

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA



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Application of Southern California Edison Company (U 338-E)  
for Authority to Establish Its Cost of Capital for Utility  
Operations for 2013 and to Reset the Annual Cost of Capital  
Adjustment Mechanism

Application 12-04-015  
(Filed April 20, 2012)

Application of San Diego Gas & Electric Company (U902M) for  
Authority to: (i) Adjust its Authorized Return on Common  
Equity, (ii) Adjust its Authorized Embedded Costs of Debt and  
Preferred Stock, (iii) Adjust its Authorized Capital Structure;  
(iv) Decrease its Overall Rate of Return, (iv) Modify its Adopted  
Cost of Capital Mechanism Structure, and (v) Revise its Electric  
Distribution and Gas Rates Accordingly, and for Related  
Substantive and Procedural Relief.

Application 12-04-016  
(Filed April 20, 2012)

Application of Southern California Gas Company (U 904 G) for  
Authority to: (i) Adjust its Authorized Return on Common  
Equity, (ii) Adjust its Authorized Embedded Costs of Debt and  
Preferred Stock, (iii) Decrease its Overall Rate of Return, and  
(iv)  
Revise its Gas Rates Accordingly, and for Related Substantive  
and Procedural Relief.

Application 12-04-017  
(Filed April 20, 2012)

Application of PACIFIC GAS AND ELECTRIC COMPANY  
for Authority to Establish Its Authorized Cost of Capital for  
Utility Operations for Test Year 2013, and to Continue the  
Annual Cost of Capital Adjustment Mechanism  
U 39 M

Application 12-04-018  
(Filed April 20, 2012)

**OPENING BRIEF OF THE  
DIVISION OF RATEPAYER ADVOCATES**

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U 39 M

Application 12-04-018  
(Filed April 20, 2012)

**OPENING BRIEF OF THE  
DIVISION OF RATEPAYER ADVOCATES**

## **I. SUMMARY OF RECOMMENDATIONS AND INTRODUCTION**

Pursuant to Rule 13.11 of the Commission's Rules of Practice and Procedure, and the schedule established by Administrative Law Judge (ALJ) Michael Galvin, the Division of Ratepayer Advocates (DRA) submits this Opening Brief in the consolidated 2013 Cost of Capital proceedings for Southern California Edison (SCE), San Diego Gas and Electric Company (SDG&E), Southern California Gas Company (SCG), and Pacific Gas and Electric Company (PG&E).

DRA recommends a return on common equity for SCE of 8.75 percent, which is lower than SCE's request that its return on common equity be set at 11.1 percent. DRA otherwise does not object to SCE's requested capital structure, which remains unchanged from the previous cost of capital proceeding, and updated cost of long-term debt and preferred stock.

DRA recommends a return on common equity for SDG&E of 8.5 percent, which is lower than SDG&E's request that its return on common equity be set at 11.0 percent. DRA otherwise does not object to SDG&E's requested capital structure and updated cost of long-term debt.

DRA recommends a return on common equity for SCG of 8.5 percent, which is lower than SCG's request that its return on common equity be set at 10.9 percent. DRA otherwise does not object to SCG's requested capital structure and updated cost of long-term debt.

DRA recommends that PG&E's return on equity be set at 8.75 percent, lower than PG&E's request that its return on common equity be set at 11.0 percent. DRA otherwise does not object to PG&E's requested capital structure, which remains unchanged from the previous cost of capital proceeding, and cost of preferred stock and updated cost of long-term debt.

DRA's recommendations above were based on the results of three financial models: the Discounted Cash Flow (DCF) model, the Capital Assets Pricing Model (CAPM), and a Historical Risk Premium (HRP) analysis. DRA recommends that the

Commission continue to utilize these three models, with primary emphasis on DCF. The Commission should disregard results derived from variations of the CAPM, which tend to show an upward bias to CAPM results. DRA's inputs are more reasonable than those of the utilities. DRA's analysis of such inputs reflects the most up-to-date economic research and more reasonable forecasts than those of the utilities. However, if the Commission disagrees with certain elements of DRA's analysis, the Commission can still adopt other elements of DRA's recommendations, as they affect separate inputs to the models.

In determining the returns on equity for the utilities in Phase One of this proceeding, the Commission must consider the current economic conditions and interest rates. These rates are at very low levels, and are anticipated to remain so for the foreseeable future, and thus the returns that investors now require are significantly less than in the past. The utilities do their best to gloss over this fact as much as possible, and when they do address it they claim that despite the current economic conditions, predictions of at best a moderate economic recovery and continued Federal Reserve expansionary monetary policy via low rates to provide further economic stimulus, investors will require much higher returns in the very near future than they do today.<sup>1</sup> The Commission should reject the scare tactics of the utilities, who overstate the negative consequences of the adoption of a return on equity appropriate for the current environment, and misrepresent investors' requirements in the test period.

The Commission should also adopt the results of the various models without adjustments for California business and regulatory risks. The evidence in this proceeding consistently shows that the rating agencies already take into account the California business environment, and explicitly consider the regulatory environment as well, which they see as supportive or highly supportive of utilities.<sup>2</sup> While exercise of some subjective judgment in interpreting the models is necessary to determine a reasonable

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<sup>1</sup> See, e.g., Ex. 6, p. 11 (Morin); Tr. Vol. 2, 223:25 – 224:3 (Avera).

<sup>2</sup> See, e.g., Ex. 137, p. 4.

return on equity, such judgment should not include adjustments for specific California business or regulatory risks.

The capital structure and rates of return sought by SCE, SDG&E, SCG and PG&E are discussed below. DRA analyzes each utility separately, and then comments on issues common to at least two of the applicants. Silence on any issue or argument should not be interpreted as agreement or disagreement with that issue or argument.

## **II. BACKGROUND**

The Commission's Rate Case Plan, established in Decision (D.) 89-01-040, generally requires California energy utilities to file an application on May 8 of each year for Commission authorization of a cost of capital for the following year. In D.07-12-049, the most recent Cost of Capital decision, the Commission set the authorized capital structure and cost of debt, preferred stock and common equity for 2008 for SCE, SDG&E and PG&E.

In D.08-05-035, the Commission changed the cost of capital application filing date from May 8 to April 20 for every third test year beginning in April 20, 2010.<sup>3</sup> The Commission issued rulings in D.09-10-016 for SCE and PG&E and in D.10-01-017 for SDG&E that modified D.08-05-035 filing date of April 20, 2010 to April 20, 2012 as the filing date for a 2013 Cost of Capital proceeding.

SCG's application requested that its Return on Equity be set in this proceeding, and that the Commission replace its existing Market Index Cost Adjustment Mechanism (MICAM) in this proceeding, which otherwise would have triggered a reduction in SCG's return on equity on January 1, 2013. SCG also filed a Motion to Stay its October Advice Letter filing for the January 1, 2013 MICAM adjustment. The Assigned Commissioner and Presiding ALJ granted this Motion to Stay request on August 8, 2012.

