust and unreasonable contract, and (4) whether the California Parties have provided a valid method to calculate disgorgement of unjust profits.

469. As to the first issue, the undersigned finds that fraudulent conduct may qualify as a tariff violation even if the parties cannot point to a specific provision in the tariff that prohibits fraud. In *Enron Power Marketing*, the Commission found that “implicit in Commission orders granting market-based rates is a presumption that a company’s behavior will not involve fraud, deception or misrepresentation.”¹⁰⁹⁵ If Shell’s tariff implicitly prohibits fraud, then a finding that Shell engaged in fraud would qualify as a tariff violation for Section 309 purposes. Even though the dispute in *Enron Power Marketing* addressed Enron’s market-based rate authority, the undersigned finds that this commonsense principle – that fraud constitutes a tariff violation – applies equally in the Section 309 context. Implying a prohibition against fraud into a market-based tariff is consistent with the purpose of Section 309 to grant the Commission “broad remedial authority.”¹⁰⁹⁶ Therefore, the California Parties are correct that if the Commission determines that Shell engaged in fraud related to the contract, it may justify Section 309 relief.

470. As to the second issue, the Commission’s determination in Opinion No. 587 that Shell engaged in fraudulent conduct, however, is not sufficient to qualify as a tariff violation for Section 309 purposes in this proceeding. In Opinion No. 587, the Commission found that Shell engaged in fraud during contract negotiations by representing that it had suffered losses on deliveries through the summer of 2001, when

¹⁰⁹³ *Powerex*, 135 FERC ¶ 61,178 at P 2.

¹⁰⁹⁴ *Id.*

¹⁰⁹⁵ *Enron Power Mktg., Inc.*, 102 FERC ¶ 61,316, at P 8 (2003).

¹⁰⁹⁶ *TNA Merch. Projects*, 857 F.3d at 359.

the reality was that “Shell’s own trading behavior caused the artificially inflated prices it induced CDWR to build into the Shell Contract pricing.”¹⁰⁹⁷

471. But the Commission also stated that, although the California Parties still had the burden of proof, “the use of traditional grounds of contract abrogation, such as fraud, for the purpose of avoiding *Mobile-Sierra* is distinguishable from using such a claim to abrogate a contract under state law.”¹⁰⁹⁸ In other words, the standard for purposes of *Mobile-Sierra* is looser than the standard for proving fraud under state or federal law.¹⁰⁹⁹ For *Mobile-Sierra* purposes, the California Parties did not need to demonstrate that Shell’s fraud “would independently satisfy all the elements of wrongdoing under a state or federal statute.”¹¹⁰⁰

472. While the Commission did find “the Shell Contract satisfies the definition of Actual Fraud set forth in section 1572 of the California Civil Code[,]” this is only one of the five elements of fraud under California law.¹¹⁰¹ For example, the Commission did not conclusively find that Shell exhibited “knowledge of falsity” or induced “justifiable reliance,” two elements that California law requires for a fraud finding.¹¹⁰² This is because the Commission considered evidence of Shell’s fraud as a “guide to determine whether the behavior in question was the type of behavior that would result in unfair dealing at the contract formation stage.”¹¹⁰³ This inquiry served more as a proxy to

¹⁰⁹⁷ Opinion No. 587, 185 FERC ¶ 61,197 at P 178. The Commission based these determinations on a full briefing of the fraud issue before a Presiding Judge, in which the California Parties provided arguments and factual evidence, and Shell had opportunity for full rebuttal. *See id.* at PP 134-136.

¹⁰⁹⁸ *Id.* at P 136.

¹⁰⁹⁹ *Id.*

¹¹⁰⁰ *Id.*

¹¹⁰¹ *Id.* at PP 138 n.363, 182.

¹¹⁰² *See id.* Note that these were hotly debated issues between the parties and the Commission explicitly declined to reach a determination on these questions because it decided they weren’t relevant to the ultimate question in *Mobile-Sierra*.

