

**PUBLIC UTILITIES COMMISSION**

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Ratesetting

TO PARTIES OF RECORD IN APPLICATION 21-05-001 ET AL.:

This is the proposed decision of Administrative Law Judge Haga. Until and unless the Commission hears the item and votes to approve it, the proposed decision has no legal effect. This item may be heard, at the earliest, at the Commission's June 29, 2023 Business Meeting. To confirm when the item will be heard, please see the Business Meeting agenda, which is posted on the Commission's website 10 days before each Business Meeting.

Parties of record may file comments on the proposed decision as provided in Rule 14.3 of the Commission's Rules of Practice and Procedure.

The Commission may hold a Ratesetting Deliberative Meeting to consider this item in closed session in advance of the Business Meeting at which the item will be heard. In such event, notice of the Ratesetting Deliberative Meeting will appear in the Daily Calendar, which is posted on the Commission's website. If a Ratesetting Deliberative Meeting is scheduled, *ex parte* communications are prohibited pursuant to Rule 8.2(c)(4).

/s/ MICHELLE COOKE

Michelle Cooke

Acting Chief Administrative Law Judge

MLC:mph

Attachment

Decision PROPOSED DECISION OF ALJ HAGA (Mailed 5/9/2023)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of California-American Water Company (U210W) for Authority to Establish its Authorized Cost of Capital for the Period from January 1, 2022 through December 31, 2024.

Application 21-05-001

And Related Matters.

Application 21-05-002

Application 21-05-003

Application 21-05-004

DECISION FIXING COST OF CAPITAL FOR CALENDAR YEARS 2022, 2023 AND 2024 FOR CALIFORNIA-AMERICAN WATER COMPANY, CALIFORNIA WATER SERVICE COMPANY, GOLDEN STATE WATER COMPANY AND SAN JOSE WATER COMPANY

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**DECISION FIXING COST OF CAPITAL FOR CALENDAR YEARS 2022, 2023
AND 2024 FOR CALIFORNIA-AMERICAN WATER COMPANY,
CALIFORNIA WATER SERVICE COMPANY,
GOLDEN STATE WATER COMPANY AND
SAN JOSE WATER COMPANY**

Summary

We adopt the ratemaking capital structures, costs of equity, costs of debt and overall rates of return of the three-year period commencing January 1, 2022, through December 31, 2024, for all four applicants (Applicants). We also continue the Water Cost of Capital Mechanism for the same period.

The figures shown in Table 1 represent each Applicant's authorized return on equity, costs of debt, debt/equity ratio and overall rate of return on rate base. Overall rate of return has been calculated in each case by multiplying the cost of debt times the debt percentage in the capital structure and adding that product to the product of authorized return on equity times the equity percentage in the capital structure. In establishing the individualized cost of capital for each water utility we followed established standards for setting a fair rate of return, considered recent Commission decisions covering the same subject, evaluated valuation information, and exercised our judgment based on the particular circumstances of a utility. After consideration, evaluation, and weighing of parties' evidence, we have determined this decision is consistent with all Constitutional and statutory requirements.

Table 1
Authorized Capital Structures, Costs of Equity, Costs of Debt
and Overall Rate of Return for All Applicants

Company	Return on Equity	Cost of Debt	Debt/Equity Ratio	Overall Rate of Return
California-American Water Company	8.98%	4.35%	42.96%/57.04%	6.99%
California Water Service Company	9.05%	4.23%	46.60%/53.40%	6.80%
Golden State Water Company	8.85%	5.10%	43.00%/57.00%	7.24%
San Jose Water Company	8.80%	5.46%	45.45%/54.55%	7.28%

These proceedings are closed.

1. Background

In Decision (D.) 18-03-035, the Commission approved each Applicant's authorized return on equity, costs of debt, debt/equity ratio and overall rate of return on rate base for the three-year period beginning January 1, 2018, through December 31, 2021. On May 3, 2021, California-American Water Company (CAW), California Water Service Company (CWS), Golden State Water Company (GSW), and San Jose Water Company (SJW) (Applicants) each filed applications seeking authority to establish their respective authorized costs of capital and rate of returns on utility operations for 2022-2024, the period from January 1, 2022, through December 31, 2024.

Notice of the Applications appeared on the Commission's Daily Calendar on May 5, 2021. Resolution ALJ 176-3486 adopted on May 21, 2021, preliminarily categorized these proceedings as ratesetting and determined that hearings are necessary.

Protests were filed by the Public Advocate's Office of the Public Utilities Commission (Cal Advocates) to all the applications and by the City of Rancho Palos Verdes to the application of California Water Service Company (Application (A.)21-05-002). Cal Advocates submitted a motion to consolidate the applications on June 11, 2021. No responses to Cal Advocates' motion were submitted. The proceedings were consolidated by a Ruling on September 10, 2021, as each covers related and overlapping topics, allows them to be considered in a more efficient manner, is consistent with the Water Action Plan, and is consistent with past practice for cost of capital proceedings for Class A water companies.

A prehearing conference was held on September 21, 2021, to address the issues of law and fact, determine the need for hearing, set the schedule for resolving the matter, and address other matters as necessary. At the prehearing conference Water Rate Advocates for Transparency, Equity and Sustainability (WRATES) entered and appearance and made a motion for party status. On September 23, 2021, WRATES filed a motion for party status in these proceedings. A Ruling issued on November 16, 2021, granted WRATES' motion for party status.

Pursuant to the Scoping Memo of the assigned Commissioner issued on December 17, 2021, Applicants, Cal Advocates, and WRATES prepared and submitted extensive direct and rebuttal testimony addressing the methodology of determining costs of capital and their contrasting recommendations regarding

those costs. A Status Conference was held on March 28, 2022, to prepare for Evidentiary Hearings, and Evidentiary Hearings were held May 3-5, 2022. The Applicants, Cal Advocates, and WRATES filed opening and reply briefs on June 10, 2022, and June 29, 2022, respectively.

In addition to the evidentiary hearings, the Commission held a series of public participation hearings (PPHs) on March 15-17, and March 24, 2022. Each PPH was conducted remotely and while each was directed toward the application of a single utility, participation was not limited as the proceedings were consolidated.

At the PPHs members of the public made their views regarding the specific applications known and presented questions to the representatives of the water companies and intervenors regarding their positions on various issues in the proceeding. In total more than 100 ratepayers appeared at these meetings and more than 60 of them provided comments.

On June 29, 2022, the Applicants filed a joint Motion for Oral Argument. Cal Advocates filed in opposition to the motion on July 6, 2022, claiming the motion is untimely and prejudicial and violates Rules 13.14 and 13.15 of the Commission's Rules of Practice and Procedure. On July 14, 2022, WRATES filed in opposition to the motion claiming the motion is untimely and should be denied pursuant to Rule 13.14 and Pub. Util. Code § 1701.3.

On March 16, 2023, the Commission adopted D.23-03-016 extending the statutory deadline in this proceeding to August 10, 2023.

This matter was submitted on June 29, 2022, upon the filing of reply briefs.

2. Issues Before the Commission

The Scoping Memo identified the following issues to be determined or otherwise considered as:

1. Whether the Applicants comply with Rule 3.2 and the minimum data requirements outlined in Attachment 2 of the Rate Case Plan?
2. What is a just and reasonable rate of return on rate base during 2022-2024?
3. What is a reasonable rate of return on common equity during years 2022-2024?
4. What is a reasonable weighted average cost of debt during 2022-2024?
5. What is a reasonable capital structure during 2022-2024?
6. Whether it is appropriate to continue the Water Cost of Capital Mechanism for years 2023 and 2024 using 2022 as the base year?

The first identified issue was not contested, and the Applicants have shown that they have complied with Rule 3.2 and the minimum data requirements outlined in Attachment 2 of the Rate Case Plan.¹ The remaining issues are addressed below.

The last identified issue was also not contested, and Applicants' request to continue employing the WCCM authorized by the Commission in Decision (D.) 09-07-051 and D.12-07-009 for the years 2023 and 2024, using the base year 2022 that will be adopted in this proceeding is unopposed and should be adopted.

The joint Motion for Oral Argument is denied as it violates Rules 13.14 and 13.15 of the Commission's Rules of Practice and Procedure.