SCE filed its Application (A.) 12-04-015 on April 20, requesting an unchanged capital structure of 48 percent equity, 43 percent debt, and 9 percent preferred stock. SCE requested an overall rate of return of 8.24 percent, based on an 11.10 percent cost of

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<sup>3</sup> D.08-05-035, Conclusion of Law (CL) 2 and 3, p. 19, and Ordering Paragraph (OP) 1, p. 20.

equity, 5.86 percent cost of preferred stock and 5.53 percent for long-term debt.<sup>4</sup> On October 9, SCE updated these figures to 5.79 percent and 5.49 percent respectively, for an overall rate of return of 8.21 percent.<sup>5</sup>

SDG&E filed A.12-04-016 on April 20, requesting an overall rate of return of 8.20 percent, based on a capital structure of 45.25 percent long-term debt, 2.75 percent preferred stock, and 52 percent common equity, with returns of 5.09 percent for long-term debt and 6.35 percent for preferred stock, and 11.0 percent for its Return on Equity.<sup>6</sup> In its October 9 update, SDG&E requests an overall rate of return of 8.15 percent, based on an updated 6.22 percent cost of preferred stock and a 5.00 percent cost of long-term debt.<sup>7</sup>

SCG filed A.12-04-017 on April 20, requesting that this proceeding determine a capital structure for test Year 2013 consisting of 45.60 percent long-term debt, 2.40 percent preferred stock, and 52 percent common equity, with returns of 6.00 percent for preferred stock and 5.72 percent for long-term debt, and 10.9 percent for its Return on Equity, for an overall return of 8.42 percent.<sup>8</sup> In its October 9 update, SCG requested the same 6.00 percent for preferred stock but an increase to 5.77 percent for long-term debt, thus resulting in an overall return of 8.44 percent.<sup>9</sup>

PG&E filed A.12-04-018 on April 20, requesting an unchanged capital structure of 52 percent equity, 1 percent preferred stock and 47 percent long-term debt. PG&E requested an overall rate of return of 8.45 percent, based on an 11.0 percent cost of equity, a 5.60 percent cost of preferred stock and a 5.69 percent cost of long-term debt. In its October 9 Update, PG&E requested a 5.52 percent cost of long-term debt, resulting in an overall rate of return of 8.37 percent.<sup>10</sup>

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<sup>4</sup> Ex. 17; *See* Ex. 24, p. 1-5, Table 1-7.

<sup>5</sup> Ex. 150.

<sup>6</sup> Ex. 2, p. 13; *See* Ex. 24, p.1-5, Table 1-6.

<sup>7</sup> Ex. 151, Table 2.

<sup>8</sup> Ex. 9, p. 14; *See* Ex. 24, p. 1-5, Table 1-8.

<sup>9</sup> Ex. 153, Table 2.

<sup>10</sup> Ex. 154.

On June 15, 2012, the Assigned Commissioner's Scoping Memo and Ruling consolidated the SCE, SDG&E, SCG and PG&E cost of capital applications, and divided the proceeding into two phases. The Scoping Memo ruled the Phase I would address the 2013 test year Cost of Capital for the applicants, with issues impacting this determination including appropriate capital structure, cost of long term debt, cost of preferred stock, and cost of common equity.<sup>11</sup>

Intervenor testimony was served on August 6, 2012, and rebuttal testimony on August 29, 2012. Evidentiary hearings were held September 14, 21, and 24, 2012, and October 2-3, 2012.

### **III. APPLICABLE LEGAL STANDARDS**

#### **A. Burden of Proof**

The Commission is charged with the responsibility of ensuring that all rates demanded or received by a public utility are just and reasonable; "no public utility shall change any rate... except upon a showing before the Commission, and a finding by the Commission that the new rate is justified."<sup>12</sup> Thus, in ratemaking applications, the burden of proof is on the applicant utility.<sup>13</sup>

The burden of proof remains with the utility regardless of the type of ratemaking case:

The inescapable fact is that the ultimate burden of proof of reasonableness, whether it be in the context of test-year estimates, prudence reviews outside a particular test year, or the like, never shifts from the utility which is seeking to pass its costs of operations onto ratepayers on the basis of the reasonableness of those costs.<sup>14</sup>

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<sup>11</sup> Assigned Commissioner's Scoping Memo and Ruling, p. 3.

<sup>12</sup> Public Utilities Code §§ 451, 454

<sup>13</sup> See Application of Pacific Gas and Electric Company (2000) D.00-02-046, mimeo, p. 36, 2000 Cal. PUC LEXIS 239

<sup>14</sup> Application of Pacific Gas and Electric Company (2000) D. 00-02-046, mimeo, p. 36, 2000 Cal. PUC LEXIS 239 citing Re Pacific Bell (1987) 27 CPUC 2d 1, 21, D.87-12-067.

SCE, SDG&E, SCG, and PG&E, as the Applicants in this case, have the burden of proving that their proposals are reasonable.

**B. Legal Standard for Setting the Fair Rate of Return**

The United States Supreme Court established the legal standard for setting the fair rate of return in the Bluefield Water Works case, holding that a public utility is entitled to earn a return upon the value of its property employed for the convenience of the public, and setting forth parameters to assess a reasonable return.<sup>15</sup> That return should be:

...reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economic management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.<sup>16</sup>

The Supreme Court cautioned, however, that a utility has no constitutional right to profits similar to those that investors in speculative business ventures might expect. (Id.) In 1944, in its review of an order of the Federal Power Commission under the National Gas Act, the Supreme Court observed that setting “‘just and reasonable’ rates, involves a balancing of the investor and the consumer interests.”<sup>17</sup>

Presiding Commissioner Ferron noted at the Prehearing Conference that “the core of this proceeding is the determination of what is the lowest possible return on equity that we can authorize for a utility that would still permit the company to raise enough capital to provide reliable services at reasonable rates.”<sup>18</sup> DRA concurs with this apt description.

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<sup>15</sup> Bluefield Water Works & Improvement Company v. Public Service Commission of the State of Virginia (1923) 262 US 679, 692-693.

<sup>16</sup> *Id.*

<sup>17</sup> Federal Power Commission v. Hope Natural Gas Company (1944) 320 US 591, 603.

<sup>18</sup> Prehearing Conference (PHC) Transcript (Tr.) Volume (Vol.) 1, Page 4: Lines 13-19 (Vol. 1, 4:13-19). Henceforth, cites to the transcript will be to the Evidentiary Hearing (EH) Volumes.

#### **IV. SOUTHERN CALIFORNIA EDISON**

##### **A. SCE's Requested Capital Structure and Embedded Cost on Preferred Stock and Long Term Debt are Reasonable.**

Decision 07-12-049 authorized SCE's current capital structure of 48 percent common equity, 9 percent preferred stock and 43 percent long-term debt, and an 11.50 percent rate of return on equity, a 6.01 percent cost of preferred stock, and a 6.22 percent for long-term debt.<sup>19</sup> SCE's current application proposes no change in its authorized capital structure, and initially requested a cost of 5.86 percent for preferred stock and 5.53 percent for long-term debt,<sup>20</sup> which SCE recently updated to 5.79 percent and 5.49 percent respectively.<sup>21</sup> DRA does not oppose SCE's requested capital structure for test year 2013, or its requested embedded cost for preferred stock and long-term debt.

##### **B. SCE's Requested Return on Equity Is Unreasonable.**

SCE requests a return on equity (ROE) of 11.10 percent, a 40 basis point decrease from their currently authorized ROE of 11.50 percent. Neither the results of SCE's financial models, nor the qualitative factors such as business and financial risk that SCE faces over the next year, nor the current trend in interest rates support this request. DRA's independent analysis shows that a much lower return on equity is warranted, and recommends an ROE of 8.75 percent, based on an analysis of three financial models, giving primary weight to the DCF (Discounted Cash Flow) model<sup>22</sup> and the conclusion that SCE is slightly riskier than its proxy group.<sup>23</sup>

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<sup>19</sup> D.07-12-049, Ordering Paragraph (OP) 1, p. 56.

<sup>20</sup> Ex. 17, p. 4; ; See Ex. 24 (Woolridge), p. 1-5, Table 1-7.

<sup>21</sup> Ex. 150.

<sup>22</sup> See Tr. Vol. 3, 397:20 – 398:1, 409:15- 410:20 (Woolridge); Ex. 24, p. 1-2..

<sup>23</sup> *Id.*, p. 3-26.

