



June 16, 2014

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California Public Utilities Commission
505 Van Ness Avenue
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Re: Chevron Products Company, a division of Chevron U.S.A. Inc. Comments on Draft Resolution E-4648

Dear Energy Division Staff:

Pursuant to Rule 14.5 of the California Public Utilities Commission (Commission) Rules of Practice and Procedure, Chevron Products Company, a division of Chevron U.S.A. Inc. (Chevron) submits these comments on Draft Resolution E-4648, which proposes to approve Pacific Gas and Electric Company (PG&E) Advice Letter 4351-E, which submits for approval a power purchase agreement (PPA) between PG&E and Chevron Products, a division of Chevron U.S.A. Inc. (Chevron) for as-available deliveries from existing and new cogeneration facilities (Facilities) located at Chevron's Refinery in Richmond, California (Refinery) (Agreement).

I. Introduction

Chevron appreciates the effort the Energy Division has invested in reviewing this unique agreement. Chevron supports the Draft Resolution, subject to the following changes:

- Permit PG&E to count at least 20 MW of new bottoming cycle generation (New Generating Units) that will be developed under the Agreement toward its MW target under the CHP Settlement adopted in D.10-12-035 (Settlement), effective at the time of execution of the Agreement.
- Permit PG&E to count at least 36,186 metric tons of GHG emissions reductions from the New Generating Units toward its GHG target under the Settlement, effective at the time of execution.
- Eliminate observations regarding the industrial site host operations, which fall outside the Commission's jurisdiction.

Chevron requests that the Commission adopt a final resolution at its June 26, 2014, meeting.

II. Background

PG&E and Chevron bilaterally negotiated the Agreement based on the Optional As-Available pro forma contract approved by the Commission in D.10-12-035. The Agreement, which replaces a legacy qualifying facility Standard Offer 1 PPA, provides for the sale of as-available energy and capacity from existing CHP units operating at the Refinery (Existing Generating Units), bottoming cycle generating facilities consisting



of approximately 27.85 MW of new bottoming-cycle CHP facilities and a potential 8 MW of renewable generation New Generating Units.¹

The Agreement is not a standard CHP agreement contemplated by the pro forma agreements adopted in D.10-12-035, but addresses unique conditions at the Refinery. While permitting continuing deliveries from Existing Generating Units, it will accommodate deliveries from New Generating Units Chevron intends to install over the term of the contract. The PPA also addresses the potential for Chevron to install solar photovoltaic (PV) generation that would be networked with Chevron's CHP facilities. If the Parties had not negotiated this flexibility, they would have been required to reopen the PPA several times in the next few years, requiring additional Commission review and approval, to accommodate New Generating Units as they are installed. The PPA thus represents the most efficient means of both continuing business as usual and accommodating developments at the Refinery.

III. Chevron's Plans to Install New Generating Units

Chevron has an obligation, subject to terms and conditions of the Agreement, to install 17.85 MW of bottoming cycle generation and 8 MW of solar PV generation under §1.02(d) and Exhibit E of the Agreement; it also has an obligation to install "up to 10 MW" of additional bottoming cycle CHP generation. Chevron plans to achieve commercial operation of the 17.85 MW unit within the next three years (*i.e.*, by the end of 2017), assuming appropriate regulatory approvals and permits are obtained; smaller projects will be installed as opportunities are identified and permitted. Chevron posted Development Security pursuant to §1.07(d)(i) of the Agreement and will forfeit that security to the extent it fails to install at least 20 MW² of the New Generating Units.

A. Installation of the New 17.85 MW Bottoming Cycle Unit

Chevron is fully committed to the installation of the 17.85 MW unit, as evidenced by its permitting activity. The unit is being developed as a part of the broader Modernization Project (Modernization) under development at the Refinery. The Modernization will replace some of the Refinery's oldest processing equipment with more modern technology that is inherently safer and meets the nation's toughest air quality standards.

As a part of the Modernization, Chevron will replace an existing 1960s-era hydrogen plant with a 20 percent more energy efficient facility. In producing hydrogen for use in the refining process, the hydrogen plant will create waste heat. The waste heat will be used to generate steam in a heat recovery steam generator (HRSG); the steam will be put through a steam turbine generator (STG) to produce electricity. No supplemental natural gas firing of the HRSG will occur. Consequently, this waste-heat recovery project, or bottoming cycle CHP unit, will emit no incremental GHG or criteria pollutant emissions.

The Modernization will require several permits from the City of Richmond including: a Conditional Use Permit; a Design Review Permit; Encroachment Permits; Building Permits; Grading Permits; and

¹ Power delivered, if any, by the solar PV units would not include the renewable attributes of the power, which would be retained by Chevron.

