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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Implementation and Administration of California Renewables Portfolio Standard Program.	Rulemaking 11-05-005 (Filed May 5, 2011)

ADMINISTRATIVE LAW JUDGE'S RULING ON RENEWABLE NET SHORT

This ruling instructs the retail sellers to calculate the Renewable Net Short (RNS) in accordance with the methodology of the Attachment developed by Energy Division. Until further notice and as explained in the Attachment this calculation should be included in all future annual Renewables Portfolio Standard (RPS) procurement plans submitted in accordance with Pub. Util. Code § 399.11.[1] The next annual RPS Procurement Plans are currently scheduled to be filed on June 4, 2014.[2] The Attachment only applies to those retail sellers described therein.

1. Renewable Net Short Methodology

This proceeding began to address revisions to the RNS in 2012. On August 8, 2012, I issued a ruling instructing retail sellers to utilize the RNS methodology

[1] All references to code sections are to the California Public Utilities Code.

[2] I extended the filing date to June 4, 2014 by email ruling dated April 16, 2014. The original filing date of May 14, 2014 was set in an Assigned Commissioner's Ruling dated March 26, 2014.

developed by the Energy Division and attached to the August 8, 2012 ruling when filing their annual RPS procurement plans in 2012. In response to RPS procurement plans filed by retail sellers in 2013, Energy Division undertook a review of the then-existing RNS methodology. I issued an Energy Division analysis and proposal for modifications to the RNS as an attachment to a ruling on February 19, 2014. Parties filed comments and reply comments to the February 19, 2014 Energy Division proposal on March 7, 2014 and March 20, 2014.[3]

In response to these comments, Energy Division now issues a revised RNS Methodology.

Until further notice, retail sellers are instructed to calculate their Renewable Net Short, as explained in the Attachment, in all future annual Renewables Portfolio Standard procurement plans submitted in accordance with § 399.11.

2. Standardized Reporting Template for Renewable Net Short

To provide transparency and streamline the Energy Division's analysis of RNS filings by retail sellers, Appendix C to the Attachment to today's ruling provides a standardized reporting template that all retail sellers are directed to

[3] Parties filing comments and reply comments on the February 19, 2014 Ruling and staff proposal included: Alliance for Retail Energy Markets, Green Power Institute, the Joint Conservation Parties, Pacifica Gas and Electric Company, Southern California Edison Company, San Diego Gas & Electric Company, Center for Energy Efficiency and Renewable Technologies, Bear Valley Electric Service and Liberty Utilities (CalPeco Electric) LLC, Noble Solutions Energy, ORA, PacifiCorp, Union of Concerned Scientists, and the Large-Scale Solar Association.

use when submitting their RNS filings[4] to the Commission. Some retail sellers may not have all the data requested in the template pertaining to a 20-year planning horizon. These retails sellers are requested to provide the information requested in the template to the fullest extent possible under their existing planning horizon. Energy Division will follow up, as needed, should additional information pertaining to the length of the planning horizon be required. Appendix C applies to all retail sellers.

3. Questions on the Renewable Net Short

Appendix D to the Attachment of this ruling sets forth a number of questions related to the RNS. Until further notice, responses to these questions should be included in all future annual Renewables Portfolio Standard annual procurement plans submitted in accordance with § 399.11. Appendix D applies to all retail sellers. However, if the questions in Appendix D are not applicable to some retail sellers, the retail seller can instead provide an explanation for why the question is not applicable.

4. Methodology to Risk-Adjust Forecast RECs for RPS Projects in Development

Section 4.4 of the Attachment to this ruling directs the investor-owned utilities (IOUs) to submit risk-adjustment scores for each RPS project in development using both of the following: (1) the IOUs' confidential risk-adjustment methodology and (2) the Energy Division Staff's risk-adjustment methodology. At the time that this ruling is being published, the IOUs are not

[4] An RNS filing refers to attachment information when included in a retail seller's: (1) annual compliance report (2) advice letter and application filing seeking approval of RPS contracts, or (3) annual RPS Procurement Plans.

required to submit risk-adjustment scores using the Energy Division's risk adjustment methodology when updating their 2014 RPS Plans. Application of the Energy Division's risk adjustment methodology will be implement in a future ruling. The Energy Division's risk adjustment methodology (section 4.4) will only apply to IOUs.

IT IS RULED that:

1. Until further notice, retail sellers are instructed to calculate their Renewable Net Short in accordance with the methodology described in the Attachment in all future annual Renewables Portfolio Standard procurement plans submitted in accordance with Pub. Util. Code § 399.11. The attachment only applies to retail sellers described therein.

2. Until further notice, retail sellers are instructed to submit the template at Appendix C to the Attachment to this ruling in Renewable Net Short filings.

3. Until further notice, retail sellers are instructed to respond to the questions set forth in Appendix D of the Attachment to this ruling in all future annual Renewables Portfolio Standard annual procurement plans submitted in accordance with Pub. Util. Code § 399.11.

4. The methodology for calculating the Renewable Net Short attached hereto is incorporated into the record of this proceeding.

5. Section 4.4 of the Attachment will be implement by a future ruling.

Dated May 21, 2014, at San Francisco, California.

/s/ REGINA M. DEANGELIS
Regina M. DeAngelis
Administrative Law Judge

ATTACHMENT

ATTACHMENT A
REVISED ENERGY DIVISION STAFF METHODOLOGY FOR CALCULATING THE RENEWABLE NET SHORT

Table of Contents

1. Introduction

On August 2, 2012, Administrative Law Judge issued a ruling[5] (2012 RNS Ruling) that adopted a Renewable Net Short (RNS) methodology (Existing RNS Methodology) to forecast the additional renewable energy credits (RECs)[6] needed to comply with RPS procurement quantity requirements (PQRs) adopted in Decision (D.) 11-12-020. The ruling defined the RNS as "the amount of new renewable generation necessary for retail sellers[7] to meet or exceed the renewable PQRs"[8]. The 2012 RNS Ruling also set parameters and explained key assumptions to be used by the Investor-owned Utilities (IOUs)[9] when calculating their RNS for RPS procurement.

The revisions to the Energy Division Staff Methodology for Calculating the RNS (Revised RNS Methodology) are based on the past use of the RNS to inform retail sellers' RPS plans and party comments suggesting possible improvements to the existing RNS methodology. This document begins with a high-level summary, then explains the existing RNS methodology, and lastly, explains the revised RNS methodology.

