

In the Matter of:) Docket No. 11-RPS-01

Developing Regulations and Guidelines for the)
33 Percent Renewables Portfolio Standard)
_____)

California Energy Commission

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**Comments of the Turlock Irrigation District
on the Draft Renewables Portfolio Standard
Eligibility Guidebook, Eighth Edition**

The Turlock Irrigation District (“TID”) appreciates the opportunity to provide comments on the *Staff Draft Renewables Portfolio Standard Eligibility Guidebook, Eighth Edition* (“Draft Guidebook”), posted on January 16, 2015. TID’s comments focus on the eligibility requirements for incremental hydroelectric generation from efficiency improvements.

I. INTRODUCTION

Governor Brown has laid out aggressive new environmental goals, including a goal to increase to fifty percent electricity derived from renewable resources. Senator DeLeon plans to introduce SB 350, which in its initial form, proposes to implement this goal through the existing renewables portfolio standard (“RPS”). Achieving this goal, particularly as part of the current RPS, will substantially increase the amount of variable resources connected to the grid. Ensuring grid reliability will be one of the key challenges associated with such a significant increase in variable resources. One essential strategy to protecting the grid is to maximize the RPS resources, such as hydroelectric resources, that actually support grid reliability.

The California Energy Commission (“CEC”) should ensure that its eligibility requirements for hydroelectric resources are simple and clear. Obtaining certification as RPS-eligible provides an additional value to new projects that is often essential to ensuring that the project is economically viable. By providing additional clarifications, the CEC can help increase

the certainty that a project will be eligible for the RPS. By providing this certainty, the CEC can actually increase the likelihood that a certain project will be pursued. Additional clarity is particularly necessary for incremental hydroelectric projects because, despite being an eligible technology type for over eight years, only three applications have been submitted and only one has been approved. Incremental hydroelectric generation provides zero-GHG electricity in a resource type that supports grid reliability. The CEC should carefully consider the multiple proposed changes to the incremental hydroelectric requirements that will be submitted by various stakeholders.

As described in detail below, TID recommends that the RPS Eligibility Guidebook expressly acknowledge that the term “efficiency improvement” broadly includes upgrades that maximize the electricity output of a facility. This change will allow a developer to select the type of upgrade that provides the most additional generation over the long-term.

II. BACKGROUND

AB 809 (2007) expanded the RPS eligibility requirements to include the incremental generation from certain efficiency improvements to hydroelectric facilities of any size. In order to be RPS-eligible, the efficiency improvements must meet certain requirements, including the following:

The hydroelectric generation facility is owned by a retail seller or a local publicly owned electric utility, was operational prior to January 1, 2007, the efficiency improvements are initiated on or after January 1, 2008, **the efficiency improvements are not the result of routine maintenance activities, as determined by the Energy Commission**, and the efficiency improvements were not included in any resource plan sponsored by the facility owner prior to January 1, 2008.¹

¹ Cal. Pub Util. Code § 399.12.5(b)(3) (emphasis added).

Pursuant to this direction, the CEC included the following description in the Seventh Edition of the RPS Eligibility Guidebook:

Eligible efficiency improvements to hydroelectric facilities are limited to those improvements that make more efficient use of the existing water resource and equipment, rather than increase the storage capacity or head of an existing water reservoir. Efficiency improvements do not include regular or routine maintenance activities. Eligible efficiency improvements may include the following measures:

- Rewinding or replacing the existing turbine generator.
- Replacing turbines.
- Computerizing control of turbines and generators to optimize regulation of flows for generation.²

As proposed in the current version of the Draft Guidebook, this section has been reworded to the following:

The efficiency improvements to the hydroelectric facility are limited to improvements that make more efficient use of the existing water resource and improve the efficiency of equipment, rather than increase the storage capacity or head of an existing water reservoir. Efficiency improvements do not include regular or routine maintenance. Efficiency improvements may include, but are not limited to, rewinding or replacing the existing turbine generator, replacing the turbines, and computerizing control of the turbines and generators to optimize operations.³

III. COMMENTS ON THE RPS ELIGIBILITY GUIDEBOOK

In light of the substantial resources that must be invested in any efficiency upgrade to a hydroelectric facility, it is essential that the requirements of the RPS Eligibility Guidebook are absolutely clear. While there are a number of upgrades that may increase generation over a long-term period, it is possible that one could interpret the phrase “make more efficient use of the existing water resource” in a narrow fashion. Such a narrow interpretation could unnecessarily restrict the types upgrades that could be installed, and consequently reduce that potential generation that could result from an upgrade.

² RPS Eligibility Guidebook, 7th ed., at 31-32.

³ Draft Guidebook at 16-17 (Clean Version).

For example, some turbine upgrades may be focused on increasing the electricity generated at an equivalent water flow, while other turbine upgrades may focus on increasing the maximum generating capacity. A turbine upgrade that increases the maximum generating capacity may not generate more electricity at an equivalent water flow, but may capture the additional flows that occur during heavy steamflow conditions. Under this strategy, a capacity-focused turbine upgrade may actually produce more megawatt hours (“MWh”) over a multiple year period than other upgrade options. Both types of upgrade fall within the concept of “efficiency improvement” because both types of upgrade result in greater energy production based on the same water flow.

To avoid any unnecessarily narrow interpretation and to provide greater assurances to developers, the CEC should clarify that “efficiency improvement” is interpreted broadly.

