BEFORE THE PUBLIC UTILITIES COMMISSION OF
THE STATE OF CALIFORNIA

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Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local Procurement Obligations.	Rulemaking 09-10-032

COMMENTS OF THE COGENERATION ASSOCIATION OF CALIFORNIA ON PHASE 1 RESOURCE ADEQUACY PROPOSALS

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March 12, 2010

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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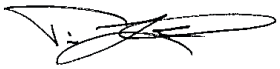
COMMENTS OF THE COGENERATION ASSOCIATION OF CALIFORNIA ON PHASE 1 PROPOSALS

The Cogeneration Association of California (CAC) submits these comments pursuant to the R.09-10-032 Scoping Memo issued December 23, 2009. The Scoping Memo included as a Phase 1 issue the development of a net qualifying capacity (NQC) methodology for resources currently exempted from the Standard Capacity Product (SCP), including combined heat and power (CHP) resources.[1] CAC submitted a CHP counting methodology proposal and participated in the January 27, 2010 workshop. It submitted an amended proposal based on that workshop before the February 25, 2010 workshop. The attached CAC proposal, the same proposal submitted before the February 25 workshop, accomplishes the Scoping Memo's goals, incorporates unique CHP resources into an SCP built for conventional resources, and maintains grid reliability. Therefore, the California Public Utilities Commission (CPUC) should adopt CAC's attached proposal.

[1] Scoping Memo at 3.

One section of the proposal asks the CPUC to either maintain the current Load Serving Entity (LSE) scheduled outage replacement obligation or exempt CHP resources from any rule that moves the obligation to suppliers. Alternatively, CAC believes the Southern California Edison (SCE) March 5, 2009 proposal has merit. That proposal, which creates a Planned Outage Adder to account for scheduled outages, achieves the goal of a fungible SCP and avoids the complexity embedded in the California Independent System Operator's proposal in its SCP Phase II Initiative. More importantly, it keeps the scheduled outage replacement obligation in the hands of LSEs, the parties most able to efficiently procure low-cost Resource Adequacy capacity. CAC urges the Commission to keep with LSEs the obligation to account for resources on scheduled outage.

Respectfully submitted,



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ATTACHMENT

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local Procurement Obligations.	Rulemaking 09-10-032

AMENDED COMMENTS AND PROPOSAL OF THE COGENERATION ASSOCIATION OF CALIFORNIA ON NET QUALIFYING CAPACITY COUNTING METHODOLOGY

The Cogeneration Association of California[2] (CAC) amends its January 11, 2010 proposal, submitted pursuant to the R.09-10-032 Scoping Memo issued December 23, 2009, and in response to a related Energy Division (ED) paper (ED Paper). The December 18, 2009, ED Paper detailed the current Net Qualifying Capacity (NQC) counting methodology and ED-proposed changes to that methodology. CAC amends its proposal in response to comments made during the January 27, 2010, Workshop (January 27 Workshop) and the California Independent System Operator (CAISO) Standard Capacity Product (SCP) Phase II Straw Proposal. This proposal is conditioned upon the CAISO expressly stating that combined heat and power (CHP) resources are non-dispatchable use-limited resources (ULRs), as proposed in CAC's comments to the CAISO SCP Phase II Initiative. The proposal is further conditioned upon the CAISO eliminating or qualifying the risk that host steam variations in the

[2] CAC represents the power generation, power marketing and cogeneration operation interests of the following entities: Coalinga Cogeneration Company, Kern River Cogeneration Company, Mid-Set Cogeneration Company, Sycamore Cogeneration Company, Sargent Canyon Cogeneration Company, Salinas River Cogeneration Company, Midway Sunset Cogeneration Company and Watson Cogeneration Company.

course of normal operations will cause CHP generators to incur availability penalties.

The amended proposal:

- ✓ In section IV, clarifies the reasoning behind the differentiation between firm, as-available and hybrid CHP to resolve confusion at the January 27 Workshop;
- ✓ In section VI, adjusts the treatment of firm CHP resources to address concerns expressed at the January 27 Workshop over the use of contractual capacity;
- ✓ In section VII, clarifies treatment of increases in available capacity; and
- ✓ In section VII, proposes a methodology to reduce as-available and hybrid NQC when generators expect reduced host thermal demands, as suggested at the January 27 Workshop.