2. Summary of Revised RNS Methodology

Table 1 provides a summary of the revisions to the inputs and assumptions in the existing RNS methodology.

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[5] This document is available on the Commission's website at: http://docs.cpuc.ca.gov/PublishedDocs/EFILE/RULINGS/171999.PDF.

[6] "REC" is the unit of accounting for RPS procurement and compliance. It represents one MWh of RPS-eligible generation. (Section 399.12(h)). It is used here to mean any RPS-eligible procurement. The term "unbundled REC "is used to describe RPS procurement that does not include purchase of the RPS-eligible energy associated with the REC. (Section 399.16(b)(3); D.11-12-052.

[7] As defined by Public Utilities Code § 218.

[8] 2012 RNS Ruling, Attachment A at 1.

[9] This staff proposal references the IOUs as the principal party subjected to complying with the revised RNS methodology, however, all revisions required by this proposal, unless otherwise noted, would apply to all retail sellers, as defined by CA Public Utilities Code Section 218.

Table 1: Key Revisions to Inputs and Assumptions in the Existing RNS Methodology

RNS Input	Existing Assumption	Revised Assumption	Implication
Application of Forecast RECs above the PQR[10]	Apply forecast RECs above the PQR towards future RPS compliance once there is a projected RPS compliance need (net short).	Retail sellers will confidentially disclose their strategy for managing forecast RECs above the PQR in the "optimized RNS" section of their annual RPS plan.	1. Requires retail sellers to present an RPS position that accounts for their strategy for utilizing forecast RECs above the PQR. 2. The Commission can evaluate an IOU's bank management strategy for reasonableness when reviewing RPS plans. 3. Retail sellers will be required to procure consistent with the strategy disclosed in their optimized RNS.
Voluntary Margin of Over-Procurement (VMOP)	No parameters were adopted regarding VMOP procurement.	IOUs must explain their additional, unexpected forecasting risk and justify their subsequent need for VMOP procurement (both amount and time period) in their annual RPS plan. This justification must be supported by quantitative analysis.	1. Requires IOUs to justify any additional VMOP procurement in their RPS plans. 2. The Commission can evaluate an IOU's VMOP need justification for reasonableness when reviewing RPS plans. 3. The Commission maintains authority to

[10] Forecast RECs above the PQR include all of the following: (1) RECs meeting the requirements for 'excess procurement set out in Section 399.13(a)(4)(B) and D.12-06-038; (2) RECs tracked in the retail seller's active WREGIS sub-account; and (3) RECs predicted to be available from generation in the future. See **Revisions**, Section 1, below, for details.

RNS Input	Existing Assumption	Revised Assumption	Implication
			raise the RPS PQRs pursuant to future RPS policy and a retail seller may still propose RPS procurement above its PQR.
Methodology to Risk-Adjust RPS generation of projects in development	IOUs risk-adjust projects in development using their own internal, confidential analysis.	Staff risk-adjusts projects using a public risk-adjustment methodology[11] that utilizes revised Project Viability Calculator metrics. The staff methodology will be used as a benchmarking tool against the confidential IOU methodologies.	The staff risk-adjustment methodology will be used: 1. At a portfolio level to determine the reasonableness of an IOU's RPS portfolio risk-adjustment rate when authorizing an IOU's RPS procurement need. 2. At an individual project level to identify RPS projects that have a materially different project viability score and reconcile the differences.
Disclosing RECs from Expiring RPS Contracts	Do not assume re-contracting with expiring RPS contracts.	Retail sellers will disclose the amount of RECs expected to expire during future compliance years. These RECs will not be included in the RNS calculation.	Disclosing the amount of expiring RECs will highlight the amount of RECs that could potentially be re-contracted by a retail seller.

[11] See Table 5 for a detailed explanation of the Staff Risk-Adjustment Methodology.

3. Overview of Existing RNS Methodology and Today's Revisions

The existing RNS methodology and its underlying inputs and assumptions were set forth in the 2012 RNS Ruling. On July 12, 2013, parties submitted comments on the IOUs 2013 Draft RPS Procurement Plans. Comments highlighted a need for more clarity and transparency surrounding key inputs and assumptions in the existing RNS methodology.[12] Specifically, parties' comments identified the following RNS issues:

1. application of Forecast RECs above the PQR
2. voluntary margin of over-procurement
3. methodology to risk-adjust forecast RECs from RPS projects in development

Therefore, in response to these comments, Energy Division Staff issued a proposal for updating the existing RNS on February 19, 2014. This proposal was attached to a February 19, 2014 ALJ ruling. The proposal suggested modifications to inputs and assumptions from the existing RNS methodology to increase the transparency of retail sellers' RNS calculations. It also suggested including **RECs from Expiring RPS Contracts** as an additional RNS reporting requirement in each retail seller's RNS filing. Lastly, the proposal suggested updating certain definitions and assumptions from the existing RNS methodology and a standardized RNS reporting template for retail sellers to use when submitting their RNS filings to the Commission.

Parties filed comments and reply comments on the February 19, 2014 proposal on March 7, 2014 and March 20, 2014.[13]

In response to these comments, Energy Division Staff now issues a revised RNS Methodology.

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[12] Parties commenting on the RNS at set forth in the IOUs' Plans included: Green Power Institute (GPI), Office of Ratepayer Advocates (ORA), Center for Energy Efficiency and Renewable Technologies (CEERT), and the Union of Concerned Scientists (UCS). The IOUs' Draft 2013 RPS Procurement Plans and these comments are available on the Commission's website at the Docket Card for R11-05-005.

[13] Parties filing comments and reply comments on the February 19, 2014 Ruling and staff proposal included: Alliance for Retail Energy Markets, GPI, the Joint Conservation Parties, PG&E, SCE, SDG&E, CEERT, Bear Valley Electric Service and Liberty Utilities, Noble Solutions Energy, ORA, PacifiCorp, UCS, and the Large-Scale Solar Association.

4. Revisions to Inputs and Assumptions in the RNS Methodology

4.1 Providing an Optimized RNS and Physical RNS

On May 10, 2013, the assigned Commissioner issued a ruling, which in part, directed the IOUs to include on a going-forward basis an RPS Portfolio Optimization Strategy as a component of their annual RPS Plan filings. The Commissioner's ruling stated:

> The IOUs must provide a RPS Portfolio optimization strategy for the next ten years. The scope of the optimization strategy should cover how ratepayer costs are minimized, portfolio value is maximized, RPS compliance is met and maintained, and risk is managed. [14]

As part of this optimization strategy announced in May 2013, retail sellers will now provide both a public, physical RNS and a confidential, optimized RNS, in their annual RPS plan.

