



Comments on Draft Green Book by the Cogeneration Association of California

INTRODUCTION AND SUMMARY

The Cogeneration Association of California (CAC) provides these comments and proposals for refinement to the Draft Green Book issued in May 2018. Parties like CAC, with its existing, efficient, combined heat and power (CHP) resources, have been anxiously awaiting the Green Book in hopes of refinements and progress to a transparent, open and successful energy market. While the Green Book presents a host of facts and questions, after a year's effort, there is disappointment. That disappointment is in the lack of action that is sorely needed to address specific market sectors, like those facilities relying upon the CPUC's Qualifying Facility and Combined Heat and Power Program,¹ to see a viable commercial path forward.²

CAC appreciates the effort and detail of the Green Book; CAC, like other parties seeking market choice and direction, needs solutions. To have taken a year of analysis, without framing preferred and needed solutions presents continuing challenges to all existing assets that have served, and seek to continue to serve, California industry and electric consumers.

Troublesomely, the Green Book reflects an underlying theme of restraining or recapturing a centralized, command and control regulatory structure. The analysis acknowledges that many customers, through technology or retail options, are already making energy service choices that cannot be stopped. Yet the status quo would further restrain, either operationally or economically, remaining utility customers from exercising choice for fear of "cost shifts" or other loss of executive protective privilege. Supporting a gentle and reasonable economic

¹ The Qualifying Facility and Combined Heat and Power Program Settlement Agreement (CHP Settlement or Settlement); Decision Adopting Proposed Settlement, D.10-12-035, A.08-11-001 (December 21, 2010), as modified by D.11-03-051 and D.11-07-010, available at http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/128624.pdf. Other CPUC Decisions addressing subsequent modifications to the Settlement conditions include D.15-06-028 and D.15-11-046.

FERC considered the Settlement as part of its evaluation of PURPA 210(m) conditions in Pacific Gas and Elec. Co., 135 FERC ¶ 61,234 (2011).

² CAC for the purposes of this filing represents the existing, efficient combined heat and power and cogeneration and related Utility Prescheduled Facility (UPF) operation interests of Midway Sunset Cogeneration Company and Watson Cogeneration Company. UPF operations provide both Resource Adequacy and Flexible Capacity benefits for the grid. References to existing CHP in this pleading include the associated UPF operations.

transition is of course an objective, but not at the loss of affordability, reliability or benefits to California provided by the State's industrial and manufacturing customers. At some point a loss of customers is not a "cost shift" under the concept of a regulated rate-of-return based monopoly structure, but a "revenue loss" faced in a fair and competitive market for services. The Green Book should embrace the concept that the time is long overdue for this transition to be planned and adopted.

The Green Book recognizes the need to optimize the rapidly evolving energy market in California, and to impose some structure to ensure this evolution maximizes customer choice, while meeting seemingly competing objectives of affordability, optimizing reliance on carbon to reduce greenhouse gas emissions and reliability.

The Commission's Green Book analysis should recognize and strive to obtain the foundational attributes of a viable energy market. These attributes are and have been undeniably absent as California proclaimed its hybrid energy "market" from the 2000-2001 Energy Crisis. A viable energy market sends price signals that are sufficient to retain existing, efficient resources, and to incent the development of incrementally efficient resources. The economy energy market reflected by the CAISO day ahead market does neither of these things. As a demonstration of this fact, one can simply review the "Terminated Facilities" pages from the March 29, 2018 CEC Final 2017 Integrated Energy Policy Report (a copy of these pages is attached). California's "policy" of support for existing, efficient CHP resources is in full arrest, as evidenced by this recent record. Absent proactive and immediate action, the stated objectives of the Green Book will be undermined, certainly with regard to CHP assets.

The lack of action on this specific segment of the energy generation industry is reflective of the concerns expressed in the Green Book – we have no executed plan and the risk of a crisis is upon us. This boom or bust "market regulation" is a greater risk to electric customers who seek stability and predictability in rates as a value, second only to reliability. Perhaps the Green Book should take a lesson from the successful deregulation of the gas industry in the 1990s, where utilities were removed from gas procurement for industrial customers. For electric Customer Choice options, removing the investor owned utilities from the electric procurement role for industrial customers should be strongly considered.