¹ Rule 3.2 Compliance Filing of California-American Water Company, July 6, 2021, Rule 3.2 Compliance Filing of California Water Service Company, August 4, 2021, Compliance Filing of Golden State Water Company, June 28, 2021, Proof of Compliance with Rule 3.2 for San Jose Water Company, July 1, 2021.

3. Return on Equity

Fixing costs of capital for future periods is an exercise in economic and financial forecasting. In estimating such things as the future path of inflation, we rely on the opinions of experts. Different experts, employing different forecasting techniques, typically present different views of the future, leaving it to us to choose among the views presented at the time the evidentiary record is established.

In this case the most dramatic areas of difference are between the Applicants' experts and Cal Advocates' and WRATES' experts regarding the authorized Return on Equity (ROE), and we address that issue first. Applicant's experts argue that the authorized ROE should be similar to the average ROE of similar securities issued by comparable regulated private water companies.² The basis for this position is the assumption that if Applicants choose to raise money by selling stock, these are the types of returns investors in water company stocks would expect to receive. Therefore, Applicants argue that if we approve ROEs significantly lower than those allowed to similar companies by other regulatory commissions, investors will choose to purchase the stock of those other companies rather than the stock of the Applicants (or their holding companies).³

Cal Advocates generally agrees that such comparisons are relevant.⁴ But Cal Advocates argues that the Commission has applied its authority over the years in a manner that has consistently allowed the water utilities to earn their

² See, CAW-3 at 27-31, CAW-6-A at 37-41, CWS-1 at 27-28, SJW-1 at 3, 6, 8-9; see also, GSWC-2 at 45-46, 51, GSWC-5 at 49; cf. PAO-1 at 4.

³ See, CAW-3 at 46-47, CWS-1 at 27-28, GSWC-2 at 9, GSWC-5 at 16-20, SJW-1 at 39-40.

⁴ PAO-1A at 22-23.

allowed returns on rate base,⁵ and that high ROEs sought by the Applicants should be adjusted downward to account for the relative lack of risk compared to other investments.⁶ Cal Advocates specifically cites the application of the Water Cost of Capital Mechanism (WCCM) which automatically adjusts authorized ROE up or down depending on changes in the capital markets;⁷ and the use of various “balancing accounts” which permit Applicants to include in future rates certain expenses incurred in the present.⁸

WRATES appears to agree that comparing the ROE for SJWC with the types of returns investors in water company stocks would expect to receive is the starting point for WRATES’ ROE calculation for SJWC.⁹ WRATES argues that the SJWC’s proposed ROE should be adjusted downward to account for the relatively lower risks associated with SJWC’s performance.¹⁰

The legal standard for setting the fair rate of return has been established by the United States Supreme Court in the *Bluefield*,¹¹ *Hope*,¹² and *Duquesne* cases.¹³ *Bluefield* stands for the proposition that a utility’s overall return should be comparable to the overall return earned at the same time and in the same general

⁵ Cal Advocates’ Opening Brief at 34-36, *citing* D.09-05-019 at 6, 28, and 32, and D.10-12-057 at 7-8.

⁶ Cal Advocates calls this determination a delicate balance. Cal Advocates’ Opening Brief at 15, *citing* CAW-3 at 9.

⁷ PAO-1A at 3-4, *citing* D.09-07-051.

⁸ Cal Advocates’ Opening Brief at 35-36. *See also*, D.09-05-019 at 29-30, and D.10-12-057 at 16-17.

⁹ WRTS-01 at 7 (“[t]he starting point is SJWC’s requested return on equity”).

¹⁰ *Id.* at 7-10.

¹¹ *Bluefield water works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923) (*Bluefield*).

¹² *Federal Power Commission v. Hope Natural Gas Company*, 320 U.S. 591 (1944) (*Hope*).

¹³ *Duquesne Light Company v. Barasch*, 488 U.S. 299 (1989) (*Duquesne*).

part of the country on investments in other business undertakings attended by corresponding risks and uncertainties.¹⁴ *Hope* states that authorized rates will not be judged invalid as long as they enable a utility to maintain financial integrity, to attract capital, and to compensate investors for the risks they assume.¹⁵ In *Duquesne*, the Court concludes that rates must not be so low as to be confiscatory.¹⁶ In applying these parameters, we must also protect ratepayers from unreasonable risks including risks of imprudent management.¹⁷ In addition, the Commission need not use a particular methodology in applying the Constitutional standard, as long as the Commission allows the utility a reasonable opportunity to earn a fair return on investments.¹⁸

Hence, our basic objective in a cost of capital proceeding is to set the equity return at the lowest level that meets the test of reasonableness.¹⁹ At the same time, the adopted equity return should be sufficient to provide a margin of safety to pay interest, pay reasonable common dividends, and allow for some money to be kept in the business as retained earnings.²⁰ To accomplish this objective, we have consistently evaluated analytical financial models as a starting point to arrive at a range of fair equity returns.

¹⁴ See, *Bluefield* at 692-693.

¹⁵ See, *Hope* at 603-605.

¹⁶ See, *Duquesne* at 307-308.

¹⁷ See, e.g., *Missouri ex rel. Southwestern Bell Telephone Co. v. Missouri Public Service Commission*, 262 U.S. 276, 289 n.1 (1924) (Brandeis, J., concurring). See also, Pub. Util. Code § 451.

¹⁸ Pub. Util. Code § 701.10(a). See also, *Duquesne* at 317 (Scalia, J., concurring, joined by White and O'Connor, JJ.).

¹⁹ 46 CPUC2d 319 at 369 (1992).

²⁰ 78 CPUC at 723 (1975).

3.1. Financial Models

There are a number of financial models commonly used in equity return proceedings including the Capital Asset Pricing Model (CAPM),²¹ Risk Premium Model (RPM),²² and Discounted Cash Flow Analysis (DCF).²³ In addition, the Applicants propose an additional model to estimate the cost of capital directly by using beta to measure relative risk by making a direct empirical adjustment to the CAPM, the Empirical Capital Asset Pricing Model (ECAPM).²⁴ Various other models and measures of risk premium analysis have also been proposed by the parties.²⁵ None of the models are independently reliable – in terms of measuring return without subjective input and interpretation – or persuasive on their own. All of the models are highly susceptible to subjective inputs such as the proxy

²¹ The CAPM is a risk premium approach that gauges an entity's cost of equity based on the sum of an interest rate on a risk-free bond and a risk premium.

²² Similar to the CAPM, the RPM measures a company's cost of equity capital by adding a risk premium to a risk-free long-term treasury or utility bond yield.

²³ The DCF model is used to estimate an equity return from a proxy group by adding estimated dividend yields to investors' expected long-term dividend growth rate.

²⁴ See e.g., CWS-1 at 36, SJW-1 at 41-42. Proponents claim the ECAPM is based on research showing CAPM tends to overstate the actual sensitivity of the cost of capital to beta, where low-beta stocks tend to have higher risk premiums than predicted and high-beta stocks tend to have lower risk premiums than predicted. The "alpha" adjustment increases the risk-free intercept and reduces the slope of the line that intercepts beta at 1.0. See, e.g., CAW-3 at 34-36. Thus, ECAPM increases the calculated ROE result for lower-risk (less volatile) stocks and reduce the calculated ROE result for riskier (more volatile) stocks.

²⁵ See, SJW-1 at 43-45 (The Comparable Earnings Approach uses a proxy of non-utility companies to estimate a comparable utility ROE.); see also, GSWC-2 at 74-76 (GSWC argues that its "expected earnings" model overcomes previous Commission objections to the comparable earnings approach by using the expected future returns for the water utilities in its proxy group for other models); CAW-3 at 45-47 (CAW argues its Implied Risk Premium Model provides an estimate of the cost of equity based on the historical relationship between returns on equity adopted in past utility rate cases and the risk-free rate of interest at the time they were derived.); PAO-1 at 43-45 (Cal Advocates seeks to use a constant growth form of the DCF to model when investors can reasonably expect that the growth of retained earnings and dividends will be constant.).

groups, growth rate, or earnings assumption. Therefore, the Commission has historically reviewed an array of models with varied assumptions before exercising its judgment in adopting a ROE.²⁶

The DCF and CAPM financial models use a proxy group comprised of companies with characteristics and risks comparable to those of the Applicants.²⁷ The parties selected their proxy groups from the water utilities group listed in Value Line.²⁸ Screens used by the parties in selecting their comparable Proxy group included: (1) publicly traded water utility; (2) investment grade bond rating; (3) high percentage of revenue from regulated activities; and (4) no significant merger activity in the previous five years.²⁹

CAW, CWS, GSWC, SJC, and Cal Advocates started with the same seven water companies in their Proxy group analysis, as identified in the following table by utility, annual revenue, market capitalization and current bond rating. CWS also provides proposals that include Artesian Resources Corp. and Global Water Resources Inc. in an expanded proxy group in addition to its proposals based on the core proxy group.

