

**STATE OF RHODE ISLAND  
PUBLIC UTILITIES COMMISSION**

**IN RE: THE NARRAGANSETT ELECTRIC COMPANY            :**  
**d/b/a RHODE ISLAND ENERGY APPLICATION FOR        :** **DOCKET NO. 25-45-GE**  
**APPROVAL OF A CHANGE IN ELECTRIC AND GAS         :**  
**BASE DISTRIBUTION RATES                                 :**

**DIVISION'S RESPONSES TO RI ENERGY'S**  
**SECOND SET OF DATA REQUESTS**

**May 7, 2026**

RIE 2-1

Request:

On page 9 of Mr. Rothschild's direct testimony, he states that "major financial institutions are informing their clients to expect returns on the overall market (S&P 500) of 5.7% to 8.5%." Please provide copies of any advice that major financial institutions are providing to which Mr. Rothschild is referring and explain whether these overall returns are:

- a. For the overall market (i.e., the S&P 500), not regulated utilities.
- b. Were not developed for the purpose of setting regulated utility ROEs.
- c. Are calculated as investors' required returns for the purposes of making investment decisions.
- d. If these expected returns are not developed for the purpose of setting utility ROEs and are not investors' required returns, please explain how they validate a utility ROE recommendation.
- e. To the extent that the data exists, please provide a decomposition of each expected market return that Mr. Rothschild cites into the amount that is driven by earnings growth, the amount that is driven by dividend yields, and the amount that is driven by "repricing" or changes in valuation due to current market over- or under-valuation.

Response:

- a. Yes. The return expectations cited from these financial institutions represent the expected returns for the broader U.S. equity market (such as the S&P 500 or U.S. Large Cap equities), rather than a specific subset of regulated utility companies.
- b. Yes. While Mr. Rothschild understands that these specific reports were not drafted for the explicit administrative purpose of setting a regulated utility's authorized ROE, they are highly relevant. The fundamental economic premise of utility regulation is to act as a surrogate for competition. Therefore, the long-term return expectations that drive real-world capital allocation by institutional investors in competitive markets serve as essential benchmarks for determining a fair, market-based cost of equity.
- c. Yes. In efficient capital markets, investors' forward-looking expected returns effectively represent their required returns (or hurdle rates) for deploying capital. Major institutional investors and asset managers utilize these specific capital market assumptions to make strategic, long-term portfolio allocation decisions.
- d. Because the response to subpart (c) establishes that these figures do represent investors' required returns for the broader equity market, the premise of this question is largely moot. However, these figures validate a utility ROE recommendation by serving as a strict economic ceiling. A low-risk, regulated monopoly utility cannot logically require a

higher return than the riskier overall stock market. If the required return for the broader, riskier market is approximately 7.0%, a recommended utility ROE of 10.75% is inconsistent with objective capital market realities.

- e. Mr. Rothschild relied on the published reports and datasets of these institutions to inform his market-based analysis. To the extent the specific numerical decomposition exists in the currently published materials, it is provided in the attached source documents. Because the Horizon Actuarial survey is an aggregation of 41 different investment firms, it does not publish the underlying building blocks for its composite estimates. However, the other cited institutions do provide the exact decomposition requested, and they uniformly exclude or deduct speculative multiple expansion ("repricing") from their forward-looking market expectations:
- J.P. Morgan (2026 LTCMA): As detailed in Exhibit 6 (page 13) of its 2026 report, J.P. Morgan explicitly decomposes its 6.7% U.S. Large Cap expected return into fundamental drivers. The model expects a positive contribution from dividends (+1.7%) and net earnings/cash flow growth (+7.0%, derived from revenue, margins, buybacks, and dilution), but it explicitly projects that current high valuations will result in a negative "repricing" effect, applying a -2.0% annual drag to arrive at the final 6.7% total return. See "DPUC Attachment 1 to RIE 2-1(e)".
  - Professor Damodaran: As detailed in Figure 11 of his 2026 ERP Report, his 8.41% expected market return for January 1, 2026, is driven by a 1.15% dividend yield, a 1.76% stock buyback yield, and top-down analyst earnings growth estimates. Because his implied equity risk premium model solves for the internal rate of return that justifies the current index level, the repricing expectation is 0.00%. See "DPUC Attachment 2 to RIE 2-1(e)".
  - Kroll (2023 SBI Yearbook): Kroll's supply-side model breaks historical equity returns into inflation, income return, real earnings growth, and P/E growth (repricing). Crucially, Kroll explicitly removes the "repricing" factor from its forward-looking expected market return, stating "it is not believed that P/E will continue to increase in the future". See "DPUC Attachment 3 to RIE 2-1(e)".