CAC cautions that it may need to alter this proposal further based on on-going, confidential settlement negotiations at the California Public Utilities Commission (CPUC).

I. FITTING AN EXCEPTIONAL PIECE INTO AN IMPRESSIVE MOSAIC

The Resource Adequacy (RA) initiatives at the CAISO and the CPUC to develop a SCP are impressive efforts to fit a diverse range of generators into a standard, tradable product. CAC applauds these efforts and is eager for CHP generators to participate fully in the RA program.

However, CHP is an exceptional piece of this diverse puzzle because of its unique operating characteristics. CHP is the only generation type where the main purpose of a facility is not the production of electricity, but the manufacture of products. In this context, thermal steam demand trumps electricity generation. CHP simply does not fit the operate-to-generate paradigm of merchant and utility generators whose only business purpose is to supply electricity to the CAISO-controlled grid.

Holding CHP generators to mandates built for merchant and utility plants would result in disincentives to generate and potential resource shut in. These disincentives result from:

- RA Must Offer Obligation;
- SCP Availability Standards;
- NQC counting methodologies that fail to adequately value new and existing CHP capacity; and
- A burdensome proposed replacement obligation that treats CHP plants as if they were merchant or utility generators.

CHP is one of the most efficient electric generating resources in California, and reduced generation from, and potential shut in of these resources would adversely impact California's ratepayers, grid reliability and air quality.

Nonetheless, there is a solution to making the irreplaceable CHP piece fit within the SCP mosaic. That solution entails simultaneous actions within the realms of both the CPUC and the CAISO and includes:

- ✓ The classification of CHP facilities with Qualifying Facility (QF) Participating Generator Agreements (PGAs) as non-dispatchable ULRs;
- ✓ The elimination or qualification of the risk that host steam variations in the course of normal operations will cause CHP generators to incur availability penalties;
- ✓ The calculation of NQC for as-available and hybrid CHP generators[3] using a monthly historical output correction methodology that corrects for scheduled outages, forced outages and temperature-related ambient de-rates;
- ✓ The calculation of NQC for firm CHP generators[4] using a methodology similar to that of dispatchable generators;
- ✓ The expansion of ED's proposed equation to calculate NQC for new non-dispatchable resources to all as-available and hybrid CHP capacity increases;
- ✓ The calculation of NQC for new firm resources using increased capacity; and
- ✓ The recognition of CHP generators' unique operations in rejecting the proposed replacement obligation for scheduled outages or exempting CHP resources from it.

[3] A hybrid CHP generator sells both as-available and firm capacity from the same generation facility.

[4] A firm CHP generator sells contract capacity designated as "firm capacity".

The CPUC should endorse these solutions and adopt the proposed CHP counting methodology in this proposal's Appendix.

II. CLASSIFY CHP FACILITIES WITH QF PGAS AS NON-DISPATCHABLE ULRS

The ED Paper proposed that stakeholders comment on a resource's classification as dispatchable or non-dispatchable within 30 days of the CAISO and CPUC posting the preliminary NQC list.[5] Currently, a resource is dispatchable if it has signed a PGA with the CAISO.[6] CAC agrees with the CAISO and CPUC that the current methodology is flawed and inaccurate. In fact, the current methodology is paradoxical in the context of a QF PGA, the terms of which mandate that the generator be deemed non-dispatchable.[7] Thus, CAC proposes that the CPUC adopt the ED proposal with language added that automatically deems non-dispatchable any resource that signs a QF PGA. These changes are included in the proposed text in the Appendix.

While an important characterization, a non-dispatchable label is not enough to incorporate CHP into the SCP. Further designation of CHP facilities as non-dispatchable ULRs is vital. While not directly at issue in this proceeding, but discussed in CAC's CAISO SCP Phase II comments, the CAISO Tariff should expressly state that CHP generators are ULRs upon application. Without such status, CHP facilities in the course of normal operations will be unable to meet the must-offer provisions of the RA program and will be subject to repeated sanctions. Such sanctions will result in reduced

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[5] CPUC Energy Division, Qualifying Capacity Methodology 3-4 (December 18, 2009) (ED Paper).