¹¹⁰³ *Id.* at PP 179, 193 (The “relevant question is not whether any specific spot market transaction would be actionable under the California law of fraud; rather the issue is whether Shell’s spot market manipulation had the effect of creating an unfair playing field”).

determine the fairness of the negotiations than as a determination of whether Shell actually violated its tariff.

473. Because Opinion No. 587 did not explicitly find that Shell violated its tariff and because the Commission based its fraud determination on a looser standard than what California law would have required, the undersigned finds that Opinion No. 587's finding of fraud does not suffice to trigger Section 309 authority for extended refunds.

474. This determination is consistent with the Ninth Circuit's holding in *CPUC v. FERC*. In that decision, the court held that the Commission acted arbitrarily and capriciously in "excluding § 309 relief for tariff violations."¹¹⁰⁴ The Ninth Circuit rejected the Commission's argument that "the time limits applicable to § 206 proceedings also apply to § 309 proceeding[s]" and emphasized that the "relief sought by the California Parties in this part of the proceeding is based on § 309, not § 206."¹¹⁰⁵ Unlike the California Parties in *CPUC v. FERC*, the California Parties in this proceeding have not made a case for Section 309 relief that is separate from their Section 206 claims.¹¹⁰⁶ Outside of a few short sentences related to refunds, the California Parties made no arguments in their briefs or at hearing that Shell violated its tariff by committing fraud. The California Parties have simply not proven a case under Section 309.

475. Furthermore, the tariff violations in *CPUC v. FERC* were more specific and definitive than Shell's alleged tariff violation.¹¹⁰⁷ In *CPUC v. FERC*, the Ninth Circuit rejected the Commission's argument that no tariff violations occurred because the Commission's conclusion there contradicted a FERC staff report and the Commission's prior findings in *American Electric Power Service Corporation (AEP)*.¹¹⁰⁸ The Commission found in *AEP* that "gaming and/or anomalous market behavior" violating the CAISO and CalPX tariffs occurred prior to the refund period.¹¹⁰⁹ Additionally, the Ninth Circuit noted that the California Parties "presented significant evidence of

¹¹⁰⁴ *Pub. Utils. Comm'n of State of Cal. v. FERC*, 462 F.3d at 1035.

¹¹⁰⁵ *Id.* at 1048.

¹¹⁰⁶ *See generally* Cal. Parties Initial Br.; Cal. Parties Reply Br.

¹¹⁰⁷ *See Pub. Utils. Comm'n of State of Cal. v. FERC*, 462 F.3d at 1049; Opinion No. 587, 185 FERC ¶ 61,197 at P 178.

¹¹⁰⁸ *Pub. Utils. Comm'n of State of Cal. v. FERC*, 462 F.3d at 1049.

¹¹⁰⁹ *Id.*

pervasive tariff violations during the pre-Refund Period.”¹¹¹⁰ But here, there is no Commission decision confirming that Shell’s statements during negotiations amount to fraud for purposes other than the *Mobile-Sierra* presumption. Unlike the petitioners in *CPUC v. FERC*, the California Parties did not present an adequate Section 309 tariff violation case.¹¹¹¹

476. As to the third issue of whether Shell’s fraud resulted in an unjust and unreasonable contract, the undersigned finds that there is a causal nexus between Shell’s fraud and the unjust and unreasonable rates arising from the Shell Contract. In Opinion No. 587, the Commission specifically found that “Shell’s fraudulent market activities were the cause of CDWR agreeing to the specific rates of the Shell Contract, based on Shell’s deceptive statements about its losses on the April/May 2001 sales that were motivated by the goal of locking in Crisis Period profits.”¹¹¹² The Commission reached this determination after a full briefing of the fraud issue.¹¹¹³ This issue, however, makes no difference to the outcome since the undersigned has found that the Commission’s finding of fraud in Opinion No. 587 does not suffice to trigger Section 309 authority.¹¹¹⁴ In other words, the outcome of issue two is dispositive here.