## 1. SCE's Financial Models Results Do Not Support Its Requested ROE

The reasons for the differences between SCE's model results (and SDG&E, SCG, and PG&E) and those of DRA include differences in the growth rate and dividend yield used in the DCF model, and in the equity risk premium, forecasted interest rates, and the use of arithmetic versus geometric means in the Capital Assets Pricing Model (CAPM) and Historical Risk Premium (HRP) model.<sup>24</sup> DRA will discuss common issues with respect to the inputs to these models and use of models in Section VIII below.

SCE's witness Hunt calculates an ROE of 11.1 percent, based on DCF, CAPM and HRP approaches, and the addition of a floatation cost adjustment. Mr. Hunt utilizes a proxy group of twenty-six combination electric and gas companies. Mr. Hunt adjusts his base equity cost rate estimates for (1) the risk differences between his comparable group and SCE and (2) the financial risk differences between a market value capital structure and a book value regulatory capital structure (leverage adjustment). These two adjustments add 0.6% to 1.0% to his base equity cost rates for SCE.<sup>25</sup>

DRA takes issue with many of the assumptions utilized by Mr. Hunt in his analysis. SCE argues that the DCF does not provide a reliable equity cost rate estimate at the present time because (1) the assumptions of constant price/earnings (P/E) and market-to-book (M/B) ratios, and (2) the DCF model produces insufficient earnings when market-to-book ratios are above 1.0.<sup>26</sup> DRA witness Dr. Woolridge explained that both of these criticisms are invalid. With respect to the DCF assumptions, they make the model internally consistent, and presume that stocks are priced on the basis of current and prospective dividends.<sup>27</sup> SCE cites no independent analyses that make such a criticism of DCF. SCE's second criticism is illogical, as "the fact that P/E and M/B ratios change is simply an indication that new information relating to the economic environment is

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<sup>24</sup> See Ex. 24, pp. 1-2 to 1-4; *see generally* Ex. 35A.

<sup>25</sup> Ex. 24, p. 5-51.

<sup>26</sup> *Id.*, p. 5-56.

<sup>27</sup> *Id.*

available and has caused investors to revalue shares. The DCF is based on expectations, and thus it is also likely that the new information actually results in a change in equity cost rates.”<sup>28</sup> With respect to M/B ratios, they exceed one when a “firm is expected to earn more on the book value of investment than investors require,”<sup>29</sup> and thus, with the standard of use of DCF model amongst regulators and investors, if the DCF model produced insufficient earnings such public utilities would not have market-to-book ratios over one.<sup>30</sup> Finally, SCE’s DCF results are also skewed because of the asymmetric elimination of low end and not high end results.<sup>31</sup>

SCE’s calculation of the Market Risk Premium also deviates from accepted practice, without any support from economic literature or independent analysts. SCE computes the MRP “as the spread between Baa corporate bond yields and preferred stock yields relative to the risk-free interest rate”<sup>32</sup> and “in both cases ...computes the current yield premium (2.10% for Baa bonds and 3.63% for preferreds).”<sup>33</sup> SCE further “assumes that 15% of the spread is due to default risk and the rest is due to systematic risk, and then assumes a beta level of 0.26 for bonds and 0.4 for preferred stocks. This approach yields a market risk premium of 7.50% using bonds and 9.06% using preferred stocks.”<sup>34</sup> SCE’s approach is not supported by any economic literature or regulatory decisions. Moreover, SCE’s market risk premium estimates are based on ad hoc and outdated assumptions. SCE performed no empirical analysis for the presumption that 15% of the yield premium is due to systematic risk and the estimates of beta for bonds and preferred stock. Furthermore, SCE’s estimates of beta are based on outdated

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<sup>28</sup> *Id.*, p. 5-57.

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> Ex. 24, p. 5-63.

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*

empirical studies.<sup>35</sup> Such perfunctory, untested, self-serving analysis does not meet SCE's burden of proof, and SCE's adjustments should be rejected.

## **2. SCE's Proposed Financial Risk and Firm-Specific Risk Adjustments are Unreasonable**

As discussed below in Section VIII.B., adjustments to the model results for California-specific business and regulatory risks are unwarranted, because any such risks are already accounted for in the financial analyses of the specific companies (and the companies in the proxy groups), and the regulatory environment is viewed as supportive of utilities. SCE's proposed financial risk and firm-specific risk adjustments are similarly unreasonable.

SCE proposes an adjustment to reflect the purported "financial risk differences between a market value capital structure and a book value regulatory capital structure (leverage adjustment). SCE claims that an upward adjustment is needed because (1) market values are greater than book values for utilities and (2) the overall rate of return is applied to a book value capitalization in the ratemaking process. This adjustment is unwarranted for the following reasons:

"(1) The market value of a firm's equity exceeds the book value of equity when the firm is expected to earn more on the book value of investment than investors require. ... As such, the reason that market values exceed book values is that the company is earning a return on equity in excess of its cost of equity;

"(2) Despite Mr. Hunt's contention that this represents a leverage adjustment, there is no change in leverage. The utility's financial statements and fixed financial obligations remain the same. Thus, there is no need for a leverage adjustment because there is no change in leverage; and

"(3) Financial publications and investment firms report capitalizations on a book value and not a market value basis."<sup>36</sup>

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<sup>35</sup> *Id.*

<sup>36</sup> *Id.*, pp. 5-71 to 5-72.

SCE's MV/BV adjustment is also erroneous because it is illogical. "The MV/BV adjustment increases the ROEs for utilities that have high returns on common equity and decreases the ROEs for utilities that have low returns on common equity. The graphs presented in Attachment JRW-6 [of Ex. 24] demonstrate that there is a strong positive relationship between expected returns on common equity and market-to-book ratios for public utilities. Hence, in the context of Mr. Hunt's leverage adjustment, this means that: (1) for a utility with a relatively high market-to-book ratio (e.g., 2.5) and ROE (e.g., 12.0%), the leverage adjustment will increase the estimated equity cost rate, while (2) for a utility with a relatively low market-to-book ratio (e.g., 0.5) and ROE (e.g., 5.0%), the leverage adjustment will decrease the estimated equity cost rate. Therefore, the adjustment will result in even higher market-to-book ratios for utilities with relatively high ROEs and even lower market-to-book ratios for utilities with relatively low ROEs."<sup>37</sup>

Finally, SCE proposes an adjustment for the purportedly higher firm-specific risks SCE faces. However, DRA's analysis, relying on bond ratings to assess the relative riskiness of the applicants relative to each other and the proxy groups, suggests that SCE is only slightly riskier than the Electric Proxy Group.<sup>38</sup> SCE's rebuttal testimony, in which it claimed that an increase in the Volatility Index (VIX) from the period of 1990-2007 to 2008-2011 supports an increased equity risk premium, is contradicted by the lower VIX levels throughout all of 2012, which they ignored in their analysis.<sup>39</sup>

## **V. SAN DIEGO GAS AND ELECTRIC COMPANY**

### **A. SDG&E's Requested Capital Structure and Embedded Cost on Preferred Stock and Long Term Debt are Reasonable.**

The currently authorized capital structure for SDG&E consists of 45.25 percent long-term debt, 5.75 percent preferred stock, and 49 percent common equity, with

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<sup>37</sup> *Id.*, p. 5-72.

<sup>38</sup> *Id.*, p. 5-73.

<sup>39</sup> Ex. 19, pp. 24 – 25; *See* Tr. Vol. 5, 859:14 -863:24 (Hunt).

currently authorized costs of 7.25 percent for preferred stock, 5.62 percent for long-term debt, and 11.1 percent for common equity.<sup>40</sup> SDG&E's proposed capital structure for test year 2013 consists of 45.25 percent long-term debt, 2.75 percent preferred stock, and 52 percent common equity, with costs of 5.09 percent for long-term debt, 6.35 percent for preferred stock, and 11.0 percent for common equity.<sup>41</sup> In its October 9 update, SDG&E requests an overall rate of return of 8.15 percent, based on an updated 6.22 percent cost of preferred stock and a 5.00 percent cost of long-term debt.<sup>42</sup> DRA does not oppose SDG&E's requested capital structure for test year 2013, or its requested embedded costs for preferred stock and long-term debt.