² Development Security applies only to 20 MW, rather than the full 27.85 MW, because the Settlement's Optional As-Available Agreement permits the export of only 131,400 MWh annually, which equates to 20 MW at a 75 percent capacity factor.



construction permits pursuant to California Fire Code. These permits, when granted, will include the STG within their scope. Chevron submitted an application to the City of Richmond for the Modernization on March 23, 2011, to obtain the necessary permits. As part of the permitting process, the Final Environmental Impact Report (FEIR) was released by the City on June 9, 2014. The Richmond City Council is currently scheduled to vote on the FEIR and the conditional use permit by the end of July 2014.

The Project also requires authority to construct from the Bay Area Air Quality Management District (BAAQMD), which was obtained by Chevron in 2008 for the earlier version of Modernization; the permit is stayed pending certification of the Modernization FEIR. The permit will provide authority to construct and operate the STG as a part of the overall Modernization.

Chevron anticipates that the completion of the Modernization construction, including the STG, will take up to two years following the issuance of necessary permits and authorizations. Commercial operation thus is anticipated by the end of 2017.

B. Installation of New 10 MW of Bottoming Cycle Units

The 10 MW described in Exhibit E is not a single, planned unit but a placeholder for a number of smaller generating units that Chevron intends to install over time. As a large industrial complex, the Refinery has ongoing opportunities to undertake cost-effective energy efficiency projects. Some of those energy efficiency projects take advantage of waste heat or mechanical energy to generate small amounts of electricity. The projects could range in size from 500 kW to 2 MW. Reopening the PPA each time Chevron installs a new unit would be cumbersome and consume both the parties' and the Commission's resources.

Chevron over time will generate small amounts of electricity through energy efficiency projects. Chevron has engaged in the development of organic rankine cycle ORC technology, which harvests lower temperature heat to generate electricity. The technology remains in the development phase with potential applications for refineries. Energy efficiency projects may also result when the steam released from letting down the pressure of a steam flow is forced through a back-pressure turbine. Chevron uses this type of energy efficiency today in its refineries.

While there are no specific energy efficiency generation projects at the Refinery in sight in 2014, Chevron anticipates taking advantage of energy efficiency opportunities on an ongoing basis. Chevron fully expects that some of its energy efficiency projects will result in the generation of small amounts of electricity.

IV. Counting MW and GHG Reductions Toward CHP Settlement Targets

The Draft Resolution proposes to approve the Agreement, but provides that PG&E may not count the new MW and GHG emissions reductions toward its targets until each of the New Generating Units has undergone a Capacity Demonstration test. Under the Settlement, PG&E should be permitted to include these MW and GHG reductions as progress toward its targets effective "at the time of execution."

A. General Counting Provisions

Section 4.12 of the Settlement provides an overarching principle for the counting of MW and GHG emissions reductions toward utility targets. It provides:



An IOU may record in the CHP Program Reports as progress towards obtaining its MW Targets and GHG Emissions Reduction Targets the MWs, GHG Credits or GHG Debits associated with the PPA at the time of execution.

It expressly provides for counting of both MW and GHG Credits toward targets “at the time of execution.” If the MW or GHG reductions are not realized, the Settlement anticipates that the utility will remove the credits from its CHP Program Reports.

B. GHG Emissions Reductions Credit Counting Provisions

While §4.12 provides for inclusion of all MW and GHG benefits at the time of execution of the agreement, other sections of the Settlement discuss the time of measurement of these benefits. Sections 7.3.1.1 and 7.4.1 expressly provide that the calculation of the GHG benefits must be calculated at the time of execution. The Settlement leaves no doubt when these GHG credits should be counted, and the Draft Resolution does not disagree.

Even with this clarity, the Draft Resolution would not count GHG emissions reductions at the time of execution. It justifies this position on Finding 10, which concludes that the “Commission has no basis for calculating the GHG reductions....”

The Commission has a clear basis for calculating GHG reductions. As explained above, Chevron has near-term plans for commercial operation of the 17.85 MW unit and anticipates the realization of other bottoming cycle units in the first 60 months of the Agreement. In addition, Chevron has posted Development Security for 20 MW of New Generating Unit capacity, further making clear its intent to develop these facilities.

Chevron has provided information to PG&E regarding its anticipated New Generating Units, which could be used as a basis for the GHG calculation. At a minimum, the final resolution should permit PG&E to count the GHG reduction credits derived from 20 MW, the basis of the Development Security; the credits should be counted at the date of execution. The calculation would reflect Chevron’s forecast GHG reductions resulting from output of the 17.85 MW STG and 2.15 MW of ORC generation. Applying expected capacity factors, annual GHG emission reductions will be 36,186 MT per year.

C. MW Counting Provisions

Section 4.12 of the Settlement makes clear that the MW, as well as GHG reductions, may be included in PG&E’s CHP Program Report at the time of execution of the agreement. The Settlement has additional provisions regarding MW counting, which address how the MW ultimately will be measured. Section 4.6.2.11.2.1 and §5.2.5 provide that the final capacity value for MW counting will be established using a one-time Capacity Demonstration Test, net of auxiliary or station power. If the Capacity Demonstration Test for the New Generating Units validates capacity other than the MW recorded at the time of execution, the original value should be updated.

