

**STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION**

In the Matter of:

2013 Integrated Energy Policy Report

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California Energy Commission

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**PATHFINDER RENEWABLE WIND ENERGY AND
ZEPHYR POWR TRANSMISSION, LLC COMMENTS ON
RENEWABLE NET SHORT UPDATE**

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Pathfinder Renewable Wind Energy (“Pathfinder”) and Zephyr Power Transmission, LLC (“Zephyr”) respectfully submit these comments on the California Energy Commission’s (“CEC”) renewable net short (“RNS”) update and the calculated amount of new renewable generation required to meet policy targets for the year 2022. Pathfinder and Zephyr applaud the CEC’s work to update the RNS and appreciate the efforts to update assumptions and scenarios behind the RNS calculation. However, it is vital that the RNS calculation use common assumptions to the extent possible and recognize variations in key assumptions underlying the RNS determination. As fluctuations in key assumptions can have a tremendous impact on the RNS, it is essential that the RNS recognize these fluctuations, and it may be appropriate for the ultimate determination to include multiple solutions or RNS outcomes based on different key assumptions. Further, in recognizing the potential for fluctuations, Pathfinder/Zephyr urge the Commission to err on the side of exceeding the 33% procurement goal rather than falling short of it. This not only will assure compliance with the law, which sets the 33% goal as a floor not a ceiling, but also reflects the Governor’s stated goal of achieving a 40% mix of renewable energy.

I. INTRODUCTION AND BACKGROUND

Zephyr is a Delaware limited liability company established for the purpose of developing and financing the Zephyr transmission project, a proposed 975 mile, 3,000 MW high voltage,

direct current (“HVDC”) merchant transmission line project that will originate near Chugwater, Wyoming and terminate south of Las Vegas, Nevada in the Eldorado Valley (“Zephyr Project”) with an interconnection to the California Independent System Operator (“CAISO”) controlled grid. Pathfinder is in the development stages of a 3,000 MW wind generation project and associated mitigation land proposal in Wyoming and has contracted with the Zephyr Project for delivery to California. The Zephyr Project is being developed to enable extremely high quality wind generation resources to be delivered to the California markets.

The CEC hosted a webinar on October 1, 2012 to provide the public with an opportunity to review the annual update to the variables and data sources considered for estimating the amount of new renewable generation needed in 2022 to meet statewide policy, typically referred to as the RNS. The RNS is based on the amount of current electric generation from renewable resources and the target levels established by the Renewables Portfolio Standard (“RPS”). The latest RNS estimate updates the 2011 final staff report entitled *Method to Calculate the Amount of New Renewables Generation Needed to Comply with Policy Goals* (“Report”). Pathfinder and Zephyr provide these comments on the RNS update.

II. COORDINATED EFFORTS AND COMMON ASSUMPTIONS SHOULD BE UTILIZED TO DETERMINE THE RNS

Pathfinder and Zephyr support coordinated efforts and approaches to calculate the RNS. This may entail the use of common assumptions where available, but also requires coordination between agencies to ensure that variations in RNS calculation assumptions are recognized. This is vital as variability associated with any assumptions used to determine the RNS will have a large impact on the ultimate RNS determination. The variations in assumptions may require implementation of multiple solutions or RNS outcomes to recognize these significant deviations in key assumptions. Put differently, the RNS calculation should provide an opportunity to

understand assumption sensitivities and the importance of scenario planning, rather than simply attempting to determine a discrete number.

A. IT IS VITAL THAT VARIABILITY IN KEY ASSUMPTIONS IS UNDERSTOOD PRIOR TO CALCULATING THE RNS

In calculating the RNS, it is crucial that the CEC understands the variability associated with key assumptions used in the RNS calculation because of the huge impacts those variations may have on the outcome in determining the RNS. Due to the large variances that may result, the calculation of a discrete RNS number should not be the goal. Instead, the commission should aim to understand sensitivities to assumptions and the importance of scenario planning. As noted in the Report:

There are legitimate reasons for the study assumptions to differ, particularly when new information becomes available and thus improves the knowledge base. However, it is important to disclose why certain assumptions were selected or applied, and whether the study is based on publicly reviewed and validated inputs.

...

California Energy Commission staff examined the assumptions used to calculate the renewable net short in several electricity system studies. Some of the renewable net short calculations now have dated input values and assumptions. Other studies did not include key variables and policy programs that could reduce electricity retail sales in the future, thereby potentially overstating the amount of renewable energy needed to satisfy the policy goal. There are also important uncertainties regarding how the variables used for the renewable net short calculation can be measured or assumed to exist in the future. It is important to remember that all values, regardless of the source, are estimates for 10 years into the future.¹

Pathfinder and Zephyr wholeheartedly agree. It is vitally important that uncertainties and variations in assumptions are fully understood and recognized. Recognizing variability may warrant multiple RNS solutions to account for different planning options.