[6] ED Paper 3.

[7] California Independent System Operator, Qualifying Facility Participating Generator Agreement §§ 4.2.5 and 4.5 (available at www.caiso.com/docs/2005/10/28/2005102815281216540.html).

generation from, and investment in, valuable CHP generation. CAC asks the CPUC to endorse CHP's eligibility as a ULR and adopt the proposed language in the Appendix.

III. URGE CAISO TO ELIMINATE OR QUALIFY THE RISK THAT HOST STEAM VARIATIONS IN THE COURSE OF NORMAL OPERATIONS WILL CAUSE CHP GENERATORS TO INCUR AVAILABILITY PENALTIES

CAC strongly supports the ISO's proposal to eliminate the phrase *"non-ambient de-rate"* from the CAISO Tariff.[8] However, the ISO's statement that *"non-ambient de-rates"* are a *"subset of the term 'forced outage'"* is worrisome.[9] The concern is grounded in the Tariff definition of *"Outage."* Specifically, the Tariff language raises the possibility that host steam variations[10] resulting from normal CHP operations could be considered *"reductions in capacity."* A *"reduction in capacity, planned or forced, of one or more elements of an electric system"* qualifies as a Forced Outage under the exact language of the Tariff, if reported within 72 hours of Real Time.[11] CAISO has stated on numerous occasions, including the Straw Proposal, that *"normal variations in output from a Qualifying Facility"* are not Forced Outages.[12] However, a generator is held to the language of the Tariff. Thus, CAC recommended adding the following, clarifying language to the definition of Outage, in the Tariff's Appendix A:

> *"Normal variations in output from facilities that serve industrial host operations, such as combined heat and power QFs, are not considered Outages for purposes of compliance with the provisions of the Resource Adequacy Standard Capacity Product."*

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[8] CAISO Standard Capacity Product Phase II Straw Proposal at 11, 13 (January 19, 2010) (Straw Proposal).

[9] Straw Proposal at 7; Tariff Appendix A, definition of Forced Outage and Outage.

[10] A CHP facility operates to serve its thermal host. A host steam variation is an increase or decrease in steam due to an increase or decrease in thermal demand on the part of the facility's thermal host.

[11] Tariff Appendix A, definition of Forced Outage and Outage.

[12] Straw Proposal at 11.

Such language will ensure that host steam variations will not affect a CHP generator's availability under normal operating conditions. The CPUC should endorse this request by adopting the language proposed in the Appendix.

IV. DIFFERENTIATE BETWEEN FIRM, AS-AVAILABLE AND HYBRID CHP

The CHP NQC counting methodology should not differentiate between dispatchable and non-dispatchable generation since all CHP facilities that sign a QF PGA are non-dispatchable. [13] Instead, the counting methodology should differentiate between firm, as-available and hybrid CHP generation as such characterization would more accurately reflect the generators' operational characteristics.

The contractual and operational nature of as-available and hybrid CHP resources necessitate different treatment than typical thermal resources. As-available and hybrid generators sell variable capacity amounts based on the steam demands of the resource's thermal host. As a result, as-available contracts may not identify a specific MW value for the RA capacity sold. Instead, the Load-Serving Entity (LSE) that contracts with the CHP facility for RA capacity simply lists the resource's NQC as the resources' RA value in its annual and monthly filings. Thus, an as-available and a hybrid resource's RA capacity and NQC are the same value.

Firm CHP contracts historically do identify a specific MW value for the capacity sold, mimicking the practice of typical thermal resources. Like those thermal resources, a firm CHP generator can sell a specific RA value below NQC. As-available and hybrid generators will always sell at NQC.

These differences in operational and contractual treatment necessitate differentiating firm resources from as-available and hybrid resources in counting NQC.

[13] With one exception, all CAC clients are non-dispatchable.