The MW calculation sections were not intended to suggest that MW counting should be delayed until the Capacity Demonstration Test. To read the MW counting provisions in this way would conflict with the more



specific language of §4.12. The Draft Resolution should be modified to provide that the MW of New Generating Units anticipated by the Agreement may be counted by PG&E effective the date of execution.

V. Other Issues

The Draft Resolution appropriately recognizes the need to consider safety in all Commission decisions and resolutions. It finds: "The Richmond PPA includes safeguards and requirements to ensure that the operation of the new and existing generating facilities will not result in any adverse safety impacts to the public or Chevron's employees." In reaching this conclusion, however, the Draft Resolution steps beyond the legal boundaries of Commission jurisdiction.

The Draft Resolution observes in passing certain Occupational Safety and Health Administration violations and associated fines related to industrial host operations. As the Draft Resolution itself observes: "The Commission's jurisdiction extends only over PG&E, not Chevron." By the Commission's own acknowledgement, observations regarding site host operations do not belong in a resolution on a PPA. The Commission should strike the language regarding Refinery operations from the final resolution.

Violations attributable to the generating units that will deliver energy under the Agreement are very limited. Chevron is aware of only one instance of OSHA or Cal OSHA violations that resulted in fines being paid in connection with any of the Richmond Refinery electrical generating units in the past five years. This citation was issued by the California Occupational Safety and Health Administration in February 2010 related to sump pump access and the condition of the basement floors. Total assessed penalties paid by Chevron for the violations were \$300.

VI. Conclusion

For all of these reasons, Chevron requests that the Commission modify the Draft Resolution to reflect the changes proposed in these comments. Proposed changes are attached as Appendix A.

Please let us know if you have questions.

Very truly yours,

A handwritten signature in cursive script that reads "Evelyn Kahl".

Evelyn Kahl

Counsel to Chevron U.S.A. Inc.

APPENDIX A

Proposed Findings and Conclusions

7. The Richmond PPA specifies that Chevron will install a 17.85 MW bottoming cycle unit that is being permitted by the City of Richmond and other agencies; it also specifies that Chevron will install up to 10 MW of additional organic rankine cycle or other bottoming cycle generation. does not specify that a defined number of new CHP MW will be built; it only specifies that up to 28 MW of new CHP capacity may be built.
8. The Richmond PPA requires Chevron to provide Development Security for 20 MW of new generation.
89. Settlement Term Sheet Section 4.12 provides that an IOU may record in the CHP Program Reports as progress towards obtaining its GHG Credits or GHG Debits associated with the PPA at the time of execution; Section 5.2.5 provides that a final MW value will be established requires that the capacity of a new CHP facility to be used to count progress toward the MW targets will be established by a Capacity Demonstration Test.
910. PG&E is not permitted to count 20 MW of new CHP MW toward its CHP MW target prior to completion of a Capacity Demonstration Test on those new MW based on the requirement in the PPA for a 20 MW Development Security.
4011. Settlement Term Sheet §4.12 that an IOU may record in the CHP Program Reports as progress towards obtaining its MW target MW associated with the PPA at the time of execution; PG&E may count forecast 35,285,514 MT of annual GHG emissions reductions under the Settlement for 20 MW of the total 27.85 MW of bottoming cycle generation that will be installed. The Commission has no basis for calculating GHG reductions toward the Settlement Emissions Reduction Target until it is known how many MW of new CHP will be constructed as a result of the Richmond PPA.
11. The Commission will determine whether and how to count new CHP MW and GHG emissions reductions toward the CHP Settlement targets when PG&E submits the results of a Capacity Demonstration Test via Tier 2 Advice Letter.
14. The Commission will make a determination as to whether the new generation units meet the Settlement CHP/QF definition at the time PG&E submits the results of the Capacity Demonstration Test. The bottoming cycle facilities that will be installed under the Agreement will be Qualifying Facilities.

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The Commission's jurisdiction extends only over PG&E, not Chevron. Staff notes that on January 30, 2013, the Occupational Safety and Health Administration (OSHA) fined Chevron \$963,200 for 25 violations related to a large fire at the Richmond refinery on August 6, 2012. Eleven of the violations are classified as "willful serious" and 12 are classified as "serious." Some of the violations involved Chevron's operation of the electrical system at the refinery. The existing generating units under the Agreement have experienced very few incidents. Cal/OSHA issued a citation in 2010 related to access to a sump pump and basement floor conditions. The citation was resolved with Chevron's payment of total assessed penalties for the violations of \$300.

CERTIFICATE OF SERVICE

I, Karen Terranova, hereby certify that I have on this date caused the attached **Comments to the Draft Resolution E-4648** to be served to all parties listed below via electronic mail, pursuant to the letter dated May 19, 2014, which accompanied the draft resolution.

Dated June 16, 2014 at San Francisco, California.



Karen Terranova

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