Response prepared by Aaron Rothschild.

RIE 2-2

Request:

On page 55 of Mr. Rothschild's direct testimony, he claims that a 0.04 percent reduction in a company's cost of equity results from every 1 percent increase in its common equity ratio (herein referred to as the "Relationship").

- a. Please provide all support for this claim. To the extent that support includes analyses or calculations, please provide that information in live Excel format with formulas intact.
- b. Over what period was this Relationship observed? If the analytical period does not apply to the last 12 months, has Mr. Rothschild performed any analysis to confirm that the Relationship is consistent with current capital market conditions?
- c. Does Mr. Rothschild claim that this Relationship is linear across all common equity ratios? Explain why or why not.
- d. Does Mr. Rothschild claim that this Relationship is stable across all jurisdictions? Explain why or why not.
- e. Is this Relationship applicable to companies that both own and do not own generation? Explain why or why not.
- f. Is Mr. Rothschild aware of any commissions that have accepted or applied this Relationship?

Response:

- a. The supporting analysis and calculations for this relationship are provided as an attachment. See "DPUC Attachment RIE 2-2(a)".
- b. The relationship was observed using data from March 1989 through February 1993. An updated empirical study has not been performed because accurately replicating the precise conditions of that study is no longer feasible due to structural changes in the utility industry. Over the past several decades, utility holding companies have increasingly added unregulated operations to their portfolios. During the 1989 to 1993 analytical period, the market featured a much larger pool of "pure-play" regulated utility companies. This abundance of pure-play utilities enabled a highly precise, unpolluted measurement of exactly how changes in capital structure impact the cost of equity, without the statistical noise caused by unregulated business segments. While the specific numerical output relies on that historical data, the foundational financial principle -- that a higher equity ratio lowers financial risk, thereby reducing the cost of equity -- remains a persistent reality of current capital market conditions.
- c. No. Mr. Rothschild does not claim that this relationship is perfectly linear across *all* theoretically possible common equity ratios (e.g., approaching 0% or 100%), as extreme

capital structures would likely introduce non-linear distress costs or tax inefficiencies. However, it is not necessary for the relationship to be linear across all theoretical ratios.

- d. No. Mr. Rothschild has not tested this specific numerical relationship across *all* global or domestic jurisdictions, as differing tax treatments, regulatory frameworks, and bankruptcy laws could theoretically impact the precise coefficient of the relationship. However, while the exact slope of the adjustment may vary slightly by jurisdiction, the underlying financial math, that substituting debt with more expensive equity reduces financial risk and therefore lowers the required return on equity, is structurally sound and likely applicable across multiple jurisdictions.
- e. Mr. Rothschild has not performed a specific analysis to isolate and test this relationship separately for generation-owning versus non-generation utilities. Nevertheless, the relationship describes the fundamental tradeoff between financial leverage and equity risk. Because this is a function of capital structure mathematics rather than asset type, the principle that higher equity ratios reduce financial risk applies to capital-intensive monopoly utilities regardless of whether their rate base includes generation assets.
- f. While Mr. Rothschild's broader cost of capital methodologies and recommendations have been adopted by multiple utility commissions, he is not aware of a specific commission order that has explicitly cited or adopted this precise 0.04% coefficient adjustment.

Response prepared by Aaron Rothschild.

RIE 2-3

Request:

On page 56 of Mr. Rothschild's direct testimony, he claims that "[t]here is no sound financial justification for a regulated subsidiary like RIE to maintain a common equity ratio that is 800 basis points higher (57% vs. 49%) than the consolidated holding company that owns and finances it."

- a. Please provide any analysis Mr. Rothschild performed on the impact on Rhode Island Energy's standalone credit metrics if the Commission were to adopt his recommended 49 percent equity ratio and 8.25 percent ROE recommendations.
- b. Admit or deny: it is possible that Rhode Island Energy's credit ratings could be downgraded if the Commission were to adopt Mr. Rothschild's 49 percent equity ratio and 8.25 percent ROE recommendations.

Response:

- a. Mr. Rothschild did not perform quantitative modeling of Rhode Island Energy's (RIE) standalone credit metrics based on his 49% equity ratio and 8.35% ROE recommendations. Analyzing RIE on a purely standalone basis ignores how the company is financed. RIE does not raise capital in a vacuum; it is financed directly by its parent, PPL Corporation.