Finally, CAC proposes that the generator's Scheduling Coordinator (SC) be responsible for supplying the contracts and data with which the CPUC may verify a resource's status as a firm, as-available or hybrid CHP generator.

V. CALCULATE THE NQC FOR AS-AVAILABLE AND HYBRID CHP GENERATORS USING A MONTHLY HISTORICAL OUTPUT CORRECTION METHODOLOGY

CAC concurs with workshop suggestions to calculate the NQC of as-available and hybrid CHP resources historically, applying the scheduled outage historical output correction methodology to forced outages. However, CAC proposes two further refinements: (1) calculation of monthly NQC values and (2) correction for temperature-related ambient de-rates.

A. CALCULATE THE NQC FOR AS-AVAILABLE AND HYBRID CHP GENERATORS USING AN HISTORICAL METHODOLOGY

One purpose of this proceeding is to develop the counting rules for temporarily exempted CHP resources, with historically calculated NQCs, which would be double-penalized under the SCP.[14] The contractual and operational nature of as-available and hybrid CHP dictates the continued use of an historical methodology to reflect variations in capacity from following thermal hosts. CAC agrees with other proposals stating that the CPUC should use the scheduled outage historical correction methodology to prevent the double-counting of forced outages. The CAC urges the CPUC to apply the historical output correction counting methodology described in the ED Paper and included in the Appendix.

B. CALCULATE MONTHLY NQC VALUES

The ED Paper states that the current counting methodology calculates NQC *"as an average of the production during specified hours of June to September, of each*

[14] Scoping Memo 3.

year."[15] CAC proposes that the CPUC calculate NQC on a monthly basis as opposed to a summer-months average for the entire year. The end result would be 12 separate NQCs for as-available and hybrid CHP resources that would more accurately represent the capacity of those resources.

Monthly NQC calculations make sense for CHP. Summer production from CHP generators is lower than winter production because of temperature-related decreases in capacity. Therefore, the current method systematically understates the RA potential of as-available and hybrid resources during winter months. Higher winter NQC values that result from monthly calculations would maximize local CHP RA capacity acquired by utilities, reduce procurement by those utilities, prevent over-procurement, and lower rates for ratepayers. Because the calculations are already made for four months out of the year, reporting monthly NQC values would add little effort and expense to CPUC and CAISO processes. Furthermore, many ULRs currently report NQCs based on average production during specified hours of each month of the year.[16] Thus, CAC proposes that as-available and hybrid CHP resources receive 12 separate NQC calculations, one for each month, as opposed to a summer-months, annual average. The CPUC should adopt the new language included in the proposed text in the Appendix to accomplish this goal.

C. CORRECT FOR TEMPERATURE-RELATED AMBIENT DE-RATES

The CPUC, FERC and CAISO all recognize that NQC reductions for forced outages and temperature-related ambient de-rates, when joined with availability

[15] ED Paper 20.
[16] *See* ED Paper 11.

penalties, double penalize resources with historically calculated NQC values.[17] Therefore, CAC proposes that the historical output correction methodology correct for forced outages *and* temperature-related ambient de-rates. CAC recognizes the complexity of measuring and calculating a temperature-related ambient de-rate correction and is willing to work with stakeholders to develop an accurate tool to do so.

VI. CALCULATE THE NQC FOR FIRM CHP POWER USING A METHODOLOGY SIMILAR TO THAT OF DISPATCHABLE GENERATORS

A firm CHP resource has the ability to provide greater reliability benefits than would be reflected by an NQC determination that is based solely on the unit's historical performance. CAC proposes that the CPUC use a methodology for firm CHP resources similar to that employed for dispatchable generators. The only difference between the methodologies would stem from the fact that CHP is non-dispatchable, thereby necessitating NQC calculation by the CPUC instead of the CAISO. To accommodate this small difference, the resource's SC would report the resource's available capacity as the resource's QC. The CPUC would use the results from CAISO tests, if any, taken pursuant to QF PGA section 4.1.2, to ensure that the NQC is not above the generator's operating capability. Calculating firm CHP resources in this manner would increase their NQC values. Such an increase would maximize local RA capacity acquired by utilities, reduce procurement by those utilities, prevent over-procurement, and lower rates for ratepayers.