The CEC has made efforts to utilize multiple RNS solutions, to a certain extent. CEC staff's conclusion is that the total RNS to meet the 33% RPS target in 2020 is 35.3, 41.3 and 47.0

¹ Report, pp. 1-2.

terawatt hours (“TWh”), based on three different assumptions: a low, medium, and high demand scenario. This is a good start, but it may be appropriate to reflect additional assumption differences in any RNS determination. For example, a key variable distinguishing the low, medium and high demand cases is energy prices. The demand is assumed in part to reflect a price response, so the high demand case assumes a lower energy price than the medium case which in turn assumes a lower price than the low demand case. Although this is logical, some of the related factors and assumptions imply a false sense of precision and are fraught with forecast error. While Pathfinder and Zephyr support differentiating between a low, medium, and high demand scenario, it may be appropriate to provide additional differentiation for key assumptions as well.

A key example is the issues with the energy efficiency assumptions behind the demand scenarios. The demand scenarios, which of course limit the net renewable capacity needed, are reduced by assumptions of “uncommitted energy efficiency”, which is described in the Report as energy efficiency in addition to that resulting from “utility and public agency programs; codes and standards, and legislation and ordinances that have final authorization; firm funding; and a design that can be readily translated into characteristics that can be evaluated and used to estimate future impacts.”² In other words, it is a speculation regarding future additional energy efficiency efforts that are not yet committed, funded or otherwise sufficiently certain to be included in the CEC’s official demand forecast. The Report itself describes the uncertainty of this assumption and the staff’s ultimate determination of how much energy efficiency to include:

Forecasts of uncommitted EE impacts are subject to a great deal of uncertainty, given lack of firm funding. Estimates of committed utility program net impacts, both historical and projected, are also fairly uncertain. For example, efficiency measures might be purchased but not installed, or may not perform as expected. The most recent CPUC evaluation measurement and verification study¹³ for 2006–2008 IOU programs found utility-reported

² Report, p. 16.

savings to be overstated. In fact, the study found that net-to-gross ratios and realization rates (which adjust the reported savings) were lower than assumed in the 2009 *IEPR* forecast. Staff estimates that replacing the 2009 *IEPR* forecast adjustment rates with the lower percentages estimated in the CPUC study during the forecast period would reduce projected IOU program savings by more than 2,000 GWh in 2020.

Since the 2009 *IEPR* forecast relied on adjusted utility-reported savings to develop projected impacts through 2020, this means that program impacts may be overstated in the forecast. In the case of codes and standards, the primary source of uncertainty comes from compliance rates, for which very little empirical data are available.

Staff believes that it is appropriate to include some amount of incremental EE measures beyond those embedded in the *IEPR* demand forecast. Staff proposes that the number used in a renewable net short calculation should be the mid-case (17.1 TWh) incremental EE forecast.³

The point is that staff has assumed a substantially lower need for renewables to meet the RPS targets due to this “uncommitted energy efficiency” that was not found to be sufficiently reliable to include in the Commission’s base demand forecast and which may or may not materialize.

For two reasons, Pathfinder and Zephyr believe strongly that this inclusion of “uncommitted energy efficiency” is inappropriate. First, the assumption creates inconsistency between the forecast used for the renewable net short calculation and the Commission’s official demand forecast, thereby violating the principle of using assumptions that are as consistent as possible with other regulatory programs.

Second, and even more importantly, this assumption skews the RNS calculation toward under-procurement by risking an underestimate of demand. This violates the principle of ensuring achievement of the RPS statutory goal which inherently is a floor and not a ceiling. It further fails to recognize the Governor’s stated goal of achieving a 40% renewable penetration, which the RNS report states will be used in the next calculation cycle.

³ Report, p. 17.

B. COMMON ASSUMPTIONS MUST BE USED FOR VARIOUS PROCESSES AND ANALYSES USED TO DETERMINE THE RNS

The importance of recognizing variables in key assumptions also demonstrates the importance that key assumptions should be standardized. The CEC Report provides:

Using a common approach and set of assumptions to estimate the renewable net short will improve stakeholders' ability to understand the context for studies and to transfer findings from one study area to another. This will also promote consistency and establish an analytical link between the different infrastructure studies, leading to better informed policy development.⁴

Accordingly, to the extent possible, it is crucial that all of the inputs and studies used in the RNS calculation employ common assumptions. It does not make sense to use different sets of assumptions for different assessments.

A key example is the use of “uncommitted energy efficiency” as discussed above. Another example is the CEC assumption that California generators have a 40 year life. Staff has not made a similar assumption for out-of-state generation, but is instead looking for input on what assumption should be used for out-of-state resources. While Pathfinder and Zephyr support efforts to utilize the best information available, it makes sense to use standardized assumptions when such information is not available. Therefore, out-of-state generation should also be assumed to have a 40 year life. Where similarities and extrapolations can be used to provide common assumptions and scenarios for RNS determination inputs, the CEC should make all efforts to do so. The use of common assumptions provides greater transparency and will more accurately reflect the RNS forecast.

III. CONCLUSION

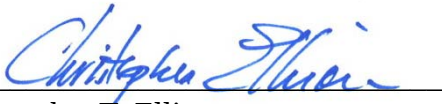
Pathfinder and Zephyr appreciate this opportunity to provide these comments on the RNS update. For the reasons described above, the RNS calculation should use common assumptions to the extent possible. Additionally, the RNS should recognize variations in key assumptions

⁴ Report, pp. 1-2.

underlying the RNS determination. This will provide more accurate RNS calculations and allow for more effective planning.

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Respectfully submitted,

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