As noted in Moody's June 30, 2025 credit opinion (provided as a confidential response to DIV 7-9-15), RIE is highly financially integrated with PPL and relies heavily on its parent for liquidity and capital structure management. RIE acts as a co-borrower under PPL Capital Funding's \$1.5 billion syndicated credit facility, which also fully backstops RIE's commercial paper program. Furthermore, RIE's borrowing capacity is governed by this shared facility which, according to Moody's, "has one financial covenant ratio requiring that the consolidated debt to total capitalization ratio of its borrowers does not exceed 70%." Tying RIE's financial compliance directly to the consolidated ratio of PPL Capital Funding further invalidates a purely standalone evaluation.

Evaluating RIE independently obscures the reality of this parent-level cash management. On page 9 of her direct testimony, Company Witness Burgos, who serves as Assistant Treasurer for both PPL and RIE, states that RIE anticipates an equity infusion of \$500 million from PPL in the first half of 2026 to rebalance its capital structure to its requested 57% target. This follows a similar \$450 million equity contribution in 2024. These massive, ongoing parent-to-subsidary transfers clearly demonstrate that RIE's capital structure is an accounting output managed by PPL. A holding company can raise lower-cost debt at the parent level and report it as a high-cost equity investment on the subsidiary's books.

While Ms. Burgos testifies on page 7 of her direct testimony that this 57% equity target is designed to minimize its weighted cost of capital and provide affordable service, a 57% equity ratio does the opposite. Because equity is vastly more expensive than debt, maintaining RIE's equity ratio 800 basis points higher than its parent's actual consolidated structure unnecessarily maximizes the weighted cost of capital and inflates the revenue requirement.

Evaluating RIE independently ignores the mismatch between the Company's consolidated assets and the specific distribution rates at issue in this proceeding. In her direct testimony, Ms. Burgos states that following the PPL acquisition, the Company increased its equity ratio to 57% to align with peer transmission-owning utilities. She states on page 9 of her direct testimony that "[t]ransmission assets typically have a higher equity content than distribution assets due to differences in their regulatory oversight, risk profiles, project scale, and complexity". Because RIE owns both transmission and distribution assets, it applies this consolidated capitalization structure universally. However, it is fundamentally inappropriate to penalize Rhode Island distribution customers for the higher risks and capital requirements of FERC-regulated transmission assets. Imposing a consolidated capital structure artificially inflated for transmission-related risks onto electric and gas distribution ratepayers forces those customers to subsidize costs unrelated to the distribution service they receive.

- b. Admit. It is possible that Rhode Island Energy's credit ratings could be downgraded, as rating agency decisions are ultimately outside the control of the Commission or any single party, and depend on a multitude of dynamic, macroeconomic, and parent-level factors. However, as detailed in the response to part (a), analyzing downgrade risk based strictly on standalone ratemaking inputs ignores the financial reality of how RIE is funded and evaluated in the market.

Mr. Rothschild's recommended 49% regulatory equity ratio and 8.25% ROE are based on current market data and provide RIE a reasonable opportunity to attract capital. More importantly, real-world financial risk is assessed based on the company's actual balance sheet. Investors and financial analysts evaluate a utility's actual capitalization to determine its credit health, not just authorized capital structure.

As noted previously, Moody's evaluates RIE within the context of PPL's strong corporate umbrella and forecasts that RIE's actual debt-to-capitalization ratio will remain in the 36% to 38% range over the next 12 to 18 months, indicating an actual operating equity cushion of 62% to 64%. PPL manages RIE's actual balance sheet through mechanisms like the planned \$500 million equity infusion. Therefore, adopting a 49% equity ratio for ratemaking purposes correctly protects ratepayers from cross subsidization, while the actual capitalization that analysts evaluate to assess credit health remains independently managed by PPL.

To provide a complete and accurate response to the premise of this interrogatory, that authorizing a 49% equity ratio would threaten RIE's credit rating, it is essential to place the Company's implied risk into its proper context. The suggestion that a regulatory decision will mechanically force a downgrade relies on a common misconception: that an authorized capital structure acts as a strict operational mandate.

If a Commission authorizes a 49% equity ratio when the company is currently holding 57% equity, the utility does not have to issue hundreds of millions of dollars in debt to align its actual balance sheet with the regulatory order.