The physical RNS will include a retail seller's executed contracts, utility-owned generation, and generic procurement programs, but not include a retail seller's strategy for using forecast RECs above the PQR.

The optimized RNS will be confidential and include a retail seller's assumptions for its overall portfolio optimization strategy including any plans to sell forecast RECs above the PQR, apply forecast RECs above the PQR towards a future RPS compliance requirement, or procure more RECs above the PQR in future years.

Additionally, retail sellers will answer portfolio optimization questions in Appendix D, which focus on each retail seller's RNS. A retail seller will also provide an annual RPS procurement goal based on its optimized RNS. Once the RPS plan is approved, any subsequent procurement will be reviewed for its consistency with the optimized RNS.

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[14] *Assigned Commissioner's Ruling Identifying Issues and Schedule of Review for 2013 Renewables Portfolio Standard Procurement Plans Pursuant to Public Utilities Code Sections 399.11 et seq. and Requesting Comments on a New Proposal* (May 10, 2013) at 13.

4.2 Application of Forecast RECs above the PQR

In the existing RNS methodology, "eligible excess procurement" is defined as RECs that can be carried forward to a future compliance period in accordance with Section 399.13(a)(4)(B) and D.12-06-038. After consideration of the use of the RNS and party comments about possible improvements to the RNS, today's revised RNS methodology includes a clearer and more detailed description of the set of RECs that must be considered as "Forecast RECs above the PQR."

For RNS purposes, this category includes:

1. RECs that constitute excess procurement accumulated in one compliance period that may be applied to any subsequent compliance period, consistent with the rules and restrictions set forth in Section 399.13(a)(4)(B) and D.12-06-038.[15]
2. RECs tracked in the retail seller's active sub-account in WREGIS that are within 36 months of the initial date of generation of the associated electricity, but have not been retired for RPS compliance.
3. RECs that are anticipated to be available from RPS-eligible generation that is under contract but has not yet been generated.

The 2012 RNS Ruling adopted the assumption that:

Eligible excess procurement will be utilized in future compliance periods by offsetting the RNS in compliance periods with excess procurement from previous compliance periods.[16]

However, the 2012 RNS Ruling did not provide clear direction to retail sellers on how to offset the RNS in future compliance periods with forecast RECs above the PQR, nor did it define an appropriate level of forecast RECs above the PQR for a retail seller to maintain.

A retail seller's forecast RECs above the PQR may be eligible to be banked and used to satisfy a future RPS compliance obligation.[17] RECs above the PQR can be used as insurance to cover higher than expected RPS PQRs (i.e., higher than expected retail

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[15] RECs applied to RPS compliance must be transferred from a retail seller's active sub-account in the Western Renewable Energy Generation Information System (WREGIS) to the retail seller's RPS retirement sub-account within 36 months of the initial date of generation of the associated electricity. (Section 399.15(a)(6).)

[16] 2012 RNS Ruling, Attachment A at 5.

[17] The Commission implemented new RPS compliance rules in D.12-06-038.

sales) and lower than expected RPS procurement amounts (i.e., lower than expected output from intermittent RPS resources, less RPS deliveries from RPS projects in development due to a higher than expected project failure rate). Additionally, if a retail seller forecasts that it will procure RECs that are above its RPS PQR, the retail seller may sell the rights to forecast RECs above the PQR as a way to optimize its RPS portfolio and offset a portion of its RPS procurement costs.

Having said that, retail sellers currently calculate their respective RNS for RPS Procurement with the assumption that their forecast RECs above the PQR will be applied in their entirety towards RPS compliance when there is a projected RPS net short in a given year. This assumption for application of forecast RECs above the PQR does not reflect a retail seller's actual RPS compliance strategy.[18] Thus, the current planning assumptions for forecast RECs above the PQR may misstate a retail seller's true RNS position. Parties claim that the IOUs have accumulated an excessive level of forecast RECs above the PQR which voids their need for future RPS procurement until 2020[19] and masks the true RPS procurement need for the IOUs to maintain RPS compliance during the foreseeable future.

Table 3 demonstrates how retail sellers currently report their forecast RECs above the PQR using the assumptions adopted in the 2012 RNS Ruling. A retail seller applies its forecast RECs above the PQR to fill the entire net short in any year where a projected RPS procurement need exists.

[18] For example, both SCE (Resolution E-4572) and SDG&E (Resolution E-4600) have received Commission approval to sell the rights to forecast RECs above the PQR.

[19] The IOUs provided a quantitative showing of their projected RNS using the adopted planning assumptions in their 2013 Draft RPS Plans at Appendix 1 (PG&E), Appendix C (SCE), Appendix 2 (SDG&E). In the confidential appendices filed in the 2013 RPS Plans, all 3 IOUs currently have forecast RECs above the PQR that if applied in their entirety, would maintain RPS compliance past 2020.

Table 3: Example of Applying Forecast RECs above the PQR using Assumptions from the Existing RNS Methodology[20]

Variable	Input	Calculation	2013	2014	2015	2016	2017	2018	2019
A	**Annual Gross RPS RNS (Surplus)**		(100)	(150)	(100)	50	100	200	200
B	**Existing Forecast RECs above the PQR**	**F** from previous year	100	200	350	450	400	300	100
C	**RECs above the PQR added**	**A** from current year in the event of an annual RPS surplus	100	150	100	0	0	0	0
D	**Gross Forecast RECs above the PQR**	**B + C**	200	350	450	450	400	300	100
E	**RECs above the PQR applied towards RPS compliance**		0	0	0	50	100	200	100
F	**Net Forecast RECs above the PQR**	**D - E**	200	350	450	400	300	100	0

[20] Figures in table are in gigawatt-hours (GWh).

Revised Assumptions for Application of Forecast RECs above the PQR

In an effort to update the RNS methodology to better reflect how retail sellers are likely to utilize their forecast RECs above the PQR in future years, the revised RNS methodology requires retail sellers to apply their optimization strategy for managing forecast RECs above the PQR in their optimized RNS, which will be submitted and reviewed through a retail seller's annual RPS plan.