### **B. SDG&E's Requested Return on Equity is Unreasonable**

SDG&E requests an 11.00 percent ROE, based on DCF, CAPM including Empirical CAPM (ECAPM), Historical Risk Premium (HRP), and Adjusted Risk Premium (ARP) approaches. SDG&E witness Morin utilizes a proxy group of thirty-one combination electric and gas companies and a proxy group of thirteen western utility companies. Dr. Morin includes a flotation cost adjustment of 20-23 basis points to each of his equity cost rate approaches. He arrives at an equity cost rate of 10.4%, and then adds an additional risk adjustment of 50 basis points to account for the higher beta for SDG&E's parent company, Sempra Energy.<sup>43</sup> SDG&E witness Widjaja adjusts the request a further 10 basis points upwards for business, regulatory, and financial risks.<sup>44</sup>

#### **1. SDG&E's Financial Models Results Do Not Support Its Requested ROE**

The errors in SDG&E's analysis include: (1) the adjustment of the dividend yield for a full year of growth; (2) the expected DCF growth rate, and in particular Dr. Morin's excessive reliance on the projected growth rates of Wall Street analysts and *Value Line* to

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<sup>40</sup> D.07-12-049, OP 2, p. 58.

<sup>41</sup> Ex. 2, p. 13; *See* Ex. 24, p.1-5, Table 1-6.

<sup>42</sup> Ex. 151, Table 2.

<sup>43</sup> *See* Ex. 24, p. 5-50.

<sup>44</sup> Ex. 3, p.22-23.

measure expected DCF growth; (3) Dr. Morin's use of the empirical ECAPM; (4) the measurement and magnitude of the equity risk premium used in CAPM and RP approaches; (5) the adjustment for flotation costs; and (6) the risk adjustment to account for the firm-specific risks of SDG&E.<sup>45</sup>

Dr. Morin's use of a western utility proxy is inappropriate, as any additional risks attributable to SDG&E's location are captured in the rating agencies' analyses already. This provides an upward bias to his DCF results.<sup>46</sup> Dr. Morin also errs by using ECAPM, which will be discussed below in Section VIII. B.2.d. DRA will discuss flotation costs and other issues regarding SDG&E's analyses in Section VIII below.

## **2. SDG&E's Requested Adjustments are Unreasonable**

SDG&E witness Dr. Morin recommends an additional risk adjustment of 50 basis points for alleged unique SDG&E risks to account for the higher beta of Sempra, SDG&E's parent company. However, parent company Sempra has more risk than SDG&E, as it has a common equity ratio of 49 percent, while SDG&E (and SCG) are requesting an equity ratio of 52 percent in this proceeding.<sup>47</sup> Almost 20 percent of Sempra's operations are in unregulated activities, including such projects as Sempra's Liquefied Natural Gas (LNG) import terminal in Costa Azul, Mexico.<sup>48</sup> While most recent indicators show the beta of Sempra is 0.80 compared to the industry average of 0.73, at the time of the last proceeding in 2007 the beta of Sempra was 1.10 compared to an industry average beta of 0.93, indicating that Sempra's riskiness has declined both absolutely and in relation to the rest of the electric industry since the last proceeding.<sup>49</sup> It is improper to adjust SDG&E's return based on the different beta of its parent company given the extensive, risky unregulated activities Sempra undertakes. DRA's analysis of

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<sup>45</sup> Ex. 24, p. 5-51.

<sup>46</sup> *See id.*, p. 5-54.

<sup>47</sup> Tr. Vol.1, 9:8 – 12:15 (Morin).

<sup>48</sup> Tr. Vol.1, 12:28-13:19, 14:3-6 (Morin).

<sup>49</sup> *See* Tr. Vol. 1, 16:28 – 19:14 (Morin).

bond ratings shows that SDG&E is similar in risk to the Electric proxy group utilized by DRA, and are slightly less risky than PG&E and SCE.<sup>50</sup> There is no credible evidence to support a finding that SDG&E merits an upward adjustment for unique SDG&E risks.

SDG&E witness Widjaja also proposes a 10 basis point adjustment for business, regulatory, and financial risks. DRA discusses the impropriety of such general requests below in Section VIII.C.

## **VI. SOUTHERN CALIFORNIA GAS COMPANY**

### **A. SCG's Requested Capital Structure and Embedded Cost on Preferred Stock and Long Term Debt are Reasonable.**

SCG proposed a capital structure for test Year 2013 consisting of 45.60 percent long-term debt, 2.40 percent preferred stock, and 52 percent common equity, with costs of 6.00 percent for preferred stock and 5.72 percent for long-term debt.<sup>51</sup> In its October 9 update, SCG requested the same 6.00 percent for preferred stock but an increase to 5.77 percent for long-term debt, thus resulting in an overall return of 8.44 percent.<sup>52</sup> DRA does not oppose SCG's requested capital structure for test year 2013, or its requested embedded cost for preferred stock and long-term debt.

### **B. SCG's Requested Return on Equity is Unreasonable**

SCG requests a 10.90 percent ROE, based on DCF, CAPM including Empirical CAPM (ECAPM), Historical Risk Premium (HRP), and Adjusted Risk Premium (ARP) approaches. SCG witness Morin utilizes a proxy group of seven natural gas companies, and a proxy group of thirty-one combination electric and gas companies. Dr. Morin includes a flotation cost adjustment of 20-23 basis points to each of his equity cost rate approaches. SCG arrives at an equity cost rate of 10.1%, and then adds an additional risk adjustment of 40 basis points to account for the higher risk of SCG relative to his proxy groups.<sup>53</sup> SCG witness Schlax requests a further 40 basis point adder for alleged risks

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<sup>50</sup> Ex. 24, pp. 3-24 to 3-26, Attachment JRW-4 pp. 1 – 4.

<sup>51</sup> Ex. 9, p.14; *See* Ex. 24, p. 1-5, Table 1-8.

<sup>52</sup> Ex. 153, Table 2.

<sup>53</sup> *See* Ex. 24, p. 5-50.

associated with increased capital spending for customer growth, Advanced Meter Infrastructure, and increased pipeline safety. SCG witness Shepherd generally discusses the risk factors associated with SCG operations.

### **1. SCG's Financial Models Results Do Not Support Its Requested ROE**

The errors in SCG's analysis are similar to those detailed above for SDG&E, except for the specific adjustment for alleged firm-specific risks for SCG. Dr. Morin makes an error in his proxy group for SCG by utilizing a proxy group of combined electric and gas companies as well as a proxy group of gas-only companies rather than focusing solely on gas-only companies as DRA did. Dr. Morin claimed that only including eight companies, as DRA did, was statistically insufficient according to the Central Limit Theorem,<sup>54</sup> but that theory only applies to randomly chosen entities and not to proxy groups which are carefully selected according to strict parameters.<sup>55</sup> Just because a sample size is small does not mean that the results will not be normally distributed or statistically significant, and Dr. Morin admitted he never even tested Dr. Woolridge's proxy group's distribution to see if it was normally distributed, mistakenly assuming that it must not be strictly due to size.<sup>56</sup> Dr. Morin's gas proxy group was only seven companies, but he also used a proxy group of combined gas and electric companies as a proxy for gas companies, assuming that such a group was comparable. Dr. Morin admitted that if electric industry metrics were more risky than gas industry metrics it could skew the analysis,<sup>57</sup> and that the cost of capital results for his gas-only proxy group were lower than for his combined gas-and-electric group.<sup>58</sup> Indeed, using the betas from Dr. Morin's own gas-only proxy group rather than including the combined gas-and-

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<sup>54</sup> Ex. 12, p. 24; Ex. 16, p. 28; Tr. Vol. 1, 36:19 – 37:5 (Morin).