An authorized capital structure is a ratemaking tool used to determine a fair and reasonable revenue requirement for consumers; it is not a comprehensive corporate finance directive. The Commission dictates the rates customers pay, not the amount of debt and equity it holds on its balance sheet. While RIE is subject to a merger condition requiring it to maintain a common equity ratio of at least 48%, beyond that specific floor, PPL Corporation and RIE retain discretion to manage their actual balance sheet as they see fit. If PPL's management determines that holding an actual equity cushion of 62% to 64% is best for their corporate risk profile, they are entirely free to maintain that capitalization. The question before this Commission is not whether RIE is allowed to hold that excess equity. The question is what regulatory capital structure should be authorized to set rates.

Response prepared by Aaron Rothschild.

RIE 2-4

Request:

With regard to the "option-implied" methodology described on pages 109-112 in Mr. Rothschild's direct testimony, please respond to the following:

- a. Is Mr. Rothschild aware of any investors that use his "option-implied" methodology (the exact methodology that Mr. Rothschild uses, not use of options in general) to calculate Beta coefficients in the CAPM model, utility DCF growth rates, or total market return growth rates? Please provide supporting documentation if so.
- b. Is Mr. Rothschild aware of any public utility commissions that have accepted his "option-implied" methodology in an electric or gas utility rate case proceeding? Please provide supporting documentation if so.

Response:

- a. Stock options are widely used in financial analysis to assess risk and estimate probability distributions of future stock prices. Analysts and financial institutions frequently rely on option-implied measures, such as implied volatility and skewness, to evaluate market sentiment and potential price movements.

Several tools and methodologies exist for deriving market expectations from option prices. For example, the Federal Reserve Bank of Minneapolis provides a tool that estimates market-based probabilities using options data, offering insights into the likelihood of various financial outcomes.

Similarly, MATLAB offers advanced functions for calculating option-implied probability distributions and risk-neutral densities, which can be used to infer market expectations regarding asset prices and potential growth rates. Many other firms and platforms offer methodologies for deriving probability distributions based on options market data.

OptionMetrics, who provides leading investment and academic institutions worldwide options data to measure volatility, assess risk, and analyze investment strategies, offers an implied beta product called IvyDB Beta. On their site, they explain that "OptionMetrics' IvyDB Beta utilizes implied betas, which are forward-looking. This unique characteristic enables a more accurate assessment of systematic risk, particularly during events such as earnings releases, FOMC meetings, and other macroeconomic announcements." They present this in counterpoint to historical measurements of beta, which they describe "can be retrospective and slow to adapt to new information."

(Source: <https://optionmetrics.com/implied-beta/>)

OptionMetrics' methodology builds upon the work of Chang, Christoffersen, Jacobs, and Vainberg that is in the same line of research that I use for my own calculations.

(Cite: *See* OptionMetrics, "IvyDB Beta", available at <https://optionmetrics.com/products/ivydb-beta/>. [OptionMetrics](#) , [Buss and Vilkov](#))

- b. Mr. Rothschild's option-implied beta methodology has been accepted in multiple cases across multiple jurisdictions. His option-implied methodology was accepted in the General Rate Case for Blue Granite Water Company in South Carolina (2020). In its Order, the Commission stated that RFC's approach was unique in its synchronized use of both historical and forward-looking, market-based data to ensure financial integrity. This landmark decision was subsequently upheld by the Supreme Court of South Carolina, confirming the legal and economic soundness of RFC's methodology. On April 9, 2020, the Public Service Commission of South Carolina stated the following:

Amongst the three witnesses, Consumer Affairs Rothschild's approach was unique in that he included the use of both historical and forward-looking, market-based data in his analysis. Based on the testimony and facts presented, the Commission therefore adopts the recommended ROE of 7.46% proposed by witness Rothschild.[1]

And in a 2024 decision, California Commissioner John Reynolds recognized and adopted Mr. Rothschild's option-implied cost of equity methodologies to determine the authorized ROEs for California's ten Independent Small Telephone Companies (ILECs).[2]

[1]: Order Ruling on Application for Adjustment in Rates, p. 43, SC PSC Docket No. 2019-290-WS, Order No. 2020-306 (April 9, 2020). See "DPUC Attachment 1 to RIE 2-4(b)".

[2]: Decision Determining the Cost of Capital for Ratemaking Purposes for California's Independent Small Telephone Companies, p.22-23, CPUC Application No. 22-09-003 (September 16, 2024). See "DPUC Attachment 2 to RIE 2-4(b)".

Response prepared by Aaron Rothschild.