477. As to the fourth issue of whether the California Parties provided adequate means to calculate disgorgement of unjust profits, the issue is also moot because the undersigned is not ordering Section 309 remedies in this proceeding. The undersigned also notes that

¹¹¹⁰ *Id.*

¹¹¹¹ As a side note, the undersigned also finds unconvincing Shell’s argument that Opinion No. 587 was “expressly limited to the question of whether the *Mobile-Sierra* presumption was avoided.”¹¹¹¹ Shell cites a portion of Opinion No. 587 which reads, in part: “*Mobile-Sierra* is avoided because Shell engaged in fraud that directly affected negotiation of the Shell Contract.” Shell Reply Br. at 39 (citing Opinion No. 587, 185 FERC ¶ 61,197 at P 176). Nothing in this paragraph, however, expressly cabins the Commission’s finding of fraud to the issue of *Mobile-Sierra*. See Opinion No. 587, 185 FERC ¶ 61,197 at P 176. The undersigned finds that the California Parties’ argument fails, not because Opinion No. 587 expressly limits the applicability of its determination, but rather because the finding was based on a different standard than what a state or federal court would apply.

¹¹¹² Opinion No. 587, 185 FERC ¶ 61,197 at P 224.

¹¹¹³ *Id.* at PP 134, 137.

¹¹¹⁴ See *supra* Section IV.A.2.b.

Shell did not adequately articulate in its briefs why the California Parties' methods to determine just and reasonable rates would not suffice to calculate unjust profits for disgorgement purposes, nor did they adequately demonstrate that disgorgement is the only remedy available for Section 309 claims.

3. Shell Should Not Provide Refunds for the Period Prior to the Refund Effective Date.

478. The undersigned must also address Shell's argument that the Commission cannot order it to pay refunds from May 2001 to April 25, 2002, the period during which the Shell Contract was in effect and before refund effective date.¹¹¹⁵ Shell argues that it "lacked notice that it may face refund liability" during this period because "the Shell Contract contained a covenant prohibiting CDWR from bringing an FPA Section 206 complaint."¹¹¹⁶ The Shell Contract states, in relevant part, that "[n]either party will exercise any of its respective rights under Section 205 or Section 206 of the Federal Power Act to challenge or seek to modify any of the rates or other terms and conditions of this Agreement."¹¹¹⁷ The undersigned finds Shell's argument unconvincing. Shell cannot claim that it had no notice of refund liability if it was engaged in what it knew to be fraudulent conduct during the period in question. However, as the undersigned has limited refunds to the fifteen-month refund period that the Commission established, this point makes no difference to the outcome here.

B. ISSUE 4B: WHETHER INTEREST SHOULD BE CHARGED AND FOR WHAT TIME PERIODS

479. The Participants also dispute whether interest should be charged, and if so, for what time period. Following a summary of the participants' arguments, this section addresses that issue.

Participant Arguments

California Parties

480. The California Parties argue that the Commission should charge interest on the full refund period, consistent with the Commission's "long-standing policy" to charge interest

¹¹¹⁵ Shell Reply Br. at 38.

¹¹¹⁶ *Id.*

¹¹¹⁷ Ex. CAL-031 PUB at Section 10.17.

for various types of overcharges.¹¹¹⁸ The California Parties assert that Section 206 mandates that the Commission charge interest on the fifteen-month statutory refund period spanning April 26, 2002 through July 26, 2003.¹¹¹⁹ The California Parties further contend that interest should also be charged for pursuant to the Commission's regulation governing interest, 18 C.F.R. § 35.19a(a)(2), for the periods from the contract commencement date (May 25, 2001) through April 26, 2002, and from July 26, 2003 through the contract termination date in 2012.¹¹²⁰ The California Parties argue that the Commission has recently reaffirmed its long-standing policy in favor of awarding interest on refunds and rejecting claims of waiver because interest is "not a penalty" but rather a way to "make customers whole."¹¹²¹ According to the California Parties, Shell has had the benefit of its overcharges since 2001 and now, equity requires that California rate payers receive back both the principal amount of those overcharges and interest.¹¹²²

481. The California Parties challenge Shell's request that all interest be waived based on the Commission's legal errors and long delays which were not Shell's fault. According to the California Parties, Shell does not provide adequate legal support for its request to change the usual practice of requiring the payment of interest on refunds due to Commission's delay in prior phases of this proceeding.¹¹²³ The California Parties further assert that courts have already rejected Shell's argument that awarding interest would undermine the parties' reasonable reliance on the contract terms.¹¹²⁴

Shell

482. Shell asserts that the Commission should waive interest on any refund amounts because the Commission is responsible for significant delays in the proceeding, including

¹¹¹⁸ Cal. Parties Initial Br. at 76-77.