This approach allows the Commission to review a retail seller's optimized RNS in both the short- and long-term since a retail seller may plan to sell, exhaust, or procure forecast RECs above the PQR prior to having a stated RPS need.

The 2012 RNS Ruling did not require retail sellers to apply these portfolio management strategies when reporting their RNS.

The optimized RNS will also require a retail seller to discuss the following issues with respect to forecast RECs above the PQR in their RPS plans:

1. The maximum amount of RECs above the PQR that a retail seller plans to maintain.
2. The Product Content Category (PCC) classification of all forecast RECs above the PQR in their optimized RNS.[21]
3. The cost-effectiveness of using forecast RECs above the PQR to meet projected future RPS procurement need.

A standardized reporting template for the optimized RNS can be found in Appendix C and the RPS plan questions related to the optimized RNS can be seen in Appendix D.

Once a retail seller's optimized RNS is approved via approval of their RPS plan, retail sellers will then be required to manage their forecast RECs above the PQR based on the strategy stated in their optimized RNS. Following approval of a retail seller's RPS plan, subsequent RPS procurement will be reviewed for consistency with a retail seller's optimized RNS.[22] If a retail seller's RPS procurement or sales deviates from its strategy outlined in the optimized RNS, a justification must be provided. See Table 4 for an example of an optimized RNS.[23]

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[21] See Section 399.16(b)(1) for a detailed explanation of PCC classification of eligible renewable energy resource electricity products.

[22] This will also include a cost-effectiveness comparison of the procurement under review against application of a retail seller's RECs above the PQR.

[23] See Appendix D for the standardized reporting template to be used when reporting the optimized RNS.

Table 4: Example of Optimized RNS[24]

Input	2014	2015	2016	2017	2018	2019	2020
Annual Gross RPS RNS (Surplus)	(100)	(150)	(100)	50	100	200	200
Existing Forecast RECs above the PQR	100	200	300	350	300	200	0
RECs above the PQR added	100	150	100	0	0	0	0
Gross Forecast RECs above the PQR	200	350	400	350	300	200	0
Planned Application of RECs above the PQR towards RPS Compliance	0	0	0	50	100	200	0
Planned Sales of Forecast RECs above the PQR	0	50	50	0	0	0	0
Net Forecast RECs above the PQR	200	300	350	300	200	0	(200)

A retail seller will also provide a public, physical RNS in its RPS plan. The physical RNS will not assume any application of forecast RECs above the PQR but will disclose the aggregate amount of forecast RECs above the PQR that a retail seller projects to have in a given year prior to any portfolio optimization. Table 5, below, includes an example of a physical RNS.[25]

[24] Figures in table are in GWh. Table is for illustrative purposes only and is not meant to reflect any retail seller's optimized RNS.

[25] See Appendix D, herein, for the standardized reporting template to be used when reporting the optimized RNS.

Table 5: Example of Physical RNS[26]

Input	2014	2015	2016	2017	2018	2019	2020
Annual Gross RPS RNS (Surplus)	(100)	(150)	(100)	50	100	200	200
Existing Forecast RECs above the PQR	100	200	350	450	450	450	450
RECs above the PQR added	100	150	100	0	0	0	0
Gross Forecast RECs above the PQR	200	350	450	450	450	450	450

4.3 Voluntary Margin of Over-procurement

The existing RNS methodology includes the following assumptions for VMOP:

> The IOUs may include a margin of over-procurement to account for additional project/forecasting risk above a utility's projected risk-adjusted project failure rate in a given compliance year. Forecasting risk may include: higher than expected project failure/delay, RPS under-deliveries, and/or higher than expected retail sales. The voluntary margin of over-procurement does not relate to the statutory minimum margin of procurement.[27]

The 2012 RNS Ruling did not provide any parameters on how an IOU should report its VMOP in the RNS, nor did it require an IOU to justify its VMOP procurement need. Consequently, the Revised RNS Methodology adopts the following parameters to direct how an IOU reports its VMOP in the RNS:

1. In its respective annual RPS Plan, an IOU must provide a justification for its VMOP procurement of additional RECs for RPS compliance. The justification needs to be supported by quantitative analysis that explains an IOU's need for additional procurement over a specific time period and for a specified amount (RECs).

[26] Figures in table are in GWh. This Table is for illustrative purposes only and is not meant to reflect any retail seller's physical RNS.

[27] August 2, 2012 Ruling, Attachment A at 4. Section 399.13(a)(4)(D) requires the Commission to establish a statutory minimum margin of procurement to address anticipated project failure or delay.

2. In its annual RPS Plan, an IOU must provide a cost-effectiveness showing of all available options that are being considered for VMOP procurement.[28]
3. VMOP in the Revised RNS methodology does not limit the Commission's authority to increase RPS PQRs pursuant to Assembly Bill (AB) 327 nor a retail seller's ability to propose voluntary RPS procurement above its PQR.[29]

See Appendix D for the relevant VMOP questions to be added to the RPS plan.

4.4 Methodology to Risk-Adjust Forecast RECs for RPS Projects in Development

The 2012 RNS Ruling adopted the assumption that "Retail sellers must risk-adjust all projects in their respective RPS portfolios using their own internal analysis."[30]

Consequently, each IOU uses its own unique proprietary analysis for risk-adjusting the quantity of expected RECs from RPS projects in development when calculating its RNS.

Parties commented that each IOU's confidential methodology for risk-adjusting projects in development is subjective and provides little market transparency with respect to an individual project's viability score.[31] Therefore, the parties state, it is unknown if the IOUs are reasonably risk-adjusting individual projects. See Appendix A for a comparison of the risk-adjustment methodologies currently being used by each respective IOU. To date, each IOU's confidential "bottoms-up"[32] risk-adjustment methodology has not been benchmarked against actual project success or failure. Accordingly, there is no indication of how accurate each IOU's respective risk-adjustment methodology is at assessing project risk. Ideally, this could be resolved by

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[28] Potential options include, but are not limited to, the following: application of forecast RECs above the PQR or additional RPS procurement to meet an IOU's VMOP procurement need.

[29] AB 327 allows the Commission the authority to require a retail seller to procure RPS resources in excess of its PQR. Public Utilities Code §399.13(a)(4)(D) does not preclude an electrical corporation from voluntarily proposing a margin of procurement above the appropriate minimum margin established by the commission.