²⁶ See, D.09-05-019 at 15.

²⁷ We note that WRATES risk based approach begins with SJW's model based end point and thus necessarily incorporates SJW's model based methodology.

²⁸ See, e.g., CAW-3 at 27-28, CWS-1 at 27-30, GSWC-2 at 50-51, SJW-1 at 25-28, PAO-1 at 42. Value Line is an independent financial and research publishing firm.

²⁹ *Id.*

Table 2
Water Proxy Group Financial Data

Company	Annual Revenue³⁰ (Millions)	Market Capitalization³¹ (Millions)	Standard & Poors' 2021 Credit Rating
American States Water	\$488	\$2,874	A+
American Water Works	\$3,777	\$27,177	A
California Water Service	\$794	\$2,672	A+
Essential Utilities	\$1,463	\$11,431	A
Middlesex Water	\$142	\$1,264	A
SJW Group	\$565	\$1,953	A-
York Water Co.	\$54	\$619	A-

Applicants used the CAPM and DCF financial models as a basis to derive their requested ROEs, ranging from a low of 10.30% by SJW to a high of 10.75% by CAW. The financial models used by the Applicants returned ROEs ranging from 7.25% to 14.06%, while the ROEs in the financial models used by Cal Advocates returned ranges between 6.99% and 8.33%. Cal Advocates used a version of the DCF and variations of the CAPM as its basis to recommend ROEs for Applicants ranging from a low of 7.51% for GSW to a high of 7.81% for CWS. Cal Advocates CAPM recommendation was based on the midpoint of the range of ROEs it calculated for each of the Applicants. WRATES risk-based approach begins with the end point of SJW's DCF and CAPM financial models to recommend a ROE of 7.10% for SJW.

³⁰ As of February 28, 2021.

³¹ As of December 31, 2020.

Each party utilized different subjective inputs to arrive at their DCF and CAPM financial model result. Hence, the financial model results are not based on consistent subjective inputs. Therefore, it is no surprise that there is a great amount of variation in the proposed model results presented by each party.³²

Applicants assert that Cal Advocates' results and recommendations are too low given that the national average ROEs granted water utilities was 9.46% in 2021³³ and major California energy utilities have ROEs of 10.05% to 10.30%.³⁴ Conversely, the 10.30% to 10.75% ROEs requested by Applicants are more than 100 basis points³⁵ higher than the national average ROEs granted water utilities and at least 25 basis points higher than what was recently approved for the California energy utilities' ROEs.³⁶

Applicants did not provide any evidence to substantiate that their businesses are riskier than either the national water utilities or the major California energy utilities. Therefore, we have no reason to consider either the national water utilities' average ROEs or the California energy utilities' ROEs as a benchmark in this proceeding; instead we address the parties' financial model results.

3.2. Financial Modeling Results and Adjustments

The financial models are useful in establishing a range of required returns to consider in selecting the authorized return and in evaluating trends of investor

³² See, e.g., CWS-1 at 42-47 and GSW-2 at 51-55.

³³ CWS-5 at 9, 13; see also, GSWC-5 at 10-11.

³⁴ GSWC-5 at 18, see also, D.22-12-031 (adopting new ROEs for those utilities between 9.80% and 10.05%).

³⁵ One basis point equals 0.01%.

³⁶ See, D.22-12-031.

expectations.³⁷ However, the Commission has never adopted a single preferred cost of capital model because no one model is perfect, and the results produced by all models are highly susceptible to various input assumptions. Thus, we note the financial models employed in our cost of capital proceedings should not be determinative and must be tempered with a great deal of judgment. The DCF model, risk premium analysis, and CAPM model cannot be relied upon exclusively to develop a particular ROE, but may be helpful in developing a range of reasonable values.

Applicants included upward adjustments in their financial modeling results for: (1) an estimate of the representative maturity premium of the risk-free rate;³⁸ (2) the differences in financial risk through adjustments to the beta estimate for a company;³⁹ and (3) small size.⁴⁰ The results of the financial models and adjustments is different for each applicant and summarized in the following table:

³⁷ See, D.09-05-019 at FoF 10.

³⁸ See *e.g.*, CWS-5 at 48 (50 basis point adjustment to reflect maturity premium for 20-year over the 10-year Treasury bond used in calculating the risk free rate in CAPM calculation).

³⁹ See *e.g.*, CWS-1 at 3, 12-14, CAW-3 at 10-11, 39 (discussing Hamada adjustment).

⁴⁰ GSW-2 at 68-69.

Table 3
Applicants' Proposed Returns on Equity
by Financial Models Employed and Related Adjustments

	CAW ⁴¹	CWS ⁴²	GSW ⁴³	SJW ⁴⁴
DCF	7.40% - 10.50%	7.25% - 10.50%	9.10% - 10.46%	8.73% - 11.57%
Total DCF	7.40% - 10.50%	7.25% - 10.50%	10.38%	8.73% - 11.57%
RPM	9.70%	9.70%	9.66% - 11.64%	n.a. ⁴⁵
Total RPM	9.70%	9.70%	9.66% - 11.64%	
CAPM Base	10.25% - 11.20%	10.75% - 11.25%	11.75% - 12.88%	10.05% - 10.84%
Size Adj.			1.18%	
Total CAPM	10.25% - 11.20%	10.75% - 11.25%	12.93% - 14.06%	10.05% - 10.84%
ECAPM	10.25% - 11.50%	10.75% - 11.50%	11.81% - 12.75%	10.76% - 11.35%
Size Adj.			1.18%	
Total ECAPM	10.25% - 11.50%	10.75% - 11.50%	12.99% - 13.93%	10.76% - 11.35%
Expected Earnings			11.38%	11.38%
RECOMMENDED ROE	10.75%	10.35%	10.50%	10.30%

Cal Advocates did not propose any adjustments to its model results, though Cal Advocates took a different approach to the inputs to the models. WRATES includes a number of downward adjustments to account for the relatively lower risks associated with SJWC's performance, including its general rate case, cost of capital case, financial reporting, and billing.⁴⁶

3.2.1 Maturity Premium of the Risk-Free Rate

CWS proposes a 50 basis point adjustment to the projected 10-year U.S. Treasury bond yield to estimate the maturity premium for the 20-year over the 10-year Treasury bond.⁴⁷ CAW proposes the same adjustment.⁴⁸ However, the "20-year Treasury bond yield is explicitly included in the various forms of the Capital Asset Pricing Model and the form of the historical risk premium model" used by GSW,⁴⁹ while SJW places "more weight on the results of the projected yields of 30-year Treasury bonds" in its CAPM and DCF analyses.⁵⁰

Cal Advocates claims that all four applicants use "Blue Chip or Moody's Analytics interest rate forecasts instead of market-based bond yields as a proxy for the risk-free rate in their CAPM analyses."⁵¹ Cal Advocates proposes an

⁴¹ CAW-3 at 2, CAW-6 at 38-41 and BV-10 at 4 (core proxy group sample), CAW-6A at 41, *see also*, CAW-3 at 36-37, 45, 47 and BV-3.

⁴² CWS-5 at 55 (core proxy group sample), CWS-1 at 40-41.

⁴³ GSW-5 at Appendices A-D, *see also*, GSW-2 at 4-5.

⁴⁴ SJW-2 at 5-6, *see also*, SJW-1 at 5-6.

⁴⁵ Not applicable (n.a.) areas of the table are shaded gray.

⁴⁶ WRTS-1 at 7-10.

⁴⁷ CWS-5 at 47-48.

⁴⁸ CAW-3 at 32-33, and BV-2 at 6-7.

⁴⁹ GSW-2 at 41.

⁵⁰ SJW-1 at 38-39.