In the January 27 Workshop it was suggested that differences in performance standards between CHP contracts dictate that historical calculation should be used for all CHP resources. However, differences in contractual performance standards should

[17] *Cal Ind Sys Op Corp*, 127 FERC ¶ 61,298 at P 17, 21 (June 26, 2009); California Public Utilities Commission Order Instituting Rulemaking, R. 09-10-032 Appendix A (Nov 4, 2009).

not impact the calculation of firm NQC. NQC represents the maximum amount of capacity a generator can reliably supply to the grid – an RA capacity ceiling. Performance standards measure contractual compliance with capacity sold – an amount of RA capacity less than or equal to NQC. Thus, performance standards may impact the amount of RA capacity for which a generator and an LSE choose to contract, but performance standards should not impact a generator's NQC. Restricting NQC of firm CHP resources because of contractual performance standards would unfairly undervalue a resource's potential RA capacity. CAC therefore urges the CPUC to adopt the Appendix's proposed language to calculate firm CHP in a manner similar to a typical thermal resource.

VII. EXPAND ENERGY DIVISION'S PROPOSED EQUATION TO CALCULATE NQC FOR NEW NON-DISPATCHABLE RESOURCES TO ALL AS-AVAILABLE AND HYBRID CHP CAPACITY INCREASES

The ED Paper proposes using the following equation for new non-dispatchable resources whose NQC is historically based and for which no historical data exists:

$$QC_{\mathrm{Re}source} = NDC_{\mathrm{Re}source} * \frac{\sum_{ExistingNon-Dispatchable\,\mathrm{Re}sources} QC}{\sum_{ExistingNon-Dispatchable\,\mathrm{Re}sources} NDC}$$

CAC supports this proposal with two refinements.

First, the CPUC should follow the firm/as-available distinction for CHP instead of the dispatchable/non-dispatchable distinction. CPUC should then use the ED-proposed equation for new as-available and hybrid CHP resources, the NQCs of which are historically based. CAC assumes that ED only contemplated using the above equation for entirely new units, where the new unit would receive a new Resource ID. CAC proposes expanding use of the equation to all situations where CHP facilities increase

their available capacity regardless of whether a new Resource ID is issued.[18] Most CAC CHP facilities generate behind the meter and therefore receive only one Resource ID for all of their units. Thus, adding units to a CHP resource does not necessarily create a new Resource ID and therefore would not increase the resource's NQC under the proposed methodology. To allow added CHP capacity to be counted in the resource's NQC, the CPUC should use the equation proposed in the Appendix to calculate an NQC-adder to increase a resource's NQC by its added capacity when no historical data is available. To communicate an increase, the generator simply would notify the CPUC of any added capacity and supply it with the necessary data.

Second, ED proposes that the above calculation include *"the average QC as a percent of NDC of all existing resources in this classification."*[19] CAC assumes that *"classification"* means *"non-dispatchable resources."* However, such an equation would discount the NQC of generators such as large CHP facilities whose *"average QC as a percent of NDC"* is much higher than other non-dispatchable resources. Therefore, CAC proposes the language in the Appendix using *"the average QC as a percent of NDC of all existing resources with similar operating characteristics (*e.g.*, as-available CHP resources)."* CAC urges the CPUC to adopt the proposed language in the Appendix to reflect these solutions.

Finally, comments during the January 27 Workshop suggested that this proceeding create a method by which an as-available or hybrid CHP generator could reduce its NQC in order to follow reduced host steam needs. CAC proposes a simple solution whereby a generator would report any reductions in NQC to the CPUC. Such a

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[18] Increases in available capacity could result from increases in generation capacity, efficiency improvements in industrial thermal host processes, or other changes that increase exportable capacity.

[19] ED Paper 21.

solution is appropriate given an as-available or hybrid generator's incentive to maintain an accurate NQC. This incentive is grounded in the fact that as-available and hybrid generator's RA capacity and NQC are the same value. That is, availability standards for such generators create a strong incentive to maintain NQC as an accurate prediction of generation capability since the generators' NQC and RA capacity are the same value. Therefore, CPUC should adopt the proposed language in the Appendix to effectuate this change.