[30] 2012 RNS Ruling, Attachment A at 4.

[31] GPI, ORA, and CEERT comments on 2013 Draft RPS Procurement Plans.

[32] The IOUs' bottoms-up approach risk-adjusts RPS projects on an individual basis by taking into account the project-specific characteristics of each RPS project and then calculating an aggregate risk-adjustment rate for the overall RPS portfolio.

making the IOUs' risk-adjustment methodologies public. However, neither market participants nor the IOUs have been willing to provide public project-specific viability assessments.

In 2009, the Commission adopted the Project Viability Calculator (PVC) as a tool for assessing an individual project's viability.[33] Currently, the IOUs use the PVC for the limited purpose of screening and ranking RPS projects when shortlisting RPS offers during the annual RPS solicitation process. It is not used by either the IOUs or Commission staff to risk-adjust the quantity of RECs from projects in development when calculating the RNS.

Staff recognizes that using a static tool such as the PVC to assess project viability in the RNS has limitations, which include: (1) some aspects of project viability are not captured in the limited parameters of the PVC methodology; (2) a project viability score for a specific project changes throughout the project development process; and (3) key project viability evaluation criteria changes over time as market conditions change.

Staff will use its own risk-adjustment methodology to benchmark against the IOUs' confidential methodology. The staff risk-adjustment methodology will utilize revised PVC metrics to calculate individual project risk-adjustment scores. These scores will then be benchmarked against the risk-adjustment scores produced by the IOUs' confidential risk-adjustment methodologies. The benchmarking exercise will take place through a 3-step process.

Step 1: Calculating an Individual Project Risk-Adjustment Score

First, the staff risk-adjustment methodology will use revised PVC metrics to ascribe a risk-adjustment score to each individual project that has an executed contract. There will be five primary viability categories used to calculate a project's risk-adjustment score. Each viability category will be assigned the following weight:

- Technology (10%)
- Developer Experience (15%)
- Site Control (25%)
- Permitting Status (25%)
- Interconnection Progress (25%)

[33] D.09-06-018, Conclusions of Laws 9-14.

A project will be evaluated using the scoring matrix in Table 5 and will receive a score based on the highest milestone it has achieved for each viability category. An example of scoring a project can be seen in Table 6 with the highest milestone achieved for each viability category shaded in grey.

Table 6: Parameters for Calculating an Individual Project's Risk-Adjusted Viability Score

Point Value given for achieving milestone (out of 100)	***Technology***	***Developer Experience***	***Site Control***	***Permitting Status***	***Interconnection Progress***
100	Will use commercialized technology that is nearly identical to technology in use at a minimum of 2 operating facilities of similar or larger capacity.	Developer has demonstrated experience developing renewable projects of similar size, technology, and in IOU's service territory	Full control of site/land and right of way for gen-tie line	Received permit from lead permitting agency and all other permits from secondary agencies	Project has posted 3rd Interconnection Financial Security (IFS) at start of construction activities
90	Will use commercialized technology that is currently in use at a minimum of 2 operating facilities, but at first-of-its-kind scale.	Developer has demonstrated experience developing renewable energy projects of similar size and technology	Full control of site/land or right of way for gen-tie line	Received permit from lead permitting agency, but has not received secondary permits	Project has executed a GIA and posted 2nd IFS
75	Project will use components of commercialized technology, but in an application that has not yet been commercially proven	Developer has demonstrated experience developing renewable energy projects	Partial control of site/land or right of way for gen-tie line	Filed for permits / under review by lead permitting agency	Developer has posted 1st IFS and phase II study or equivalent study in progress
50	Technology is not commercially proven	Developer has no demonstrated experience developing energy projects	No control of site/land or right of way) for gen-tie line	Not filed for permits with lead permitting agency	Developer has submitted a interconnection request and phase I study or equivalent study in progress

Table 7: Example of Calculating an Individual Project's Risk-Adjusted Viability Score

Point Value given for achieving milestone (out of 100)	*Technology*	*Developer Experience*	*Site Control*	*Permitting Status*	*Interconnection Progress*
100	Will use commercialized technology that is nearly identical to technology in use at a minimum of 2 operating facilities of similar or larger capacity.	Developer has demonstrated experience developing renewable projects of similar size, technology, and in IOU's service territory	Full control of site/land and right of way for gen-tie line	Received permit from lead permitting agency and all other permits from secondary agencies	Project has posted 3rd Interconnection Financial Security (IFS) at start of construction activities
90	Will use commercialized technology that is currently in use at a minimum of 2 operating facilities, but at first-of-its-kind scale.	Developer has demonstrated experience developing renewable energy projects of similar size and technology	Full control of site/land or right of way for gen-tie line	Received permit from lead permitting agency	Project has executed a GIA and posted 2nd IFS
75	Project will use components of commercialized technology, but in an application that has not yet been commercially proven	Developer has demonstrated experience developing renewable energy projects	Partial control of site/land or right of way for gen-tie line	Filed for permits / under review by lead permitting agency	Developer has posted 1st IFS and phase II study or equivalent study in progress
50	Technology is not commercially proven	Developer has no demonstrated experience developing energy projects	No control of site/land or right of way) for gen-tie line	Not filed for permits with lead permitting agency	Developer has submitted a interconnection request and phase I study or equivalent study in progress

Based on the scores the example project received for each viability category, the risk-adjustment score is calculated using the methodology below:

Technology Score: (90)*.15 = 13.5

Developer Experience Score: (75)*.10 =7.5

Site Control Score: (100)*.25 = 25

Permitting Status Score: (100)*.25 = 25

Interconnection Status Score: (90)*.25 = 22.5

Example Project's Risk-Adjusted Viability Score: 13.5 + 7.5 + 25 + 25 +22.5 = **93.5**

Step 2: Risk-adjusting an IOU's portfolio of RPS projects in development

Once each project is given an individual risk-adjustment score, the individual project-specific risk-adjustment score will then be used to risk-adjust an IOU's entire portfolio of RPS projects under development. The methodology is outlined below:[34]

$$\sum [\text{Project Risk-adjusted Viability Score X Expected RECs (GWh)}]$$

$$\div$$

$$\text{Expected RECs from an IOU's entire portfolio of projects that are executed and under development (GWh)}$$

Step 3: Benchmarking CPUC risk-adjustment methodology against the IOU risk-adjustment methodology and authorizing an IOU's annual RPS procurement

The Commission will benchmark the individual project risk-adjustment scores calculated by the IOUs against the individual project risk-adjustment scores calculated by staff to identify outliers based on the difference between the two scores.[35] If an outlier is identified through the benchmarking process, the Commission will ask an IOU to justify the validity of a risk-adjustment score assigned to the outlier in its annual RPS Plan. The Commission will then analyze an IOU's justification of an outlier and work with the IOU to determine the outlier score's reasonableness as part of approving the IOU's RPS plan. As part of the benchmarking process, the Commission may adjust the scoring and weighting system of the staff methodology to more accurately assess an individual project's viability.