¹¹¹⁹ *Id.* at 77 (citing 16 U.S.C. § 824e(b) (2025)).

¹¹²⁰ *Id.*

¹¹²¹ *Id.* at 79 (quoting *Yaphank Fuel Cell Park, LLC*, 189 FERC ¶ 61,121, at P 19 (2024)).

¹¹²² Cal. Parties Reply Br. at 40.

¹¹²³ *See* Cal. Parties Initial Br. at 77-78 (citing *Anadarko Petroleum Corp. v. FERC*, 196 F.3d 1264, 1268 (D.C. Cir. 1999)).

¹¹²⁴ *Id.* at 77 (citing *Anadarko Petroleum*, 196 F.3d at 1267-68).

the Commission's legal error in dismissing the California Parties' initial complaint in 2003.¹¹²⁵

Trial Staff

483. Trial Staff asserts that the Commission should limit interest charges to the fifteen-month statutory period. Trial Staff asserts that interest must be limited to this fifteen-month statutory period for the same reasons it argued the refunds themselves were limited to this period.¹¹²⁶

Discussion

484. The undersigned concludes that the Commission should charge interest on refunds owed for the statutory fifteen-month refund period (April 26, 2002 through July 26, 2003) according to the mandate in Section 206(b). Section 206(b) requires that refunds "shall be made, with interest, to those persons who have paid those rates or charges which are the subject of the proceeding."¹¹²⁷ This requirement serves three purposes: "(1) provide[s] just compensation for the losses, or costs, imposed upon those who have paid excessive rates; (2) reflect[s] the benefits which were available to companies which collected excessive rates; and (3) [does] not provide incentives for any party to prolong litigation."¹¹²⁸

485. Shell unconvincingly argues that equitable principles dictate interest should not apply to refund amounts due here. However, the United States Circuit Court of Appeals for the District of Columbia (D.C. Circuit) has squarely addressed this issue in a recent case.¹¹²⁹ In *Anadarko Petroleum*, producers complained that interest charges would amount to 160% of the principle and, therefore, they should be relieved of the burden of paying interest for equitable reasons.¹¹³⁰ In rejecting the producers' plea, the D.C. Circuit concluded that the Commission's prior legal errors and delay in the administrative

¹¹²⁵ Shell Initial Br. at 79 (citing *Office of Consumers' Counsel v. FERC*, 826 F.2d 1136, 1139 (D.C. Cir. 1987)).

¹¹²⁶ See Trial Staff Initial Br. at 62-65.

¹¹²⁷ 16 U.S.C. § 824e(b) (2025) (emphasis added).

¹¹²⁸ *Anadarko Petroleum*, 196 F.3d at 1267.

¹¹²⁹ *Id.* at 1268.

¹¹³⁰ *Id.* at 1267-68.

proceedings are certainly a cause for complaint, but were not grounds for waiver of interest.¹¹³¹ Such is also the case here. It is true that this proceeding has dragged on for more than two decades and that some of that delay is due to the Commission. However, it is “the balance of equities between [parties to the Shell Contract], not between [Shell] and the Commission, that matters.”¹¹³² Interest is simply a way to ensure the California Parties receive full compensation and to account for the time value of money.¹¹³³ For that reason, the long delay in granting relief is “a reason for awarding interest here, not for delaying it.”¹¹³⁴

486. Accordingly, Shell must pay interest on refunds that it owes from the refund period.

C. ISSUE 4C: WHAT IS THE APPROPRIATE INTEREST RATE TO CHARGE ON REFUNDS

487. The California Parties assert that the Commission should charge interest “at an average prime rate for each calendar quarter” in accordance with 18 C.F.R. § 35.19a(a)(2)(iii)(A).¹¹³⁵ According to the California Parties, interest for periods on or after October 1, 1979 is to be assessed at “an average prime rate for each calendar quarter,” as published in the Federal Reserve’s H.15 release.¹¹³⁶