<sup>55</sup> Tr. Vol. 1, 34:20 – 35:7, 37:6-20 (Morin).

<sup>56</sup> Tr. Vol. 1, 37:21 – 33:8; 38:19 – 39:14; 39:28 – 40:14; 41:1-7 (Morin).

<sup>57</sup> See Tr. Vol. 1, 41:8 – 42:14 (Morin).

<sup>58</sup> Tr. Vol. 1, 106:1-5 (Morin).

electric group would have reduced Dr. Morin's result by 40 basis points,<sup>59</sup> the exact size of the adder he proposes. Dr. Morin cannot establish a specific risk adjustment for SCG when he does not utilize a gas-only proxy group as his basis of comparison.

## **2. SCG's Requested Adjustments are Unreasonable**

SCG witness Dr. Morin recommends an additional risk adjustment of 40 basis points for unique SCG risks to account for the alleged higher risk of SCG relative to other gas companies. Dr. Morin claims that SCG has typically received an ROE 40 basis points higher on average than other gas utilities,<sup>60</sup> but this factor alone does not justify an explicit adder. DRA's analysis of bond ratings shows that SCG is similar in risk to the Gas-only proxy groups utilized by DRA, and are slightly less risky than PG&E and SCE.<sup>61</sup>

SCG witness Schlax requests a forty basis point adder for alleged increased risks due to an increased need for capital for customer growth, advanced meter infrastructure, and increased pipeline safety regulations. None of these alleged reasons justify an increase in ROE, as they do not increase SCG's risks and are taken into account by rating agencies. SCG has not established that its customer growth is currently at a higher rate than usual. As for the capital needs of advanced meters, SCG provides no reason why such costs, anticipated now for years, will be difficult to fund. Finally, the issues associated with increased gas safety requirements and rate of return are not covered in this proceeding, and even if it were to be assumed that SCG's capital needs will increase, that fact alone does not justify an increased rate of return. Simply put, SCG's risks are not increased simply because they have to increase safety requirements and perhaps increase capital spending on pipelines. Mr. Schlax concedes his request is only based on his "informed judgment" and also "taking into consideration the risks identified by witness Ms. Shepherd."<sup>62</sup>

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<sup>59</sup> Tr. Vol. 1, 106:6-27 (Morin).

<sup>60</sup> Ex. 12, pp. 61 – 62; Tr. Vol. 1, 32:13 – 33:3 (Morin).

<sup>61</sup> Ex. 24, pp. 3-24 to 3-26; pp. 5-72 to 5-73; Attachment JRW-4 pp. 1 – 4.

<sup>62</sup> Tr. Vol. 4, 605:5 – 606:5 (Schlax).

SCG witness Shepherd fails to identify any specific risks that SCG bears that would not be taken into account already by rating agencies, nor does SCG establish that its risks exceed those of other gas-only companies. Ms. Shepherd asserts that “SoCalGas continues to be vulnerable to competition in non-core transportation markets (63% percent of throughput),”<sup>63</sup> but SCG can identify no such customers that actually left the system to be served by interstate pipelines in recent years, only failed bypass schemes that would have required construction of new pipeline facilities to serve the customers.<sup>64</sup> SCG provides no comparison of risks of competition in other states without California’s unique regulatory status allowing for state regulation of intrastate pipelines delivering gas transported in interstate commerce. The other risks identified by Ms. Shepherd are already taken into account by the rating agencies and warrant no special adjustments to the model results.

## **VII. PACIFIC GAS AND ELECTRIC COMPANY**

### **A. PG&E’s Requested Capital Structure and Embedded Cost on Preferred Stock and Long Term Debt Are Reasonable.**

The currently authorized capital structure for PG&E consists of 47 percent long-term debt, 1 percent preferred stock, and 52 percent common equity, with currently authorized rates of return of 6.05 percent for long-term debt, 5.68 percent for preferred stock, and 11.35 percent for common equity.<sup>65</sup> PG&E’s proposed capital structure for test year 2013 is unchanged from the structure approved in D.07-12-049. For test year 2013, PG&E requested a 5.60 percent cost of preferred stock and a 5.69 percent cost of long-term debt.<sup>66</sup> In its October 9 Update, PG&E requested a 5.52 percent cost of long-term debt. DRA does not oppose PG&E’s proposed capital structure, or its proposed cost of long-term debt or preferred stock.

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<sup>63</sup> Ex. 11, p. 7.

<sup>64</sup> *Id.*; Tr. Vol. 4, 640:21 – 641-4 (Shepherd).

<sup>65</sup> D.07-12-049, OP 3, p. 58.

<sup>66</sup> Ex. 21, p.1-1; *See* Ex. 24, p. 1-5, Table 1-5.

## **B. PG&E's Requested Return on Equity is Unreasonable.**

PG&E witness Dr. Avera recommends an equity cost rate of 11.0% employing DCF, CAPM, ARP, and Expected Earnings (EE) approaches. He uses a proxy group of fourteen combination electric and gas companies and a proxy group of twelve non-utility companies. Based on these results, he concludes that the equity cost rate for PG&E is in the range of 10.2% to 11.4%, with a point estimate of 11.0%. While Mr. Avera does not make an explicit adjustment, he notes that he considered flotation costs in arriving at a point estimate within his reasonable equity cost rate range.<sup>67</sup>

### **1. PG&E's Financial Models Results Do Not Support Its Requested ROE**

The errors in PG&E's equity cost rate analysis include: (1) the adjustment of the dividend yield for a full year of growth; (2) the expected DCF growth rate, and in particular PG&E's excessive reliance on the projected growth rates of Wall Street analysts and *Value Line* to measure expected DCF growth; (3) the measurement and magnitude of the equity risk premium used in CAPM and RP approaches; (4) the validity of the Expected Earnings equity cost rate approach; and (5) PG&E's adjustments for size and flotation costs.<sup>68</sup>

Dr. Avera's DCF analysis is tainted due to his selective and asymmetric elimination of low-end rather than high-end results, leading to an overstatement of the DCF equity rate.<sup>69</sup> On cross-examination, Dr. Avera acknowledged that in recalculating Dr. Woolridge's DCF determination he eliminated forty-nine results because they were too low and one because they were too high.<sup>70</sup> Dr. Avera also claims that his calculation of a DCF for a non-utility proxy group of 12.0 percent shows the reasonableness of his utility DCF calculation. However, Dr. Avera fails to demonstrate that the non-utility proxy group is comparable in any way to PG&E's utility operations. As the Commission

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<sup>67</sup> Ex. 24, pp. 5-49 to 5-50. See *infra* Section VIII.B.3.

<sup>68</sup> *Id.*, p. 5-50.

<sup>69</sup> *Id.*, p. 5-54.

<sup>70</sup> Tr. Vol. 2, 202:15-18 (Avera). The ROEs utilized by Dr. Avera in Ex. 23, Schedule WEA 12, are also not of recent vintage and thus are not relevant to the current situation. Tr. Vol. 2, 198:7 – 200:15 (Avera).

concluded in the previous Cost of Capital decision, absent evidence supporting such a comparison, it would not consider the financial results of the non-utility proxy group.<sup>71</sup> The Commission should similarly decline to use such evidence to confirm a utility DCF analysis just because it had a lower resulting ROE.