VIII. CALCULATE NQC FOR NEW FIRM RESOURCES USING ADDED CAPACITY

The counting methodology for firm CHP resources should not be historically based and, therefore, neither should additional firm CHP capacity be historically calculated. The CPUC should verify and calculate increased capacity for these units using the resource's added capacity, as demonstrated in the Appendix's counting methodology.

IX. REJECT PROPOSED REPLACEMENT OBLIGATION OR EXEMPT CHP GENERATORS FROM IT

The proposed replacement obligation requires generators to purchase replacement capacity for times when the generator is on a scheduled outage. The justification given for the obligation at the December 17 Workshop was that Load Serving Entities (LSEs) do not always know when their RA resources are on scheduled outages, and therefore the RA SCP is not a tradable product. However, improved communication of scheduled outages between the CAISO, LSEs, SCs and generators would solve this issue more equitably and effectively than the proposed replacement obligation.

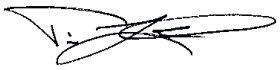
Moreover, such obligations are oppressive for industrial customer-generators and may cause CHP resources to defend against claims of contractual breach. A CHP facility is not a merchant or utility generator. The replacement obligation may be a light burden for a merchant generator with refined replacement protocols developed from already existing contractual obligations. However, for CHP generators whose thermal demand trumps electricity generation and whose contracts do not contain replacement clauses, the obligations are heavy-handed disincentives to generate. Such disincentives could cause generators to discontinue investment in CHP, decline to install CHP equipment, and potentially shut in CHP resources. In addition, CHP contracts such as Standard Offers 1 and 2 fail to expressly permit the substitution of generation from other sources. The lack of such a provision could require CHP facilities to defend against LSE breach of contract claims in order to comply with the replacement obligation. Therefore, CAC proposes that the CPUC reject the proposed replacement obligation for scheduled outages or exempt CHP facilities from it.

X. CONCLUSION

The successful inclusion of CHP in the SCP depends on the CPUC adopting the counting methodology proposed in the Appendix. It also depends on the CAISO formalizing acknowledgments it has made informally in discussions and workshops. Specifically, CAC's proposal is conditioned upon the CAISO eliminating or qualifying the risk that host steam variations in the course of normal operations will cause CHP generators to incur availability penalties. Finally, successfully fitting the CHP piece into the SCP mosaic requires that both the CPUC and the CAISO recognize the unique operating characteristics of cost-effective, reliable and clean CHP generation. Such recognition entails rejecting the proposed replacement obligation or exempting CHP

resources from it. CAC thanks the CPUC for the opportunity to make this vital proposal and looks forward to working with other stakeholders in its implementation.

Respectfully submitted,



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February 23, 20

APPENDIX – PROPOSED CHP COUNTING METHODOLOGY

To successfully incorporate CHP into the SCP, CAC proposes the following:

- ✓ Change any use of the term *"cogeneration"* in the ED Paper to *"combined heat and power"* or *"CHP"*, as appropriate, with a footnote that explains that CHP and cogeneration are the same technology. This change will more accurately reflect the current state of CHP resources within California.

- ✓ Add the following paragraph between the third and fourth paragraph of Section *"3. Resource Classification"* in the ED Paper:

"CHP facilities that have signed a Qualifying Facility (QF) Participating Generator Agreement (PGA) with the CAISO are non-dispatchable resources by the terms of that agreement and receive QC according to the methodology described in Section 10."

- ✓ Alter the language of Section *"6. Resource Classification"* in the ED Paper so that the counting methodology described therein corrects for scheduled outages, forced outages and temperature-related ambient de-rates.

- ✓ Re-number Section *"10. Non-Dispatchable Resources"* and its subsections as Section 11; Section *"11. Demand Response"* and its subsections as Section 12; and Section *"12. Acknowledgements"* as Section 13.