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[34] Where "∑"is a summation of all executed projects in an IOU's portfolio that are currently under development and "Expected RECs" is the expected generation taken from a project's pro forma PPA.

[35] An outlier is defined as a project that has received a materially different viability score under the IOU and Staff risk-adjustment methodologies.

The Commission will also benchmark each IOU's portfolio risk-adjusted forecast success rate against the portfolio risk-adjusted forecast success rate calculated using the staff methodology. This comparison will be done to assess the reasonableness of an IOU's portfolio risk-adjusted forecast success rate and subsequent RPS procurement need. If the risk-adjustment methodologies lead to significant differences in RPS procurement need in the RNS, the IOUs must address the reason for this discrepancy in their RPS plan. This will ensure transparency when benchmarking an IOU's confidential risk-adjustment methodology against staff's methodology. Commission decisions and other formal work done within the RPS proceeding will continue to use the IOU's confidential risk-adjustment methodology as the standard assumption. However, the benchmarking process and use of the staff risk-adjustment methodology will be a requirement in each IOU's RPS Plan.

Advantages of implementing staff's risk-adjustment methodology include:

1. The staff methodology provides a transparent and public methodology to risk-adjust the quantity of RECs from projects in development.
2. A project-specific viability analysis by staff is required in order for an IOU to receive its RPS procurement authorization in its annual RPS plan.
3. Staff's methodology can be used to benchmark IOU risk-adjustment scores and identify outliers.
4. The iterative benchmarking approach allows staff's risk-adjustment methodology to be updated so that it more accurately quantifies the viability risk of a project in development.

The Revised RNS methodology requires the IOUs to submit individual project risk-adjustment scores for each RPS project in development in their RPS portfolio. This submission requires two risk-adjustment scores for each RPS project in development: 1) a risk-adjustment score calculated using the staff methodology and 2) a risk-adjustment score calculated using an IOU's proprietary methodology. The risk-adjustment scores will be submitted with each IOU's update to its RNS.[36] IOUs may request confidentiality of individual project risk-adjustment scores consistent with D.06-06-066, as modified.

[36] An RNS update must be included in a retail seller's: 1) annual compliance report; 2) advice letter and application filing seeking approval of RPS contracts; and 3) annual RPS Procurement Plans.

5. Additional RNS Reporting Requirements

5.1 RECs from Expiring RPS Contracts

In their 2013 RPS Plans, the IOUs reported that a significant percentage of contracted RPS generation in their RPS portfolios will expire over the next 10 years.[37] To account for the possibility of retail sellers re-contracting with these existing RPS facilities, Staff requires that retail sellers disclose **RECs from Expiring RPS Contracts** in their RNS filings. Retail sellers must also disclose the PCC classification of all RECs from expiring contracts. By doing so, retail sellers will report a more complete and transparent forecast of their RNS by disclosing the amount of RECs that could potentially be re-contracted from facilities with expiring contracts.

In accordance with the re-contracting assumption adopted in the 2012 RNS Ruling, IOUs should not assume re-contracting of expiring contracts.[38] However, disclosing the amount of expiring RECs in the RNS filing will highlight the amount of RECs that could potentially be re-contracted by an IOU. See Appendix C to see how RECs from expiring RPS contracts will be reported in the standardized RNS reporting template. The assumptions and definitions for the Revised RNS Methodology can be seen in Appendix B.

5.2 Additional Mandated RPS Procurement

The Revised RNS Methodology is designed with the flexibility to account for new RPS need scenarios. Future RPS policy mandates may change future RPS PQRs and also the required RPS procurement to meet the RNS. To account for these potential changes, the revised RNS methodology can be updated to reflect different future RPS scenarios. Any policy that is adopted to change the RPS PQR, including AB 327 which allows the Commission the authority to require a retail seller to procure RPS resources in excess of its PQR, can be accounted for in the RNS reporting template.

Additionally, the RNS reporting template has the flexibility to include any additional RPS procurement mandated by new RPS policies, including RPS procurement mandates approved through the Commission's long-term procurement plan (LTPP). In

[37] 2013 Draft RPS Plans at Appendix: 5 (PG&E), E (SCE), 4 (SDG&E).

[38] The 2012 RNS Ruling adopted the assumption that it should be assumed that any generation from expiring contracts does not extend after the term of the facility's useful life (i.e. re-contracting).

the case of additional mandated RPS procurement, the RNS reporting template can be updated with additional generic procurement line items.[39]

6. Standardized RNS Reporting Template

Currently, each retail seller uses its own proprietary template when reporting its RNS. Some of the RNS reporting templates fail to include key line item inputs.[40] In order to provide more transparency and facilitate streamlined staff analysis of a retail seller's RNS filing, staff requires that all retail sellers use a standardized reporting template when submitting their RNS filings to the Commission. The reporting template will include data fields for both the confidential, optimized RNS and the public, physical RNS. The standardized RNS reporting template is provided in Appendix C. This template also includes an additional tab for retail sellers to include individual project data for RECs from expiring contracts.

[39] An example of additional mandated RPS procurement could be procurement of RPS generation required to backfill the decommissioning of San Onofre Nuclear Generating Station (SONGS), which would be authorized through the LTPP.

[40] PG&E and SCE do not list their retail sales forecasts. PG&E combines all RPS eligible procurement and does not list RPS generation by type (i.e. online, forecast, generic).