Furthermore, Dr. Avera's sustainable growth rate analysis, as found in Schedule WEA-1,<sup>72</sup> indicates a growth rate for the group of 4.8% (the average of column d). However, this figure is higher than *Value Line*'s projected growth in book value of 4.35% for the group. This suggests that his br\*sv methodology is flawed in that it produces higher sustainable growth rates (using *Value Line* data) than *Value Line* actually is forecasting.<sup>73</sup>

Dr. Avera also erroneously includes a size adjustment in his CAPM approach for the size of companies in the utility group. Research has shown such a size premium does not exist in utility stocks, primarily due to their regulated status.<sup>74</sup> Moreover, using historical market returns to compute risk premiums introduces other problems including survivorship bias and unattainable return bias.<sup>75</sup> Finally, research has shown that the size premium itself may be due to portfolio rebalancing logistical issues rather than any actual size premium.<sup>76</sup>

Dr. Avera also includes an Expecting Earnings (EE) approach, even though it utilizes the ROEs of utility holding companies including their unregulated earnings. Dr. Avera also failed to evaluate the market-to-book ratios for such companies to determine whether past or projected ROEs met investors' requirements or not.<sup>77</sup>

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<sup>71</sup> D.07-12-049, p. 14.

<sup>72</sup> Ex. 21.

<sup>73</sup> Ex. 24, p. 5-55.

<sup>74</sup> Ex. 24, p. 5-64.

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*, p. 5-65.

<sup>77</sup> *Id.*, p. 5-69.

Although PG&E did not include an explicit adjustment in its calculation of an ROE, the choices made by its witness in calculating ROE as discussed above revealed an upward bias.

## VIII. ISSUES COMMON TO TWO OR MORE APPLICANTS

### A. Utility Capital Cost Indicators Have Changed Significantly Since 2007

DRA and intervenors<sup>78</sup> have provided numerous measurements of how capital cost indicators have changed significantly since 2007, the time of the last Cost of Capital proceeding. A comparison of the six-month periods before the last Cost of Capital hearing (April-September 2007) and the six-months before intervenor testimony filed in this proceeding (February – July 2012) shows that the average Ten-Year Treasury Yield has dropped 285 basis points from 4.79% to 1.47%.<sup>79</sup> The average yield on Thirty-Year BBB Rated Public Utility Bonds has dropped 178 basis points from 6.29% to 4.51%.<sup>80</sup> Dividend yields for electric utility companies have increased by 70 basis points, but expected growth rates have declined by 310 basis points, with the equity cost rate in the DCF model the sum of dividend yield and the expected growth rate.<sup>81</sup> The average beta, a key measure of relative riskiness in CAPM, has dropped for electric utilities from 0.93 to 0.73 from 2007 – 2012.<sup>82</sup> Volatility, as measured by VIX, has dropped from an all-time historic high in 2008 of 60 associated with the financial crisis, to below the average level of 20 today, the lowest level since 1990.<sup>83</sup> Utility stocks have outperformed the market over the last year, and the low relative volatility and risk of utility stocks is reflected in their low betas.<sup>84</sup> These DCF and CAPM capital cost indicators strongly

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<sup>78</sup> See, e.g., Exs. 55, 145.

<sup>79</sup> *Id.*, p. 2-10 to 2-11, Attachment JRW-3, p. 5.

<sup>80</sup> *Id.*, p. 2-11, Attachment JRW-3, p. 5 .

<sup>81</sup> *Id.*

<sup>82</sup> *Id.*

<sup>83</sup> *Id.*, pp. 2-9 to 2-10, Attachment JRW-3, pp. 3-4; Ex. 137. See also and cf. Tr. Vol. 1, 158:19 – 159:26 (Morin), 160:6-16.

<sup>84</sup> Ex. 24, p. 2-10.

suggest that utility capital costs are low in today's markets and significantly lower than at the time of the previous Cost of Capital proceeding in 2007.

## **B. Economic Models**

The Commission has generally relied upon DCF, CAPM, and HRP models to estimate the cost of equity. Other models, such as EE and alternatives to CAPM, have not been utilized and have been rejected in the past.<sup>85</sup> DRA gives primary weight to DCF results, given the virtually universal use of DCF by investment firms as a valuation technique and its prominent role in regulatory bodies' determinations of ROE, including the Federal Energy Regulatory Commission (FERC).<sup>86</sup> DRA will discuss below the errors made by other parties in their own DCF calculations, and how differences in the equity risk premium, interest rate forecasts, and the use of arithmetic versus geometric means affect calculations of CAPM and HRP.

The cost of equity capital is "the rate of return that investors require on their equity investments."<sup>87</sup> This cost "cannot be determined precisely and must instead be estimated from market data and informed judgment."<sup>88</sup> It is through the use of financial models that investors evaluate the expected cash flows and returns associated with stock ownership. Judgment is necessary to choose the models, the inputs to the models, and interpretation of model results.<sup>89</sup>

### **1. Discounted Cash Flow (DCF)**

The Discounted Cash Flow model estimates a cost of equity by assuming that the current stock price is equal to the discounted value of all future dividends that investors expect to receive from investment in the firm.<sup>90</sup> The DCF model interprets the rate at which investors discount future dividends as the market's expected return on the stock.

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<sup>85</sup> See D.07-12-049, pp. 24-27, rejecting use of Fama French, a different modified CAPM methodology.

<sup>86</sup> See Tr. Vol. 3, 397:20 – 398:1, 409:15- 410:20 (Woolridge).

<sup>87</sup> Ex. 24, p. 4-27.

<sup>88</sup> *Id.*

<sup>89</sup> *Id.*, p. 4-28; see, e.g., D.07-12-049, p. 28.

<sup>90</sup> *Id.*, p. 4-28.

DRA testimony contains the algebraic model which is used to calculate DCF, and explains that this model is used in some form by “[v]irtually all investment firms.”<sup>91</sup> A three-stage DCF model assumes that a company’s dividend payout progresses through an initial growth stage, a transition stage, and finally a steady-state or mature stage.<sup>92</sup> DRA explained that the public utility industry is in the steady-state.<sup>93</sup> DRA finally noted that “[s]imply put, the DCF model only presumes that stocks are priced on the basis of current and prospective dividends. Especially in the case of public utility stocks,...this is a reasonable assumption.”<sup>94</sup> The DCF methodology has been employed by this Commission to calculate ROE in numerous proceedings including the most recent Cost of Capital decision, D.07-12-049, and is the sole method utilized by FERC in calculating ROE for utilities under its jurisdiction. DRA’s DCF analysis is provided in Attachment JRW-10 to Ex. 24. Moreover, many of the decisions employed by utilities in their DCF models are unreasonable, as will be discussed below.

**a) Dividend Yield**

Parties disagree on how to adjust the current dividend for future growth. Because of differences in the timing of announced dividend changes between firms, dividend yield computed over different time periods can vary widely. Thus, analysts adjust the dividend yield by some fraction of the long-term expected growth rate. DRA adjusts the dividend yield by one-half the expected growth to reflect growth over the current year, consistent with the FERC approach.<sup>95</sup> However, the witnesses for PG&E, SDG&E, SCE, and SCG all adjust the spot dividend yield for a full year of growth.<sup>96</sup>

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<sup>91</sup> *Id.*, p. 4-29.

<sup>92</sup> *Id.*

<sup>93</sup> *Id.*, p. 4-30.

<sup>94</sup> *Id.*, p. 5-56.

<sup>95</sup> Ex. 24, pp. 4-31 to 4-32, *citing* Opinion No. 414-A, *Transcontinental Gas Pipe Line Corp.*, 84 FERC ¶61,084 (1998).

<sup>96</sup> Ex. 24, p. 5-52.