A. The Legislative History Supports a Broad Interpretation of “Efficiency Improvement”

As implemented by AB 809, the term “efficiency improvements” was intended to broadly refer to upgrades that increase the electricity output over the long-term. The legislative history of AB 809 supports this interpretation. First, the Final Assembly Floor Analysis summarizes the arguments in support of AB 809:

Supporters believe that allowing this new hydroelectric power to count toward RPS is consistent with the overall goals of RPS, since there is an increase in the total amount of renewable electricity in California with no increase the environmental harm caused by existing water projects. Under current RPS rules, a utility gets no RPS credit for efficiency upgrades it makes to existing hydroelectric facilities. This bill would reward utilities that upgrade their existing dams and hydroelectric projects **to maximize the electricity output** without changing current water use practices.⁴

The use of the phrase “to maximize the electricity output” demonstrates that the rationale behind this bill was to encourage the greatest possible energy production rather than narrowly

⁴ AB 809 Final Assembly Floor Analysis, September 4, 2007.

focus on short-term efficiency. Similarly, AB 809's author, Assembly Member Blakeslee, supported this broad interpretation in his letter urging Governor Schwarzenegger to sign the bill:

This bill seeks to clarify two instances where capital investments could produce clean micro hydro-electric power that counts as energy from an eligible renewable energy resource. The first is the opportunity to achieve small, but **incremental increases in power output produced by upgrading or repowering the turbines at a hydroelectric facility**, without any adverse impact on instream beneficial uses or cause a changes in the volume time of stream flow. . . .

The repowering investments are above and beyond what is required as routine maintenance of the dams. These improvements are not necessary for the dam to continue operation. The small incremental improvement in electrical output, the cost, and the logistical complexity of managing such projects have combined to make a business argument against these types of investments. Without recognizing the power as renewable, these projects simply will not occur.⁵

Finally, the CPUC's analysis of the bill also supports an interpretation that is focused on maximizing energy production:

The bill could broaden the impact of the RPS by encouraging owners of hydro projects to **implement efficiency upgrades that allow greater electricity production**.⁶

All of these sources indicate that the Legislature's goal was to reward improvements to hydroelectric facilities that increased the electricity output. The Legislature did not intend to restrict the types of upgrades that could be installed to achieve this purpose. Therefore, a turbine upgrade that increases the generating capacity of a facility and, over a multi-year period, results in significant increases in the total MWh produced, would be consistent with this legislative intent.

B. FERC's Implementation of the Production Tax Credit is Consistent With a Broad Interpretation of "Efficiency Improvement"

Pursuant to the Energy Policy Act of 2005, the Federal Energy Regulatory Commission ("FERC") was directed to certify the percentage of hydroelectric generation associated with

⁵ Letter From Sam Blakeslee to Governor Schwarzenegger, September 17, 2007 (emphasis added).

⁶ California Public Utilities Commission, AB 809 Enrolled Bill Report, September 7, 2007.

eligible efficiency improvements or additions of capacity in order to support the Renewable Energy Production Tax Credit. While the statutory basis is distinct from AB 809, it is instructive to review how FERC has interpreted similar concepts. As part of this implementation, FERC released a guidance document titled, *Renewable Energy Production Tax Credit: Instructions for Requesting Certification of Incremental Hydropower Production Pursuant to the Energy Policy Act of 2005*. FERC’s guidance document provides the following discussion:

Section 1301 does not define “efficiency improvements” or “additions of capacity,” except by excluding “operational changes . . . not directly associated with the efficiency improvements or additions of capacity.” **We construe “efficiency improvements” to encompass additional generation from existing equipment in the form of upgrades to generators or turbines.** Examples include rewinding generators, replacing turbines with more efficient units, and computerizing control of turbines and generators to optimize regulation of flows for generation. **We construe “additions of capacity” to mean any increase in generating capacity other than an addition resulting from an efficiency improvement or an addition resulting from an operational change.** An example of addition of capacity is of installation of a minimum flow generating unit. Examples of operational changes not directly associated with efficiency improvements or additions to capacity include raising the pond level to increase head and reducing spill flows required for environmental protection.⁷

As described above, FERC interprets “efficiency improvements” to include upgrades to generators or turbines. In contrast, additions to capacity are “any increase in generating capacity **other than an addition resulting from an efficiency improvement . . .**”⁸ This language clearly anticipates that a turbine replacement could result in an increase in generating capacity, yet still be considered an efficiency improvement. Thus, a turbine upgrade that increased generating capacity would be considered an efficiency improvement rather than an addition to capacity.

⁷ FERC Office of Energy Projects, *Renewable Energy Production Tax Credit: Instructions for Requesting Certification of Incremental Hydropower Production Pursuant to the Energy Policy Act of 2005* at 3, 2011 (emphasis added).

⁸ *Id.*

IV. RECOMMENDED CHANGE TO THE RPS ELIGIBILITY GUIDEBOOK

As explained above, “efficiency improvement” should be broadly interpreted to include an upgrade that increases the MWh produced over a multi-year period. To clarify this broad interpretation, TID recommends the following change to the Draft Guidebook:

The efficiency improvements to the hydroelectric facility are limited to improvements that make more efficient use of the existing water resource and improve the efficiency of equipment, rather than increase the storage capacity or head of an existing water reservoir. Efficiency Improvements include upgrades that increase the long-term energy production of the facility. Efficiency improvements do not include regular or routine maintenance. Efficiency improvements may include, but are not limited to, rewinding or replacing the existing turbine generator, replacing the turbines, and computerizing control of the turbines and generators to optimize operations.

V. CONCLUSION

TID appreciates the opportunity to provide these comments and looks forward to working with CEC staff.

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Respectfully submitted,



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