Appendix A
Comparison of IOU Confidential Risk-Adjustment Methodologies

Table 7: Existing IOU project viability risk-adjustment methodologies

PG&E	SCE	SDG&E
PG&E subjectively classifies projects under contract but not yet delivering into 4 different risk categories: **1. Completed and under construction** 2. **Approved or mandated programs for small renewables** (PV, RAM, and ReMat) 3. **Under development**, no foreseeable delays 4. **Closely watched** (high risk): projects that fail to meet contractual deadlines (GCOD), face financing / interconnection / permitting issues, have taken longer than 12 months for regulatory approval, require an amendment to be viable, have ceased operation All "closely watched" projects are assumed to have a 0% success rate. All other projects are assumed to have a 100% success rate. PG&E also has a "pessimistic" scenario in which it assumes an additional 10% long-term failure rate for projects under contract but not yet delivering	Assume 100% delivered energy from executed contracts that are online. For Near-Term (COD < 3 years out) projects: • Assign individual risk-adjusted, project-specific success rates. There is no methodology for assigning a % and it is based solely off opinion. For Projects > 3 years until COD: • Assume a flat 50% success rate for individual projects • Assume a 60% success rate at the portfolio level for projects w/ a COD in CP2 and beyond	SDG&E assess the probability of success of the following main types of projects: 1. Delivering – if fluctuations in generation have been high, SDG&E assigns a probability of 90-95% across the portfolio 2. Approved but not yet delivering – assume a 75% average success rate for entire portfolio after assigning individual risk-adjustment rates to individual projects. SDG&E conducts a monthly review with an interdisciplinary team and uses the most up-to-date qualitative and quantitative information to assign a probability of success to each individual project. There is no defined methodology for this calculation.

Appendix B
List of Assumptions and Definitions in the Revised RNS Methodology

Revised List of Assumptions and Definitions in the Revised RNS Methodology[41]

Annual RPS Risk-adjusted Net Short Methodology
Annual RPS Risk-adjusted Net Short = (Bundled Retail Sales Forecast x RPS PQR + Voluntary Margin of Over-Procurement) – (Risk-Adjusted RECs from Online ~~Generation~~ RPS Facilities+ Risk-adjusted Forecast ~~Generation~~ RECs from RPS Facilities in Development + Pre-approved Generic ~~Generation~~ RECs)

Table 8: Updated Assumptions and Definitions in the Revised RNS Methodology

Input	Definition
Annual Bundled Retail Sales Forecast	~~Retail sellers' bundled retail sales forecasts should utilize the same methodology as determined in the 2010 LTPP bundled plans when calculating the renewable PQRs. Specifically,~~ D.12-01-033 states that for bundled procurement forecasting, retail sellers can utilize their own forecasts for bundled retail sales for the first five years and use the latest LTPP standardized planning assumptions thereafter.
RPS Procurement Quantity Requirement (PQR)	The percentage of retail sales in each year of each compliance period as defined in D.11-12-020 that is necessary to achieve RPS compliance requirements.
Minimum Margin of Over-Procurement (MMOP)	The statutory margin of over-procurement as required by Public Utilities Code §399.13(a)(4)(D), which is reflected in an IOU's confidential risk-adjustment to its RPS portfolio to account for the likelihood or project failure or delay.
Voluntary Margin of Over-procurement (VMOP)	The margin of over-procurement necessary to account for additional project/forecasting risk ~~in any year that the likelihood of not achieving compliance is called in question~~ above a utility's projected risk-adjusted project failure rate in a given compliance year. The margin of over-procurement relates only to a voluntary margin of over-procurement and not the statutory margin of procurement. This is different than the statutory margin of over-procurement which is already reflected in the risk-adjustments to portfolios to account for the likelihood or project failure or delay.
Risk-Adjusted RECs from Online ~~Generation~~ RPS Facilities	Risk-adjusted RPS generation (RECs) from projects currently under contract and ~~that are~~ online.

[41] The redlines indicate changes to the assumptions and definitions adopted in the 2012 RNS ruling.

Risk-adjusted Forecast ~~Generation~~ RECs from RPS Facilities in Development	RPS Generation (RECs) forecast to come online~~, that~~ which is risk-adjusted using the retail seller's own internal project viability analysis. This includes ~~generation~~ RECs from all RPS projects that ~~currently under contract~~ have an executed contract which has been approved by the Commission.
Pre-approved Generic ~~Generation~~ RECs	~~Generic pre-approved projects include projects resulting~~ RPS generation (RECs) from the Commission's pre-approved RPS procurement programs such as: Renewable Auction Mechanism (RAM) solicitations, Renewable Feed-in-Tariff (FIT), SB 1122, and Solar Photovoltaic Programs (SPVP).
RECs Pending CPUC Approval	RPS Generation forecast to come online, which is risk-adjusted using the retail seller's own internal project viability analysis. This includes RECs from all RPS projects that have an executed contract which has not been approved by the Commission.
Executed REC Sales	All REC sales contracts that have been executed by a retail seller, regardless of Commission approval status.
~~Eligible Excess Procurement~~ Forecast RECs above the PQR	The sum of: (RECs meeting the requirements for 'excess procurement' set out in Pub. Util. Code section 399.13(a)(4)(B) and D.12-06-038) + (RECs tracked in the retail seller's active WREGIS sub-account) + (RECs predicted to be available from generation in the future)
RECs from expiring RPS contracts	RPS Generation (RECs) from all RPS contracts that are expected to expire in a given year.
Physical RNS	A public RNS that includes a retail seller's total RPS eligible procurement, but does not include a retail seller's strategy for managing forecast RECs above the PQR.
Optimized RNS	A confidential RNS that includes a retail seller's assumptions for selling forecast RECs above the PQR, applying forecast RECs above the PQR towards future RPS compliance requirements, or procuring more RECs above the PQR in future years.

Input	**Assumption**
Risk-adjusted Forecast ~~Generation~~ RECs from RPS Facilities in Development and RECs Pending CPUC Approval	~~Apply 100% success to generic pre-approved generation before contracts are signed. After contracts are signed,~~ Retail sellers must risk-adjust RECs from all RPS projects under development ~~in their respective RPS portfolios (online and forecast)~~ using their own internal project viability analysis.
Risk-Adjusted RECs from Online ~~Generation~~ RPS Facilities	Retail sellers must risk-adjust RECs from online projects using their own internal project viability analysis.