## b) Growth Rate

DRA also calculated the DCF growth rate not just utilizing analysts' forecasts of future growth, as did the utilities, because such projections have been shown to have been upwardly biased both for the market as a whole and for electric utilities.<sup>97</sup> There are several issues with these long-term EPS growth rate forecasts as measures of an appropriate long-term DCF growth rate. First, the appropriate growth rate in the DCF model is the dividend growth rate, not the earnings growth rate. Nonetheless, over the very long-term, dividend and earnings will have to grow at a similar growth rate. Therefore, consideration must be given to other indicators of growth, including prospective dividend growth, internal growth, as well as projected earnings growth.<sup>98</sup> Second, DRA witness Dr. Woolridge cited a 2011 study confirming that analysts' long-term earnings growth rate forecasts have not shown to be more accurate at forecasting future earnings than using the most recent year's EPS figure to forecast EPS in the next three to five years.<sup>99</sup> Finally, and most significantly, it is well-known that the long term EPS growth rate forecasts of Wall Street securities analysts are overly optimistic and upwardly biased. This has been demonstrated in a number of academic studies over the years.<sup>100</sup> Dr. Woolridge cited a 2007 study which found that optimism in analysts' growth rate forecasts leads to an upward bias in estimates of the cost of equity capital of almost 3.0 percentage points.<sup>101</sup> Additionally, the utilities rely on long-term EPS growth forecasts, and not on quarter-to-quarter EPS estimates of analysts.<sup>102</sup> PG&E attempted to argue that recent research shows that analysts' forecasts have not recently been upwardly

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<sup>97</sup> See Ex. 24, pp. 4-32 to 4-38, pp. 5-52 to 5-54.

<sup>98</sup> Ex. 24, p. 4-35.

<sup>99</sup> Ex. 24, p. 4-35 and fn. 13.

<sup>100</sup> *Id.*, p. 4-36 and Appendix A.

<sup>101</sup> *Id.*, p. 4-36 and fn. 14; p. 5-54 and fn. 23; Appendix A.

<sup>102</sup> *Id.*, p. 5-54.

biased,<sup>103</sup> but the articles it cites did not refer to three-to-five year forecasts, but rather much-easier-to-predict quarterly forecasts.<sup>104</sup>

DRA posits that strictly relying only upon analysts' long-term forecasts of growth without closely looking at the historical upward bias of such forecasts when compared to historical growth rates is unreasonable. Despite this conclusion, DRA still mostly relied upon *Value Line* projections,<sup>105</sup> but also utilized other analysts' projected growth rates in determining a 4.25 percent projected electric growth rate for SCE, PG&E, and SDG&E and a 4.40 percent projected gas growth rate for SCG for use in DCF calculations.<sup>106</sup> These rates are slightly lower than the growth rates used by the utilities, which were solely based on projected EPS growth rates from Wall Street analysts.<sup>107</sup>

## 2. CAPM and Historical Risk Premium (HRP)

DRA employed two other widely-used models in calculating its projected ROE: the Capital Assets Pricing Model (CAPM) and the Historic Risk Premium (HRP) model. The Commission has utilized these models in previous cost of capital proceedings, including the most recent for 2008 decided in D.07-12-049.

The CAPM is a risk premium approach to assessing a company's cost of equity capital, in which the cost of equity is the sum of the interest rate on a risk-free bond and a risk premium.<sup>108</sup> The risk premium, in turn, is comprised of a firm-specific (or unsystematic) risk, and a market (or systematic) risk which is measured by a firm's beta and an expected equity risk premium, equal to the expected return in the stock market minus the risk-free rate of interest.<sup>109</sup> DRA utilizes a risk-free interest rate of 4.0 percent, the high end of the 30-year yield of Treasury Bonds over the last six months (which has

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<sup>103</sup> Ex. 21, pp. 1-50 to 1-51.

<sup>104</sup> Exs 46, 47; Tr. Vol. 2, 213:9 – 215:21 (Avera).

<sup>105</sup> See Ex. 24, Attachment JRW-10.

<sup>106</sup> Ex. 24, p. 4-37; Attachment JRW-10; Ex. 35A.

<sup>107</sup> Ex 35A. Had Dr. Woolridge adopted specific analysts' growth forecasts alone, his recommendations would have gone up slightly. See Tr. Vol. 1, 25:5-24 (Morin); see also Tr. Vol. 206:20-207:21 (Avera).

<sup>108</sup> Ex. 24, p. 4-38.

<sup>109</sup> *Id.*, pp. 4-38 to 4-39.

ranged from 2.6 – 4.0 percent), given the prospect of higher rates in the future.<sup>110</sup> DRA calculated median betas for its Electric and Gas Proxy groups as 0.73 and 0.68 respectively, well lower than the average beta of 1.0 and the Electric beta of 0.93 in the previous Cost of Capital proceeding.<sup>111</sup>

The Historical Risk Premium model (HRP) is an alternative risk premium approach for gauging a firm's cost of equity capital.<sup>112</sup> The HRP approach calculates the cost of equity as the simple sum of the interest rate on a bond and an equity risk premium.<sup>113</sup>

#### **a) Equity Risk Premium**

As noted above, the Equity Risk Premium is an input to both the CAPM and HRP models. DRA testimony contained an extensive and thorough review of the relevant, updated trends in economic research into the equity risk premium, including historical risk premiums as provided by Morningstar or Ibbotson (the only sources for the Equity Risk Premium of the utilities, based on the difference over the past 80 years of the rate of return of the S&P 500 compared with government bonds); ex ante equity risk premium studies; equity risk premium surveys of CFOs, financial forecasters, and academics; building block approaches to the equity risk premium; and other studies.<sup>114</sup> To eliminate the impact of the recent financial crisis, DRA did not include studies of risk premiums published prior to 2010, and used a median of studies published from 2010-2012 to determine a 5.01 percent risk premium for use in this proceeding.<sup>115</sup> This premium is consistent with several contemporaneous risk premiums, including the June 2012 CFO study, to which Dr. Woolridge assigns the greatest weight.<sup>116</sup>

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<sup>110</sup> *Id.*, p. 4-39; Ex. 35A.

<sup>111</sup> Ex. 24, p. 4-40; Attachment JRW-11, p. 3; *see also* D.07-12-049, p. 15.

<sup>112</sup> Ex. 24, p. 4-44.

<sup>113</sup> *Id.*

<sup>114</sup> Ex. 24, pp. 4-40 to 4-43, Attachment JRW-11, pp. 4 - 11

<sup>115</sup> Ex. 24, p. 4-43, Attachment JRW-11, pp. 5-6.

<sup>116</sup> Ex. 24, p. 4-43; Tr. Vol. 3, 408:18-409:9 (Woolridge).

All the utilities utilize excessive equity risk premiums. PG&E applies a DCF model to the S&P 500 to get an expected market return of 13.5 percent, and then subtracts a risk-free rate of 3.80 percent to derive a 9.7 percent equity risk premium. By starting with a high DCF approach, skewed improperly higher by reference to the S&P 500 rather than regulated utilities,<sup>117</sup> PG&E determines a CAPM rate of 10.8 percent. This rate is inconsistent with both historical and projected rates and should be disregarded.<sup>118</sup> SDG&E and SCG's witness Dr. Morin calculates a 7.90 percent risk premium as an average of a historic risk premium of 6.70 percent, and a prospective market risk premium, of his own design, of 9.10 percent derived from a DCF-expected return of 13.10 percent using *Value Line* stocks calculated as the sum of a 2.9 percent dividend yield and a 10.2 percent expected growth rate.<sup>119</sup> This ad hoc future analysis, bootstrapped from an excessive DCF growth rate, should not be granted any weight. Moreover, the historical risk premium, calculated as the difference between the arithmetic average stock return and the bond income (coupon only) over the 1926-2011 period, overly relies on old data to calculate an excessive expected market risk premium. SCE's unique risk premium methodology was discussed above.

#### **b) Arithmetic vs. Geometric Mean Return**

DRA utilized the geometric mean rather than the arithmetic mean as a measure of investment return in its calculation of an equity risk premium. Using the geometric mean return serves to mitigate the empirical biases associated with the use of historical returns to estimate an equity risk premium, and the U.S. Securities and Exchange Commission requires equity mutual funds to report historic return performance using geometric mean and not arithmetic mean returns.<sup>120</sup> A 2010 study concluded the arithmetic mean may overstate the risk premium.<sup>121</sup> The geometric mean is preferred when analyzing a single

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<sup>117</sup> Ex. 24, p. 5-62 and Appendix C.