⁵¹ PAO-1 at 13.

alternative method based on spot values and weighted averages based on the 3-month U.S. Treasury bills and the 30-year U.S. Treasury bonds.⁵² All the Applicants take issue with the use of short-term U.S. Treasury bills as a proxy for the risk-free rate. We agree that it is inappropriate to use the short-term 3-month U.S. Treasury bill in calculating the risk-free rate as it does not match the economic life of the assets of utilities.⁵³

For this case we determine the risk-free rate should reflect the return offered by an investment that carries zero risk and is traditionally tied to Treasury bonds.⁵⁴ Therefore, we determine the best reflection of the risk-free rate is based on the 20-year U.S. Treasury Bond to estimate the cost of equity for utility assets.⁵⁵ Further, we are not persuaded that an upward adjustment to the risk-free rate is appropriate. None of the Applicants have shown any persuasive reason to adjust upward the risk-free rate calculated through the standard methodology based on the income return on long-term government bonds for the last ninety plus years.

3.2.2. Adjustments to the Beta Estimate

Applicants GSW, CAW, and CWS argue there are several ways to take into account the impact of financial risk in a cost of equity analysis.⁵⁶ One such approach proposed by GSW, CAW, and CWS is the “Hamada approach” to

⁵² *Id.* at 16, 58-59.

⁵³ CWS-5 at 15.

⁵⁴ *See e.g.*, D.09-05-019 at 20.

⁵⁵ *See, e.g.*, CAW-3 at 32-33, CWS-5 at 15-16, GSW-2 at 65-66, SJW-1 at 38. *See also*, D.16-12-035 at FoF 53 (“A 20-year period provides the best reflection of a current and forward-looking rate for U.S. Treasury Bonds and it is reasonable to adopt that figure for the risk-free rate for the cost of equity calculation.”)

⁵⁶ GSW-2 at 61-62, CAW-3 at 39-40, CWS-1 at 13-14, CWS-5 at 36-37.

estimate the cost of equity using the CAPM and make comparisons between companies with different capital structures via “unlevering” and “relevering” adjustments to the market beta. The Hamada adjustment procedures are designed to account for the impact of financial risk, based on general conditions, to value a company by decomposing its value with and without a tax shield. GSW, CWS, and CAW apply the Hamada approach by using the estimated beta to calculate what beta would be associated with a 100 percent equity financed firm. This “all-equity,” or “unlevered,” or “assets” beta, can be “relevered,” and the CAPM reapplied with this “relevered” beta to reflect both the business and financial risks for the regulated company.⁵⁷

Cal Advocates claims these adjustments to the beta estimate are inappropriate and misplaced.⁵⁸ Cal Advocates states the proposed financial leverage adjustments “distort the fundamental mechanics of original cost ratemaking” with complex financial concepts.⁵⁹ Cal Advocates notes the financial risk adjustment to increase the company-specific betas for GSW increase its proposed CAPM results by 1.49% and 2.58%.⁶⁰

As discussed below, the Commission has never adopted a single preferred cost of capital model because no one model is perfect and the results produced by all models are highly susceptible to various input assumptions. The adjustments proposed by GSW, CAW, and CWS, and the criticisms thereof, as with all the models, are helpful as rough gauges in establishing a range of reasonable outcomes.

⁵⁷ CAW-3 at 10-11, and BV-2 at 14-17. CWS-1 at 12-14, 41. GSW-2 at 61-61 and Appendix B.

⁵⁸ PAO-1A at 91-92.

⁵⁹ PAO-1A at 109.

⁶⁰ PAO-1A at 126.

3.2.3. Small Size Adjustment

GSW claims that the CAPM model “does not do a perfect job of estimating required return on equity,” and cites some financial literature as the basis for seeking an upward adjustment to its financial model calculation.⁶¹ GSW argues that the CAPM “underpredicts the require return for small companies”⁶² and proposes a 1.18% upward adjustment to its CAPM estimate to account for GSW’s small size.⁶³ GSW proposes a size premium adjustment based on its review of ten different stock portfolios to come up with the 1.18% upward adjustment.⁶⁴ Cal Advocates does not agree that any upward adjustment is warranted, calling the such an adjustment to the financial models “inappropriate.”⁶⁵

We have previously disallowed utilities from including size adjustments in similar financial models.⁶⁶ GSW’s testimony does not provide any new information for the Commission that persuades us that it would be appropriate to include a size adjustment to the financial models. However, even if the financial literature supports the premise that size effects exist as one of the imperfections in the CAPM, GSW has failed to isolate and weigh its specific advantages and disadvantages as a regulated entity. Similarly, the market capitalization proxy proposed by GSW fails to capture the risks specific to GSW and how those risks may be mitigated through other regulatory mechanisms outside this proceeding. Accordingly, GSW has failed to carry its burden to

⁶¹ GSW-2 at 67-68 (citations omitted).

⁶² *Id.*

⁶³ GSW-2 at 69 (proposing 1.09% size premium); GSW-5 at Appendix B (reflecting revised calculation with 1.18% figure).

⁶⁴ *Id.* at 68-69; GSW-5 at Appendix B.

⁶⁵ PAO-1A at 129.

⁶⁶ *See e.g.*, D.18-03-035 at CoL 7. *See also*, D.16-12-035 at FoF 5.

show its' risks are impacted by its size in a way that would justify a specific size premium in this case.

Further, we reject GSW's small size adjustment because the impact of small size districts and operations is already reflected in the financial models of its Proxy Group. GSW included its own operations as part of its Proxy Group. Given the Proxy Group members' substantial spread of annual revenue and market capitalization as shown in Table 2, and inclusion of GSW's own operations as part of the Water Proxy Group, further small size adjustments are unnecessary.

3.3. Intervenors Financial Modeling and Adjustments

Cal Advocates uses "fundamentally different analytical approaches" to calculate the ROEs for the applicants,⁶⁷ through the application of the "Constant Growth and Non-Constant Growth versions of the DCF and 8 variations of the CAPM" and a "review of capital market data in general and the model results of leading financial institutions" as a "check on the reasonableness" of its model results.⁶⁸ Cal Advocates' methodology uses market-based data to measure investor expectations, compared to the "economists' projections" and "analysts' forecasts" used by the Applicants.⁶⁹

WRATES "starting point" is SJW's requested ROE of 10.30%.⁷⁰ WRATES argues that the 10.30% return compensates investors for business risks,

⁶⁷ PAO-1A at 8; Cf. CAW-6 at 29, GSW-5 at 44.

⁶⁸ PAO-1A at 14, 39-87. Cal Advocates did not take into account the results of the Non-Constant Growth version of the DCF as the results for several companies in the proxy group were below their costs of debt. *Id.* at 14, see also, *id.* at 51-56.

⁶⁹ *Id.* at 8.

⁷⁰ WRTS-1 at 7, SJW-1 at 6 ("an ROE in the range of 9.75 to 10.75 percent is reasonable, and within that range the 10.30 percent requested by the Company is reasonable").

diversification, and execution risks of SJW management. WRATES claims that ratepayers should not compensate investors for operational and regulatory risks. Therefore, WRATES proposes downward adjustments to SJW's proposed ROE account for the relatively lower risks associated with SJW's performance.⁷¹

WRATES would reduce the ROE to 7.10% through the removal of "execution risk premiums" that are already reflected in the revenue requirements addressed in SJW's general rate case. WRATES would reduce the ROE for four reasons. First, WRATES would reduce the ROE by 75-100 basis points because the "risks inherent in a general rate case" are addressed by SJW's management of the general rate case. Second, WRATES would reduce the ROE by 150-200 basis points because the "regulatory risk of cost of capital rate cases" are addressed by SJW's management of this case. Third, WRATES would reduce the ROE by 25-50 basis points because of the "identification of critical audit matters of recording regulatory assets and liabilities" by financial auditors of SJW and SJW's holding company. Finally, WRATES would reduce the ROE by 10-25 basis points because of inaccurate billing, and "further billing inaccuracies could increase this execution risk premium significantly."⁷²

The results of the financial models and adjustments is different for each intervenor and summarized in the following table:

⁷¹ *Id.* at 7-10.

⁷² WRTS-1 at 7-9.