- ✓ Insert a new Section 10 that shall read:

"10. Combined Heat and Power (CHP) Resources

A CHP facility that has signed a QF PGA with the CAISO is a non-dispatchable resource by the terms of that agreement and should be deemed a Non-Dispatchable Use-Limited Resource under the terms of the CAISO Tariff. Furthermore, CAISO should eliminate or qualify the risk that host steam variations in the course of normal operations will cause CHP generators to incur availability penalties.

10.1. Firm CHP Resources

Firm CHP resources receive NQC values based on their available capacity, subject to the checks described in Section 4, Deliverability. The Scheduling Coordinator (SC) of the resource submits a proposed QC value, along with a reference to the resource's most recent tests conducted by CAISO, if any, under Section 4.1.2 of the QF PGA (QF PGA Tests). The CPUC checks the submitted value for consistency with the QF PGA Tests, if any, and the resource's maximum deliverable capacity. If the proposed QC value is less than or equal to the QF PGA Tests or the maximum

deliverable capacity, it is accepted for the NQC value. If not, the previous NQC value is retained. The CPUC may ask the SC to coordinate with CAISO to update the QF PGA Tests or supply other information to the CPUC in order to determine an acceptable change to NQC. At the time each compliance year's NQC list is published, the CPUC checks that each NQC is less than or equal to the most recent QF PGA Test or maximum deliverable capacity for the resource.

10.2. As-Available and Hybrid CHP Resources

As-available and hybrid CHP resources[20] receive twelve monthly QC values based on a three-year rolling average of production during certain hours, shown in the table below:

Jan–Mar, Nov and Dec:	HE17 - HE21[21] (4:00 p.m. - 9:00 p.m.)
Apr–Oct:	HE14 - HE18 (1:00 p.m. - 6:00 p.m.)

The three most recent years of available data are used; for example, 2010 QC for Month X is calculated based on Month X data from 2006-2008. Historical production data is adjusted for scheduled outages, forced outages and temperature-related ambient de-rates as described in Section 6. SAS® code for these calculations is included in the Appendix.

For this calculation, a value is calculated as an average of the production during the specified hours of each month, each year. The monthly average values for each measurement year are calculated as:

$$MonthXAverage(MW) = \frac{\sum_{MonthX} \Pr oduction(MWh)}{\sum_{MonthX} Hours(h)}$$

Equation 17. Monthly Average Production for As-Available and Hybrid CHP Resources

Then, each month's values from the three measurement years are averaged together to calculate the final QC for that month.

$$FinalQCforMonthX = \frac{1}{\{NumberOfYearsOfData\}} * \sum MonthXAverages$$

Equation 18. Final QC of As-Available and Hybrid CHP Resources for Month X

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20 *A hybrid CHP generator sells both as-available and firm power from the same generation facility.*

21 *HE indicates "hour ending", or the 60 minutes that end at the numbered hour, in 24 hour time. For example, HE17 indicates the 60 minutes beginning at 16:00 (i.e. 4:00 p.m.) and ending at 16:59.*

*Any as-available and hybrid CHP resources that have increased capacity but have zero complete months of available data at the higher capacity levels for a certain month shall receive QC based on multiplying the resource's NDC by the average QC as a percent of NDC of all existing resources with similar operating characteristics (*e.g.*, as-available CHP resources).*

$$QC_{\mathrm{Re}\,source} = NDC_{\mathrm{Re}\,source} * \frac{\sum_{Existing\,\mathrm{Re}\,sources\,WithSimilarOperatingCharacteristics} QC}{\sum_{Existing\,\mathrm{Re}\,sources\,WithSimilarOperatingCharacteristics} NDC}$$

Equation 19. QC for As-Available and Hybrid Resources with Increased Capacity"

Generators shall report any anticipated reductions in NQC to the CPUC."

CERTIFICATE OF SERVICE

I, Karen Terranova hereby certify that I have on this date caused the attached **Comments of the Cogeneration Association of California on Phase I Resource Adequacy Proposals** in R.09-10-032 to be served to all known parties by either United States mail or electronic mail, to each party named in the official attached service list obtained from the Commission's website, attached hereto, and pursuant to the Commission's Rules of Practice and Procedure.

Dated March 12, 2010, at San Francisco, California.

Karen Terranova

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