Pre-approved Generic ~~Generation~~ RECs	~~Apply~~ A 100% success ~~to generic pre-approved generation before contracts are signed~~ rate will be applied to retail sellers' Generic pre-approved RPS procurement[42].
Executed REC Sales	A 100% success rate will be applied to executed REC sales agreements.
Annual Bundled Retail Sales Forecast	Retail sellers' bundled retail sales forecasts should utilize the same methodology as determined in D.12-01-133 when calculating the renewable PQRs[43]. Specifically, D.12-01-033 states that for bundled procurement forecasting, the utilities can utilize their own forecasts for bundled retail sales for the first five years and use the LTPP standardized planning assumptions thereafter.
RECs from expiring RPS contracts	Do not assume any generation from contracts that are expiring (i.e., re-contracting) ~~or any generation after a facility's useful life if the contract does not extend after the term of the facility's useful life~~ beyond a contract's term.
Voluntary Margin of Over-procurement (VMOP)	Include a margin of voluntary over-procurement to account for additional project/forecasting risk above a utility's projected risk-adjusted project failure rate ~~in any year that the likelihood of not achieving compliance is called into question~~ in a given compliance year.
~~Eligible Excess Procurement~~ Forecast RECs above the PQR	Different assumptions ~~eligible excess procurement will be utilized in future compliance periods by offsetting the RNS in compliance periods with excess procurement from previous compliance periods~~ will be used for the physical RNS and optimized RNS. The physical RNS will not assume any application of forecast RECs above the PQR. The optimized RNS will assume that forecast RECs above the PQR will be utilized in alignment with the confidential strategy provided in a retail seller's RPS plan.

[42] Generic pre-approved RPS procurement includes RECs procured from the Commission's RAM solicitations, Feed-in-Tariff, SB 1122, and Solar Photovoltaic Programs.

[43] D.12-01-033 at 15-17 and Ordering Paragraphs at 3, 8, and 9.

Appendix C
Standardized RNS Reporting Template

Variable	Calculation	Item	Deficit from RPS prior to Reporting Year	2011 Actuals	2012 Actuals	2013 Actuals	**2011-2013**	2014 Forecast	2015 Forecast	2016 Forecast	**2014-2016**	2017 Forecast	2018 Forecast	2019 Forecast	2020 Forecast
		Forecast Year		-	-	1	CP1	2	3	4	CP2	5	6	7	8
		Annual RPS Requirement													
A		Bundled Retail Sales Forecast (LTPP)													
B		RPS Procurement Quantity Requirement (%)				20.0%	20.0%	21.7%	23.3%	25.0%	23.3%	27.0%	29.0%	31.0%	33.0%
C	A*B	**Gross RPS Procurement Quantity Requirement (GWh)**													
D		Voluntary Margin of Over-procurement													
E	C+D	**Net RPS Procurement Need (GWh)**													
		RPS-Eligible Procurement													
Fa		Risk-Adjusted RECs from Online Generation													
Faa		Forecast Failure Rate for Online Generation (%)													
Fb		Risk-Adjusted RECs from RPS Facilities in Development													
Fbb		Forecast Failure Rate for RPS Facilities in Development (%)													
Fc		Pre-Approved Generic RECs													
Fd		RECs Pending CPUC Approval													
Fe		Executed REC Sales													
F	Fa + Fb +Fc + Fd-Fe	Total RPS Eligible Procurement (GWh)													
F0		Category 0 RECs													
F1		Category 1 RECs													
F2		Category 2 RECs													
F3		Category 3 RECs													
		Gross RPS Position (Physical Net Short)													
Ga	F-E	**Annual Gross RPS Position (GWh)**													
Gb	F/A	**Annual Gross RPS Position (%)**													
		Application of Bank													
Ha		Existing Banked RECs above the PQR													
Hb		RECs above the PQR added to Bank													
Hc		Non-bankable RECs above the PQR													
H	Ha+Hb	Gross Balance of RECs above the PQR													
Ia		Planned Application of RECs above the PQR towards RPS Compliance													
Ib		Planned Sales of RECs above the PQR													
J	H-Ia-Ib	Net Balance of RECs above the PQR													
J0		Category 0 RECs													
J1		Category 1 RECs													
J2		Category 2 RECs													
		Expiring Contracts													
K		RECs from Expiring RPS Contracts													
		Net RPS Position (Optimized Net Short)													
La	(Ga+H+Ia)-E	**Annual Net RPS Position after Bank Optimization (GWh)**													
Lb	(Ga+H+Ia)/A	**Annual Net RPS Position after Bank Optimization (%)**													
Note: Fields in grey are potected as Confidential under CPUC Confidentiality Rules															
Note: Values are shown in GWhs															

RECs from expiring RPS Contracts Tab

Facility Name	Technology	Contract Expiration Date	MW	Expected Annual Generation (GWh)	Location	PCC Classification

Appendix D
RNS Questions for All Future IOU Annual RPS Plans Filings

Responses to the below questions must be included as part of the IOUs' annual RPS Plans filing, which are made pursuant to Section 399.11 of the Pub. Util. Code. The following questions assume a 20-year planning horizon for retail sellers.

RPS Compliance Risk

1. How do current and historical performance of online resources in your RPS portfolio impact future projections of RPS deliveries and your subsequent RNS?
2. Do you anticipate any future changes to the current bundled retail sales forecast? If so, describe how the anticipated changes impact the RNS.
3. Do you expect curtailment of RPS projects to impact your projected RPS deliveries and subsequent RNS?
4. Are there any significant changes to the success rate of individual RPS projects that impact the RNS?
5. As projects in development move towards their COD, are there any changes to the expected RPS deliveries? If so, how do these changes impact the RNS?

RECs above the PQR

6. What is the appropriate amount of RECs above the PQR to maintain? Please provide a quantitative justification and elaborate on the need for maintaining banked RECs above the PQR.
7. What are your strategies for short-term management (10 years forward) and long-term management (10-20 years forward) of RECs above the PQR? Please discuss any plans to use RECs above the PQR for future RPS compliance and/or to sell RECs above the PQR.

VMOP

8. Provide VMOP on both a short-term (10 years forward) and long-term (10-20 years forward) basis. This should include a discussion of all risk factors and a quantitative justification for the amount of VMOP.

9. Please address the cost-effectiveness of different methods for meeting any projected VMOP procurement need, including application of forecast RECs above the PQR.

Cost-effectiveness

10. Are there cost-effective opportunities to use banked RECs above the PQR for future RPS compliance in lieu of additional RPS procurement to meet the RNS?

11. How does your current RNS fit within the regulatory limitations for PCCs? Are there opportunities to optimize your portfolio by procuring RECs across different PCCs?

(END OF ATTACHMENT)