Table 4
Intervenors' Proposed Returns on Equity
by Financial Models Employed and Related Adjustments

	CAW	CWS	GSW	SJW
Cal Advocates' ROE Range ⁷³	7.00% - 8.04%	7.28%-8.33%	6.99% - 8.03%	7.13%-8.17%
Cal Advocates' Recommended ROE⁷⁴	7.52%	7.81%	7.51%	7.65%
WRATES' ROE Range ⁷⁵				6.55% - 7.70%
WRATES' Recommended ROE⁷⁶				7.10%

3.4. Return on Equity Summary

The DCF financial model is investor related and assesses the equity returns based on dividend yields and growth. Unlike the DCF financial model, the RPM, CAPM, and related ECAPM financial models and the different variations thereof are risk premium related. While these applications were consolidated for review, the consolidation of these applications does not mean that a uniform ROE should be applied to each of the Applicants. Applicants, Cal Advocates, and WRATES derive an ROE range from the results of their financial models and adjustments, and use their range to recommend a specific ROE. The Applicants provide ranges specific to each financial model, Cal Advocates and WRATES provide a

⁷³ PAO-1A at 4.

⁷⁴*Id.*

⁷⁵ WRTS-1 at 9.

⁷⁶ *Id.*

summary range based on their analysis of the financial models. The ranges proposed by the parties using the different models provide a broad array of possible ROE results for each utility from which we can evaluate a range of fair equity returns. The following table summarizes the range of recommended ROE of the financial models used by the parties, excluding maturity premiums, adjustments to the beta estimates, and small size adjustments we have determined are not appropriate in this proceeding.

Table 5
Applicants' and Intervenors' Adjusted ROE Ranges

	CAW	CWS	GSW	SJW	Cal Advocates	WRATES
Recommended ROE Range for CAW	7.40% - 11.20%				7.00% - 8.04%	
Recommended ROE Range for CWS		7.25% - 11.25%			7.28% - 8.33%	
Recommended ROE Range for GSW			9.10% - 12.88%		6.99% - 8.03%	
Recommended ROE Range for SJW				8.73% - 11.57%	7.13% - 8.17%	6.55% - 7.70%

Each of the Applicants narrows the ROE calculated in its respective application of the financial model to present a “reasonable range” for its ROE.⁷⁷ Similarly, WRATES calls the range of the reductions to ROE it proposes reasonable.⁷⁸ Cal Advocates says the range recommended for each applicant

⁷⁷ CAW-3 at 59-60, CWS-1 at 56, CWS-5 at 2-3, GSW-5 at 4-5, SJW-1 at 6.

⁷⁸ WRTS-1 at 8-9.

“reflects the range of ROEs [it] feels confident will allow that applicant to raise the capital they need to provide safe and reliable service.”⁷⁹

The parties are not consistent in selecting their respective recommended ROE, though most select a recommended ROE near the middle of the recommended range. Cal Advocates took a simple average of its respective recommended ranges. CAW and WRATES deviate from selecting a recommended ROE near the middle of their respective proposed range. WRATES uses its judgment to select a specific reduction for each of its identified adjustments, each at the high end of the range of its proposed reductions. CAW claims it should be awarded a ROE in the upper end of its reasonable range because of it (1) has a higher operating leverage than the proxy group, (2) has been unable to earn its allowed ROE, (3) has unique asymmetric exposure to variations on sales, and (4) faces unique supply risks due to ongoing droughts.⁸⁰ CWS, GSW, and SJW recommend a ROE in the middle of their respective recommended ranges.⁸¹

The results of the financial models are used to establish a range to which parties apply risk factors and individual judgment to determine a proposed equity return. Although the parties agree the models are objective, the results are dependent on subjective inputs. In the final analysis it is the application of judgment, not the precision of the models, which is the key to selecting a specific equity return.

As summarized above, the financial models presented by Applicants and Intervenors, depending on the methods of calculation used and the assumptions

⁷⁹ PAO-1A at 6.

⁸⁰ CAW-3 at 59-60

⁸¹ CWS-1 at 56, GSW-2 at 4-5, SJW-1 at 6.

made, result in recommended ROE Ranges that propose to range from 6.55% to 14.06%. The evidence provided by Applicants does not persuade us that the upper end of the ranges in their model results are reasonable. All the parties used their informed judgment to select from the ROE ranges that were the outcomes of their respective models to propose a reasonable range of ROE estimates.⁸² The following table compares the reasonable ROE ranges selected by the parties, and Applicants' requested and Intervenors' proposed ROEs based on their selected ROE ranges.

Applicants also state that the 2020 decision by the Commission that ended the pilot Water Revenue Adjustment Mechanisms/Modified Cost Balancing Accounts (WRAM/MCBA or WRAM)⁸³ introduces a risk that should be compensated through an upward adjustment in their ROEs.⁸⁴ Cal Advocates opposes any upward adjustment to ROEs due to the end of the pilot WRAM program.⁸⁵ We are not persuaded that the end of the pilot WRAM program presents any additional risk to the Applicants for the purposes of this proceeding. The Commission did not institute any reductions to cost of capital for any of the water utilities when the pilot WRAM program was first instituted a few years ago, and the Applicants present no persuasive explanation why the end of the pilot program somehow justifies an upward adjustment in the determination of the cost of capital in this proceeding.

⁸² CAW-3 at 60, CWS-1 at 7, GSW-2 at 4-5, SJW-1 at 6, PAO-1A at 6, WRTS-1 at 7-9.

⁸³ See, D.20-08-047 at 51-76, modified by D.21-09-047.

⁸⁴ E.g., CAW-3 at 54-57, CWS-5 at 55, GSW-2 at 27-37, SJW-3 at 3-4.

⁸⁵ Cal Advocates' Opening Brief at 36-37, *citing* PAO-2 at 109-110 (Applicants have not demonstrated a greater non-diversifiable risk on average than other utilities).

Table 6
Applicants' and Intervenors' Adjusted ROE Ranges and
Proposed/Recommended ROEs

Proposed "Reasonable" ROE Ranges				Proposed/Recommended ROE		
	Utility	Cal Advocates	WRATES	Utility	Cal Advocates	WRATES
CAW	9.75% - 10.75%	7.00% - 8.04%		10.75%	7.52%	
CWS	10.00% - 10.75%	7.28% - 8.33%		10.35%	7.81%	
GSW	9.10% - 14.06%	6.99% - 8.03%		10.50%	7.51%	
SJW	9.75% - 10.75%	7.13% - 8.17%	6.55% - 7.70%	10.30%	7.65%	7.10%

No party relied exclusively on the outcome of any particular or any combination of financial modeling results in recommending a reasonable ROE range. Accordingly, we find no reason to adopt the financial modeling results of any one party. After considering all the evidence which includes the financial models, interest rate forecast, and other financial forecasts presented, and applying informed judgment we arrive at a base ROE range of 8.33% to 10.00%. From that ROE range we consider the appropriate ROE for each of the Applicants.

3.3.1. California-American Water Company Return on Equity Summary

CAW's 10.75% requested ROE exceeds its currently authorized 9.20% ROE and the 8.33% to 10.00% ROE range found reasonable in this proceeding. We apply informed judgment to determine an authorized ROE for CAW. Among the factors considered are CAW's unique and capital-intensified challenges in

providing service to its Monterey Peninsula service territory, and large capital investments as a percent of rate base.⁸⁶

After considering the evidence on the above factors, market conditions, trends, interest rate forecasts, quantitative financial models based on subjective inputs and risks presented by the parties we conclude that an 8.98% ROE is fair and reasonable for CAW.

3.3.2. California Water Service Company Return on Equity Summary

CWS requested a 10.35% ROE which both exceeds its currently authorized 9.20% ROE and the 8.33% to 10.00% ROE range found reasonable in this proceeding. We apply informed judgment to determine an authorized ROE for CWS. Among the factors considered are CWS's series of smaller districts, approximately half of its water supply from groundwater, and a high level of capital expenditures relative to similar utilities.⁸⁷

After considering the evidence on the above factors, market conditions, trends, interest rate forecasts quantitative financial models based on subjective inputs and risks presented by the parties we conclude that a 9.05% ROE is fair and reasonable for CWS.

3.3.3. Golden State Water Company Return on Equity Summary

GSW's 10.50% requested ROE exceeds the 8.33% to 10.00% ROE range found reasonable in this proceeding. We apply informed judgment to determine an authorized ROE for GSW. Among the factors considered are GSW's reliance on groundwater supplies, that its operations are a collection of several systems,

⁸⁶ CAW-1 at 4.