<sup>118</sup> Ex. 24, pp. 5-59 to 5-61; Ex. 35A.

<sup>119</sup> Ex. 24, pp. 5-62 to 5-63; Ex. 35A.

<sup>120</sup> Ex. 24, p. 4-46 to 4-47.

<sup>121</sup> Ex. 24, p. 5-57 to 5-58.

security price over time, in a time series, as is done in equity risk premium studies that rely upon more than one period, such as Ibbotson's and the other equity risk premium studies relied upon by DRA.

**c) Interest Rate Forecasts**

As discussed above, DRA utilized a 4.0 percent as the risk-free interest rate, based on recent actual rates. SCE and PG&E forecast 3.75 percent and 3.80 percent rates respectively, while SDG&E and SCG forecast a 4.2 percent rate. To the extent these forecasts are not based on actual rates but are strictly forecasts, DRA believes that such forecasts are not reliable, credible, or accurate.<sup>122</sup> DRA does note, though, that the predictions do not vary much from DRA's use of the high level of a recent range of actual rates.

**d) Use of ECAPM Is Unreasonable**

SDG&E, SCE, and SCG have employed a variation of the CAPM, the ECAPM. The ECAPM attempts to model the well-known finding of tests of the CAPM that have indicated the Security Market Line (SML) is not as steep as predicted by the CAPM. As such, the ECAPM is nothing more than an ad hoc version of the CAPM and has not been theoretically or empirically validated in refereed journals. The ECAPM provides for weights which are used to adjust the risk-free rate and market risk premium in applying the ECAPM. The error with using the ECAPM in this case is that the companies use betas from Value Line and Bloomberg. These betas are adjusted to reflect the fact that historically, betas tend to regress toward 1.0 over time. Using adjusted betas, therefore, increases the return for stocks with betas less than 1.0, and decreases the return for stocks with beta greater than 1.0. As noted above, betas have dropped considerably for utilities, and thus using this methodology increases their returns, ostensibly the motivation for its use by the utilities. Because the companies have employed adjusted betas in such a fashion, it would be unreasonable to use the ECAPM.<sup>123</sup> Other varieties of the CAPM

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<sup>122</sup> Ex. 24, p. 5-58.

<sup>123</sup> Ex. 24, pp. 5-63 to 5-64.

have been rejected by this Commission in the past for producing higher results than CAPM,<sup>124</sup> and CAPM itself usually produces results higher than other methods, and thus including it and a modified version with even higher results would provide an upward bias to the results.

### **3. Flotation Costs**

PG&E, SDG&E, and SCG make an upward adjustment to their equity cost rates for flotation costs. Flotation costs are the costs associated with issuing common stock. For PG&E, Mr. Avera's adjustment is implicit. For SDG&E and SCG, Mr. Morin makes an explicit flotation cost adjustment in each of his equity cost rate models. DRA believes that a flotation cost adjustment is erroneous for several reasons. First, the companies have not identified any actual flotation costs for the companies. Second, with utility company M/B ratios at a level of about 1.5, there is no dilution of existing stockholders' investment when new shares are issued, and the difference in market and book value is far greater than any flotation costs.<sup>125</sup> These adjustments are unwarranted and should be rejected.

#### **C. Applicants Have Failed To Carry Their Burden of Proof to Show that the Model Results Should be Adjusted for California Business and Regulatory Risks**

SCE, SDG&E and SCG have all proposed explicit adjustments to account for purportedly higher risks, which DRA has discussed above in sections pertaining to each utility. The Commission should not grant explicit adders to the models for any purported California business and regulatory risks. The utilities have the burden of showing that any purported additional California business and regulatory risks should be accounted for by adjustments to the model results. They do not carry this burden.

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<sup>124</sup> See D.07-12-049, pp. 24-27, rejecting use of Fama French, a different modified CAPM methodology.

<sup>125</sup> Ex. 24, p. 5-70.

First, the rating agencies consider all relevant information already in their ratings of utilities, including any California business and regulatory risks.<sup>126</sup> The numerous rating agency evaluations introduced in this proceeding all demonstrate a thorough, nuanced understanding of the California utility market and Commission behavior.<sup>127</sup>

Second, California regulators have been typically viewed as supportive or highly supportive of utilities.<sup>128</sup> While some of that reputation is likely attributable to recent decisions that have granted utilities relatively high ROEs, there need not be an explicit adder to the result reached by the models in this proceeding to account for alleged risks associated with the Commission. Such alleged risks include the reforms in the electric market, as the Commission has consistently supported utility recovery of such costs. Just because there are changes in some regulatory practices does not necessarily mean that a utility faces increased risk. DRA also questions the difficulty for utilities in attracting adequate capital for new electric and gas transmission projects.

Third, a review of the various balancing accounts, decoupling and other regulatory mechanisms reveals that the utilities are clearly well protected compared to utilities in other states.<sup>129</sup> California checks off all the boxes for mechanisms that reduce utility risk. As DRA witness Oh explains, in addition to the 40 – 54 percent of cost recovery in balancing accounts for the various utilities as shown in their supplemental testimonies,<sup>130</sup> the utilities recover their GRC-authorized revenue amounts in balancing accounts. As such, the utility is at risk for the remaining costs not covered by a balancing account. These costs are under the discretion and control of utility management, allowing the utility to manage its costs while meeting its safety obligations and other responsibilities to the public.<sup>131</sup>

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<sup>126</sup> See, e.g., Tr. Vol. 1, 75:3-12 (Morin); Tr. Vol. 2, 304:6-15 (Avera), Ex. 58; Ex. 23, p. 2-1, Tr. Vol. 3, 560:3-12 (Smith).

<sup>127</sup> See, e.g., Ex. 129.

<sup>128</sup> See, e.g., Ex. 7 (Widjaja) p. 17; Ex. 137, p. 4.

<sup>129</sup> See, e.g., Exs. 23 and 23-A, Attachment 1.

<sup>130</sup> Exs. 5, 13, 18, 22.

<sup>131</sup> Ex. 25, pp. 2 – 4; See Tr. Vol. 4 767:27 – 768:15 (Oh).

Finally, as the credit rating agencies consider all relevant information in determining the credit ratings of the utilities, and equity investors are cognizant of this fact, the value that equity investors assign to the stock prices are reflective of all relevant information. As such, business and regulatory risk is already imputed in the stock price and any other adjustments are unwarranted.

#### **D. Debt Equivalence**

SCE, PG&E and SDG&E claim that they must have a strong capital structure due to debt equivalence (DE). Despite the acceptance of the utilities proposed capital structures, DRA does not accept that DE needs to be an explicit part of the determination of the appropriate capital structures for ratemaking purposes. Most importantly, DE is strictly a concept and methodology developed by rating agencies and is not an element of Generally Accepted Accounting Principles (GAAP). Hence, the debt imputed by rating agencies is not recognized as debt on a company's financial statements.<sup>132</sup> Moreover, the various rating agencies already consider DE in varied ways.<sup>133</sup> Finally, as this Commission is aware, Power Purchase Arrangements do not increase risk for utilities, as any costs of such agreements are fully covered by ratepayers through well-established mechanisms, and the Commission should disregard utility arguments about DE in determining capital structure.

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<sup>132</sup> Ex. 24, p. 3-21.

<sup>133</sup> Ex. 24, pp 3-21 to 3-24; *see, e.g.* Ex. 38.

## IX. CONCLUSION

For all the foregoing reasons, and for the reasons set forth in its testimony, DRA asks that its recommendations be adopted.

Respectfully submitted,

/s/ Jonathan A. Bromson

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