488. Shell and Trial Staff did not take positions on the interest rate, as both parties maintain refunds are not appropriate in this proceeding.¹¹³⁷

489. The undersigned concludes that interest shall be charged on refund amounts at a rate in accordance with the Commission’s regulation found at 18 C.F.R. § 35.19a(a)(2)(iii)(A). That regulation states that interest shall be computed

¹¹³¹ *Id.* at 1268.

¹¹³² *Id.*

¹¹³³ *Id.* at 1267-68; *see also Yaphank*, 189 FERC ¶ 61,121 at P 19.

¹¹³⁴ *Anadarko Petroleum*, 196 F.3d at 1268.

¹¹³⁵ Cal. Parties Initial Br. at 79-80.

¹¹³⁶ *Id.*

¹¹³⁷ Shell Initial Br. at 80; Trial Staff Initial Br. at 65.

from the date of collection of the overcharges until the date that refunds are made as follows:

At an average prime rate for each calendar quarter on all excessive rates or charges held (including all interest applicable to such rates or charges) on or after October 1, 1979. The applicable average prime rate for each calendar quarter shall be the arithmetic mean, to the nearest one-hundredth of one percent, of the prime rate values published in the *Federal Reserve Bulletin*, or in the Federal Reserve's "Selected Interest Rates" (Statistical Release H.15), for the fourth, third, and second months preceding the first month of the calendar quarter.¹¹³⁸

VII. INCLUDING INTEREST, WHAT ARE THE OVERALL REFUNDS OWED

490. The California Parties contend that the total interest-adjusted refund amount owed for the Shell Contract is \$1.976 billion, with interest continuing to accrue from January 1, 2025, until the refunds are paid.¹¹³⁹ Shell and Trial Staff contend that Shell does not owe any refunds.¹¹⁴⁰

491. Shell will calculate the refunds owed plus interest consistent, with this Initial Decision, in a compliance filing.

VIII. CONCLUSION

492. For the reasons discussed in detail above, the undersigned concludes that the record shows by a preponderance of the evidence that the Shell Contract rates are not just and reasonable. The undersigned also concludes that a just and reasonable rate for the Shell Contract is \$73.91/MWh. The undersigned further concludes that Shell owes refunds for the 15-month statutory refund period from April 26, 2002 through July 26, 2003 as well as interest on that amount calculated according to FERC guidelines and consistent with this Initial Decision.

493. All evidence in the record was considered in rendering this decision. Any omission of an argument or portion of the record raised by the participants in their briefs

¹¹³⁸ 18 C.F.R. § 35.19a(a)(2)(iii)(A) (2025).

¹¹³⁹ Cal. Parties Initial Br. at 80.

¹¹⁴⁰ Shell Initial Br. at 80; Trial Staff Initial Br. at 65.

or elsewhere does not mean that such material was not considered. All such arguments not included herein were found to lack substance or significance, the inclusion of which would only tend to lengthen this decision without altering its substance or effect.

IX. ORDER

494. Shell is ordered to calculate refunds and interest consistent with the determinations in this Initial Decision. Shell is further ordered to make a compliance filing within 90 days of the issuance of this Initial Decision.

495. Pursuant to Rule 708(d),¹¹⁴¹ this Initial Decision becomes a final Commission decision 10 days after exceptions are due, unless exceptions to the Initial Decision are timely filed pursuant to Rule 711,¹¹⁴² or upon the Commission's own motion.¹¹⁴³ Subject to these requirements, and any modification by the Commission, Shell must comply with the findings and conclusions stated in this Initial Decision.

Stephanie L. Nagel
Presiding Administrative Law Judge

¹¹⁴¹ 18 C.F.R. § 385.708(d) (2025).

¹¹⁴² *Id.* § 385.711.

¹¹⁴³ *Id.* § 385.712.