⁸⁷ CWS-1 at 52-53, CWS-3 *passim*, CWS-4 at 2-4, 23-27

many of which are very small where incremental costs must be borne by a limited customer base, and elevated capital spending.⁸⁸

After considering the evidence on the above factors, market conditions, trends, interest rate forecasts, quantitative financial models based on subjective inputs and risks presented by the parties we conclude that an 8.85% ROE is fair and reasonable for GSW.

3.3.4. San Jose Water Company Return on Equity Summary

SJW's 10.30% requested ROE exceeds the 8.33% to 10.00% ROE range found reasonable in this proceeding. We apply informed judgment to determine an authorized ROE for SJW. Among the factors considered are SJW's reliance on water supply purchased from the Santa Clara Valley Water District, geographic concentration, and capital expenditure budget for 2022-2024 of approximately \$500 million,⁸⁹ and its relative regulatory and operational risks.⁹⁰

After considering the evidence on the above factors, market conditions, trends, interest rate forecasts, quantitative financial models based on subjective inputs and risks presented by parties we conclude that an 8.80% ROE is fair and reasonable for SJW.

4. Cost of Debt

Applicants calculate respective weighted average annual cost of debt percentage by dividing the total annual debt cost amount (both annual interest amount and annual amortization of debt cost, including redemption premium) by the existing net proceeds amount less unamortized amounts (of debt and

⁸⁸ GSW-2 at 10-11, 12-13, 20-21,

⁸⁹ SJW-1 at 26, 51-52, SJW-3 at 4-5.

⁹⁰ See, WRTS-1 at 7-9.

redemption premium) associated with the debt that is already paid.⁹¹ In calculating total annual debt cost, Applicants also incorporate future debt cost.⁹² Applicants calculate the recommended cost of debt percentage by taking the average of the debt cost percentages from 2022 to 2024.⁹³

Cal Advocates calculates the annual cost of debt percentage by taking beginning- and end-of-year weighted average figures to calculate net proceeds and annual charges.⁹⁴ Cal Advocates also proposes adjusting CAW's and SJW's calculations based on differing assumptions with respect to net proceeds, interest expenses and coupon rates.⁹⁵

The respective costs of debt proposed are shown below in Table 7. WRATES proposes the cost of debt for SJW is 6.68% as a function of existing long-term debt obligations, debt retirement, and new debt issuances from 2022 through 2024.⁹⁶ However, we are not able to find support for WRATES calculation of SJW's cost of debt and thus are not persuaded to use it in our calculations in this proceeding.

⁹¹ CAW-2 at 8-12, CWS-2 at 9, GSW-1 at 9-10, SJW-3 at 5-6.

⁹² *Id.*

⁹³ *Id.* (Cal Advocates notes its methodology was used by GSW in A.11-05-001).

⁹⁴ PAO Opening Brief at 12.

⁹⁵ PAO-2 at 13.

⁹⁶ WRTS-1 at 1.

Table 7
Comparison of Cal Advocates' and
Applicants' Proposed Cost of Debt

	Cal Advocates Recommended Cost of Debt	Utility Proposed Cost of Debt
CAW	4.32%	4.35%
CWS	4.23%	4.23%
GSW	5.03%	5.10%
SJW	5.46%	5.48%

Applicants claim Cal Advocates' cost of debt methodology is inconsistent with existing Commission policy and industry practice.⁹⁷ GSW notes that while it did use the methodology proposed by Cal Advocates in a case more than a decade ago,⁹⁸ it has consistently used the weighted cost of long-term debt methodology in recent cost of capital proceedings.⁹⁹ While we can see some merit in Cal Advocates approach, particularly when dealing with companies with few to no new issuances or retirement of debt for the period at issue, that is not true in this case. Accordingly, we find that the method used by all water utilities in this case to calculate the weighted cost of long-term debt produces the most reasonable result for calculating the resulting cost of capital.¹⁰⁰

⁹⁷ *E.g.*, California-American Water Company Opening Brief at 2, Golden State Water Company Reply Brief at 50-51.

⁹⁸ We note that case was decided in a settlement and under Rule 12.5 the underlying methodology has no precedential value. *See*, D. 12-07-009 in A.11-05-001 and related cases.

⁹⁹ GSW-4 at 8.

¹⁰⁰ "[T]he weighted cost of long-term debt has three components: the embedded cost of debt currently outstanding at December 31, 2020, the anticipated prepayment of a particular long term debt obligation in 2021, and the projected cost of new debt issuances during the 2022-2024 period covered by this application." *Id.*

CAW also takes issue with Cal Advocates inclusion of State Revolving Fund debt and debt related to the Hillview Water Company Grant Tax loan.¹⁰¹ CAW explains that these debt instruments are funded through customer surcharges, and as pass-through charges should not be considered part of its capital structure to fund regulated rate base.¹⁰² We are persuaded by CAW's arguments. The removal of the CAW debt instruments by Cal Advocates is not appropriate in this case.

SJW does not dispute Cal Advocates claims that the proposed coupon rate for future debt issuances should be lower based on Cal Advocates' understanding of yield spreads for corporate bond issuances for similarly rated companies.¹⁰³ SJW does dispute Cal Advocates use of averaging beginning and end of year numbers for ignoring the actual timing of debt issuances and retirements, but does not address Cal Advocates' proposed lower future coupon rates. In the absence of rationale in SJW's testimony with respect to the proposed coupon rates, we are persuaded by Cal Advocates that a lower coupon rate is appropriate and thus find Cal Advocates' proposed cost of debt of 5.46% for SJW to be reasonable.¹⁰⁴

As explained above, we opt for the traditional method in calculating the costs of debt in this proceeding. Hence, we find the Applicants requested costs of debt reasonable, except for SJW where we adopt Cal Advocates proposed cost of debt. The figures we adopt are shown on Table 8, below.

¹⁰¹ PAO-2 at 13-14, CAW-5 at 5-8.

¹⁰² CAW-5 at 6.

¹⁰³ SJW-4 at 6-7.

¹⁰⁴ *See*, PAO-2 at 14, *cf.*, SJW-2 at Schedule 5, SJW-4 at 7-8.

Table 8
Adopted Cost of Debt

	Adopted Cost of Debt
CAW	4.35%
CWS	4.23%
GSW	5.10%
SJW	5.46%

5. Capital Structure

The capital structure of an investor-owned utility is the proportional authorization of shareholders' equity and debt that comprise a company's long-range financing. The capital structures of the Applicants are comprised of long-term debt and common equity. Because the level of financial risk that utilities face is determined in part by the proportion of their debt to permanent capital, or leverage, we must ensure that the utilities' adopted equity ratios are sufficient to maintain reasonable credit ratings and attract capital while also ensuring there are adequate ratepayer protections regarding the costs of components of capitalization.

CAW used its recorded end of year 2020 capital structure and incorporated forecasted debt issuances, equity infusions, and retained earnings for 2021 and 2022 to determine its proposed end-of-year 2022 capital structure, which is then adjusted to recognize specific ratemaking recognition in previous decisions and are not part of rate base. Accordingly, CAW proposes a capital structure of 42.96% debt and 57.04% equity.¹⁰⁵

¹⁰⁵ CAW-2 at 4.

CWS proposes to retain the capital structure approved in the previous cost of capital case with 46.6% debt and 53.4% equity.¹⁰⁶ CWS states that while its proposed capital structure differs from its end of year 2022 capital structure (50.1% debt and 49.9% equity), that it expects to continue issuing new equity over the next few years such that the average capital structure for the period should match its proposed figure.¹⁰⁷

GSW used the recorded end of year 2020 capital structure and forecasted expected debt issuances, redemptions, and equity infusions to arrive at its recommendation to continue the 43% debt and 57% equity capital structure approved in its previous cost of capital case.¹⁰⁸

SJW states that its projected debt and equity ratios will fluctuate due to retained earnings, equity infusions, and additional long-term debt, and that the average of the projected debt and equity is 45.45% debt and 54.55% equity.

WRATES states that a 50% debt and 50% equity capital structure should be used for SJW.¹⁰⁹ WRATES says that such a capital structure will result in the lowest overall cost of capital,¹¹⁰ and that increasing equity above 50% “does not reduce the cost of long-term debt relative to the increased cost of equity.”¹¹¹

Cal Advocates arrived at recommended capital structures by calculating the weighted average capital structures of the Applicants’ regulated operations as shown in their annual reports in 2018, 2019, and 2020. With the exception of

¹⁰⁶ CWS-2 at 4.

¹⁰⁷ *Id.* at 5-6.

¹⁰⁸ GSW-1 at 10-11.

¹⁰⁹ WRTS-1 at 6.

¹¹⁰ *Cf.*, WRTS-1 at 7, 9 (calling for a lower boundary for SJW’s return on equity of 6.55%, below WRATES proposed 6.68% cost of debt).

¹¹¹ WRATES Opening Brief at 8.

CWS, Cal Advocates' recommended capital structures are not materially different from those proposed by the Applicants,¹¹² which are shown on Table 9 below. However, we do find that the forecast methodology proposed by the Applicants produces a more reasonable result in all cases. We see the merit in the approach put forth by Cal Advocates, particularly as a check on the reasonableness of the methodology used by the Applicants, however, such an approach should not be relied on in our ratemaking processes if it does not also include adjustments for known or foreseeable future events. This is shown in the differences in the proposed CWS capital structures. The approach offered by Cal Advocates fails to account for the specific financing plan and projections presented by CWS to show how it has been and expects to continue to move toward the capital structure it proposes in this case.

For similar reasons we reject the 50/50 approach put forth by WRATES. We recognize that the capital structure of a utility will continue to vary due to the timing and size of financing activities and the amount of retained earnings on an annual basis. In this case the forecasted capital structure put forth by SJW is more likely to reflect reality when compared to the specific 50/50 structure advocated by WRATES. Therefore, we adopt the Applicants' proposed capital structures.

¹¹² See, SJW-4 at 1-2.

Table 9

Comparison of Cal Advocates' and Applicants' Proposed Debt/Equity

	Cal Advocates Recommended Debt / Equity	Applicants' Proposed Debt / Equity
CAW	43.45% / 56.55%	42.96% / 57.04%
CWS	50.56% / 49.44%	46.60% / 53.40%
GSW	43.15% / 56.85%	43.00% / 57.00%
SJW	46.74% / 53.26%	45.45% / 54.55%

6. Cost of Capital Calculation

We use weighted average cost of capital to calculate the cost of capital for each water utility. The weighted average cost of capital sums the costs of debt and equity, each weighted by its proportion of the capital structure of the company. Parties disagree as to the inputs for each of the companies, and whether any adjustments should be made to those inputs, but they do agree on the basic formula. Table 1 *infra* shows the results of the calculation for each company for each of the inputs adopted in this decision.

7. Summary of Public Comment

As of March 16, 2023, 47 public comments were posted on the Commission's docket card webpage for this proceeding. In addition, more than 100 ratepayers appeared at the four PPH meetings and more than 60 of them provided comments. Pursuant to Rule 1.18(b) of the Commission's Rules of Practice and Procedure, the following summary of relevant written comments is provided. Most of the written comments oppose any change to the utilities cost of capital that will increase rates with a few comments in support of Cal

Advocates' proposals, and a few comments addressing issues outside the scope of this proceeding but germane to the services provided by the utilities.

8. Comments on Proposed Decision

The proposed decision of ALJ Robert W. Haga in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Comments were filed on _____, and reply comments were filed on _____ by _____.

9. Assignment of Proceeding

Darcie L. Houck is the assigned Commissioner and Robert W. Haga is the assigned Administrative Law Judge in this proceeding.

Findings of Fact

1. Fixing costs of capital for future periods is an exercise in economic and financial forecasting.
2. The Commission has consistently evaluated analytical financial models as a starting point to arrive at a range of fair equity returns.
3. A number of financial models are commonly used in equity return proceedings, including the CAPM, RPM, and DCF, and parties have proposed various other models and measures in this proceeding.
4. None of the financial models are independently reliable – in terms of measuring return without subjective input and interpretation – or persuasive on their own.
5. All of the models are highly susceptible to subjective inputs such as the proxy groups, growth rate, or earnings assumption.
6. The Commission historically reviewed an array of models with varied assumptions before exercising its judgment in adopting a ROE.

7. The financial models employed in our cost of capital proceedings should not be determinative and must be tempered with a great deal of judgment.

8. The DCF and CAPM financial models use a proxy group comprised of companies with characteristics and risks comparable to those of the Applicants, and CAW, CWS, GSW, SJC, and Cal Advocates started with the same seven water companies in their proxy group analysis.

9. Applicants used the CAPM and DCF financial models as a basis to derive their requested ROEs, ranging from a low of 10.30% by SJW to a high of 10.75% by CAW.

10. Cal Advocates used a version of the DCF and variations of the CAPM as its basis to recommend ROEs for Applicants ranging from a low of 7.51% for GSW to a high of 7.81% for CWS.

11. WRATES used a risk-based approach that begins with the end point of SJW's CAPM financial model result to propose its 7.10% ROE recommendation for SJW.

12. The financial models are not based on consistent subjective inputs.

13. Because the inputs are not consistent, the amount of variation in the proposed model results is not surprising.

14. The national average ROE granted to water utilities was 9.46% in 2021.

15. The major California energy utilities have ROEs of 9.80% to 10.05% established in D.22-12-031.

16. Applicants did not provide any evidence to substantiate that their businesses are riskier than either the national water utilities or the major California energy utilities.

17. The financial models are useful in establishing a range of required returns to consider in selecting the authorized return and in evaluating trends of investor expectations.

18. The DCF model, risk premium analysis, and CAPM model cannot be relied upon exclusively to develop a particular ROE, but may be helpful in developing a range of reasonable values.

19. The adjustments to the models proposed by GSW, CAW, and CWS, and the criticisms thereof, as with the models themselves, are helpful as rough gauges in establishing a range of reasonable outcomes.

20. It is inappropriate to use the short-term 3-month U.S. Treasury bill in calculating the risk-free rate as it does not match the economic life of the assets of utilities.

21. The risk-free rate should reflect the return offered by an investment that carries zero risk and is traditionally tied to Treasury bonds.

22. We are not persuaded that an upward adjustment to the risk-free rate is appropriate.

23. We have previously disallowed utilities from including size adjustments in similar financial models.

24. GSW's testimony does not provide any new information for the Commission that persuades us that it would be appropriate to include a size adjustment to the financial models.

25. If a size effect exists as one of the imperfections in the CAPM, GSW has failed to isolate and weigh its specific advantages and disadvantages as a regulated entity.

26. The market capitalization proxy proposed by GSW fails to capture the risks specific to GSW and how those risks may be mitigated through other regulatory mechanisms.

27. The impact of small size districts and operations is already reflected in the financial models of its Proxy Group.

28. Applicants, Cal Advocates, and WRATES derive an ROE range from the results of their financial models and adjustments, and use their range to recommend a specific ROE.

29. The ranges proposed by the parties using the different models provide a broad array of possible ROE results for each utility from which we can evaluate a range of fair equity returns.

30. The Commission did not institute any reductions to cost of capital for any of the water utilities when the pilot WRAM program was first instituted a few years ago, and the Applicants present no persuasive explanation why the end of the pilot program somehow justifies an upward adjustment in the determination of the cost of capital in this proceeding.

31. The parties are not consistent in selecting their respective recommended ROE, though most select a recommended ROE near the middle of the recommended range.

32. The results of the financial models are used to establish a range to which parties apply risk factors and individual judgment to determine a proposed equity return.

33. All the parties used their informed judgment to select from the ROE ranges that were the outcomes of their respective models to propose a reasonable range of ROE estimates.

34. It is the application of judgment, not the precision of the models, which is the key to selecting a specific equity return.

35. Applicants have not provided evidence that persuades us that the upper end of the ranges in their model results are reasonable.

36. No party relied exclusively on the outcome of any particular or any combination of financial modeling results in recommending a reasonable ROE.

37. We find no reason to adopt the financial modeling results of any one party.

38. After considering all the evidence which includes the financial models, interest rate forecast, and other financial forecasts presented, and applying informed judgment we arrive at a base ROE range of 8.33% to 10.00%.

39. We apply informed judgment to determine an authorized ROE for CAW. Among the factors considered are CAW's unique and capital-intensified challenges in providing service to its Monterey Peninsula service territory, and large capital investments as a percent of rate base.

40. After considering the evidence on the above factors, market conditions, trends, interest rate forecasts, quantitative financial models based on subjective inputs and risks presented by the parties we conclude that an 8.98% ROE is fair and reasonable for CAW.

41. We apply informed judgment to determine an authorized ROE for CWS. Among the factors considered are CWS's series of smaller districts, approximately half of its water supply from groundwater, and a high level of capital expenditures relative to similar utilities.

42. After considering the evidence on the above factors, market conditions, trends, interest rate forecasts quantitative financial models based on subjective inputs and risks presented by the parties we conclude that a 9.05% ROE is fair and reasonable for CWS.

43. We apply informed judgment to determine an authorized ROE for GSW. Among the factors considered are GSW's reliance on groundwater supplies, that its operations are a collection of several systems, many of which are very small where incremental costs must be borne by a limited customer base, and elevated capital spending.

44. After considering the evidence on the above factors, market conditions, trends, interest rate forecasts, quantitative financial models based on subjective inputs and risks presented by the parties we conclude that an 8.85% ROE is fair and reasonable for GSW.

45. We apply informed judgment to determine an authorized ROE for SJW. Among the factors considered are SJW's reliance on water supply purchased from the Santa Clara Valley Water District, geographic concentration, and capital expenditure budget for 2022-2024 of approximately \$500 million, and its relative regulatory and operational risks.

46. After considering the evidence on the above factors, market conditions, trends, interest rate forecasts, quantitative financial models based on subjective inputs and risks presented by parties we conclude that an 8.80% ROE is fair and reasonable for SJW.

47. Applicants calculate respective weighted average annual cost of debt percentage by dividing the total annual debt cost amount (both annual interest amount an annual amortization of debt cost, including redemption premium) by the existing net proceeds amount less unamortized amounts (of debt and redemption premium) associated with the debt that is already paid. Applicants also incorporate future debt cost.

48. Applicants calculate the recommended cost of debt percentage by taking the average of the debt cost percentages from 2022 to 2024.

49. Cal Advocates calculate the annual cost of debt percentage by taking beginning- and end-of-year weighted average figures to calculate net proceeds and annual charges. Cal Advocates also proposes adjustments to CAW's and SJW's calculations based on differing assumptions with respect to net proceeds, interest expenses and coupon rates.

50. We are not able to find evidentiary support for WRATES calculation of SJW's cost of debt and thus are not persuaded to use it in our calculations in this proceeding.

51. The method used by all water utilities in this case to calculate the weighted cost of long-term debt produces the most reasonable result for calculating the resulting cost of capital.

52. The removal of the CAW debt instruments by Cal Advocates is not appropriate in this case.

53. We are persuaded by Cal Advocates that a lower coupon rate is appropriate and thus find Cal Advocates' proposed cost of debt of 5.46% for SJW reasonable.

54. CAW's proposed cost of debt of 4.35% is reasonable.

55. CWS's proposed cost of debt of 4.23% is reasonable.

56. GSW's proposed cost of debt of 5.10% is reasonable.

57. The capital structure of an investor-owned utility is the proportional authorization of shareholders' equity and debt that comprise a company's long-range financing.

58. The capital structures of the Applicants are comprised of long-term debt and common equity.

59. Except for what Cal Advocates proposed for CWS's capital structure, its recommended capital structures are not materially different from those proposed by Applicants.

60. The capital structure forecast methodology proposed by the Applicants produces a more reasonable result in all cases.

61. The approach to determining the capital structure of CWS proposed by Cal Advocates fails to account for the specific financing plan and projections presented by CWS to show how it has been and expects to continue to move toward the capital structure it proposes in this case.

62. The capital structure approach put forth by WRATES as it does not reflect timing and size of financing activities and retained earnings.

63. Weighted average cost of capital sums the costs of debt and equity, each weighted by its proportion of the capital structure of the company.

Conclusions of Law

1. In establishing the individualized cost of capital for each water utility we followed established standards for setting a fair rate of return, considered recent Commission decisions covering the same subject, evaluated valuation information, and exercised our judgment based on the particular circumstances of a utility.

2. After consideration, evaluation, and weighing of parties' evidence, we have determined the returns on equity, costs of debt, and capital structures adopted in this decision are consistent with all Constitutional and statutory requirements.

3. Applicants' request to continue employing the WCCM authorized by the Commission in D.09-07-051 and D.12-07-009 for the years 2023 and 2024, using

the base year 2022 that will be adopted in this proceeding is unopposed and should be adopted.

4. In estimating such things as the future path of inflation, we rely on the opinions of experts. Different experts, employing different forecasting techniques, typically present different views of the future, leaving it for us to choose among the views presented at the time the evidentiary record is established.

5. The legal standard for setting the fair rate of return has been established by the United States Supreme Court in the Bluefield, Hope, and Duquesne cases.

6. A utility's overall return should be comparable to the overall return earned at the same time and in the same general part of the country on investments in other business undertakings attended by corresponding risks and uncertainties.

7. Authorized rates will not be judged invalid as long as they enable a utility to maintain financial integrity, to attract capital, and to compensate investors for the risks they assume, and must not be so low as to be confiscatory. We must also protect ratepayers from unreasonable risks including risks of imprudent management.

8. The Commission need not use a particular methodology in applying the Constitutional standard, as long as the Commission allows the utility a reasonable opportunity to earn a fair return on investments.

9. The adopted equity return should be sufficient to provide a margin of safety to pay interest, pay reasonable common dividends, and allow for some money to be kept in the business as retained earnings.

10. The consolidation of these applications does not mean that a uniform ROE should be applied to each of the Applicants.

11. We have no reason to consider either the national water utilities' average ROEs or the California energy utilities' ROEs as a benchmark in this proceeding.

12. We are not persuaded that the end of the pilot WRAM program presents any additional risk to the Applicants for purposes of this proceeding.

13. The Commission has never adopted a single preferred cost of capital model because no one model is perfect, and the results produced by all models are highly susceptible to various input assumptions.

14. None of the Applicants have shown any persuasive reason to adjust upward the risk-free rate calculated through the standard methodology based on the income return on long-term government bonds for the last ninety plus years.

15. GSW failed to carry its burden to show its' risks are impacted by its size in a way that would justify a specific size premium in this case.

16. Because the level of financial risk that utilities face is determined in part by the proportion of their debt to permanent capital, or leverage, we must ensure that the utilities' adopted equity ratios are sufficient to maintain reasonable credit ratings and attract capital while also ensuring there are adequate ratepayer protections regarding the costs of components of capitalization.

17. The joint Motion for Oral Argument should be denied as it violates Rules 13.14 and 13.15 of the Commission's Rules of Practice and Procedure.

18. All pending motions in this proceeding not specifically addressed in this decision, or not previously addressed, should be denied as moot.

O R D E R

IT IS ORDERED that:

1. California-American Water Company is authorized an 8.98% return on equity and a 4.35% cost of debt with a 42.96% debt to 57.04% equity ratio

resulting in a 6.99% return on rate base for the calendar years 2022, 2023, and 2024.

2. California Water Service Company is authorized a 9.05% return on equity and a 4.23% cost of debt with a 46.60% debt to 53.40% equity ratio resulting in a 6.80% return on rate base for the calendar years 2022, 2023, and 2024.

3. Golden State Water Company is authorized an 8.85% return on equity and a 5.10% cost of debt with a 43.00% debt to 57.00% equity ratio resulting in a 7.24% return on rate base for the calendar years 2022, 2023, and 2024.

4. San Jose Water Company is authorized an 8.80% return on equity and a 5.46% cost of debt with a 45.45% debt to 54.55% equity ratio resulting in a 7.28% return on rate base for the calendar years 2022, 2023, and 2024.

5. California-American Water Company, California Water Service Company, Golden State Water Company, and San Jose Water Company shall each file a Tier 1 advice letter to implement rate changes to reflect the change in the cost of capital adopted herein.

6. All advice letters required in Ordering Paragraph 5 shall be filed within 30 days of the date of this order, the rate changes to reflect the change in the cost of capital shall be effective on the date of the filing subject to the determination by the Division of Water and Audits that the advice letters are in compliance with this decision.

7. California-American Water Company, California Water Service Company, Golden State Water Company, and San Jose Water Company shall continue with their Water Cost of Capital Mechanism for the years 2023, and 2024, using the base year 2022 adopted in this decision.

8. The joint Motion for Oral Argument is denied.

9. All pending motions in this proceeding not specifically addressed in this decision, or not previously addressed, are denied.

10. Application (A.) 21-05-007, A.21-05-002, A.21-05-003, and A.21-05-004 are closed.

This order is effective today.

Dated _____, at San Francisco, California.