Proposed Actions to Address Limited Existing, Efficient CHP Retention in an Uncertain Near-Term Future "Market"

These comments recommend action items for the next step of the Green Book process. The action items urging adoption of self-wheeling and establishing a program for short term extensions of existing CHP contracts are time sensitive matters that warrant prompt, "first step" action. Other noted action items are near term steps that are needed to establish meaningful

customer choice options for industrial operations. Amongst the array of thoughts (not solutions) offered by the Green Book, the following action items should be incorporated:

- The optimization of customer choice must acknowledge the existence of a significant fleet of industrial cogeneration. These facilities were sought after and solicited by the first Governor Brown administration as a means to avoid the utility plan in the mid-1980s to develop a series of nuclear power plants along the coast, and a string of coal generation facilities through the length of the San Joaquin Valley. Industry answered the call, placed its capital investment in the State and developed these resources to optimize the use of natural gas in the production of both electricity and industrial thermal energy. The use of cogeneration advances the State's goal of decarbonization in reducing the GHG emissions attributable to the production of thermal and electrical energy required for industrial and manufacturing operations. The State must recognize that these industrial products will continue to be needed and that cogeneration contributes to their production using the most energy- and carbon-efficient means. The Customer Choice Project should provide the structure at the very least to retain existing, efficient CHP operations to facilitate transition to the hoped-for 2030 grid and to maximize use of the energy produced by these facilities.
- Individual customers with customer generation facilities as well as industrial load operations should finally be permitted to self-wheel industrial-produced power not only to the uneconomic CAISO market, but to meet that customer's needs wherever located on the grid. Wheeling customers would continue to support the grid by relying upon existing wires at just and reasonable rates. This is one of two "first step" actions the Commission should immediately undertake for industrial operations.
- Expand the option for industrial customers to Direct Access services. It is long past time to preclude the option of customer choice through an expanded Direct Access program for industrial customers, particularly those with customer generation. This may be simply a theme with a different melody to the self-wheeling concept above or the industrial class Load Serving Entity structure below, but it should be an option to address a long standing bar to customer choice for industry.
- An industrial class of willing customers who elect to withdraw from utility service, who will not seek provider of last resort obligations from existing utilities, and will serve industrial loads with industrial generation procured, developed or operated should be a retail choice option. In the near-term, industrial customers with load and resource facilities would benefit from being able to self-provide and schedule electricity to serve their needs. Midway Sunset Cogeneration Company, a CHP facility, has been a scheduling coordinator under the CAISO tariff since 2002. Entities like Midway Sunset

Cogen are ready and able to provide such compliant services to industry under this program. Industrial customers under this option must be able to contract for a supply of electricity, as well as load-following services, given varying demands for electricity. These customers would continue to support the grid by relying on existing wires at just and reasonable rates.

- Expand the options for delivery of electric power from cogeneration facilities under Public Utility Code §218(b). This 1980s legislation was designed to severely restrict the delivery or sale of electricity from cogeneration facilities to protect the monopoly status quo for the State’s utilities. The now-dated statute prohibits sales of power from cogenerators to no more than two physically adjacent properties. Modernizing this statutory limit to permit a geographic option for a potential market, to say within 10 miles of the cogenerator would provide a more flexible market option for the use of these resources.
- Do not adopt any action that would expand Commission jurisdiction or oversight to generation or operations on industrial or manufacturing sites – so called “behind-the-meter” operations. The Green Book muses on the following question – “*should there be a state entity that provides basic customer protections to customer of services that are either behind the meter or served by entities not historically under the jurisdiction of the CPUC.*”³ For industrial and manufacturing customers who have or will rely upon customer generation or other technology to address loads and resources of private industry, the unequivocal answer to this question is ***no***. Among other considerations, PURPA regulations preclude CPUC regulation of CHP operations under State regulation. See, 18 CFR §292.602, state law exemptions from rates; and 18 CFR §292.101(B)(5) “*rate means any price, rate, charge, or classification made, demanded, observed or received with respect to the sale or purchase of electric energy or capacity, or any rule, regulation, or practice respecting any such rate, charge, or classification, and any contract pertaining to the sale or purchase of electric energy or capacity.*”
- Finally, one apparent truth from the Green Book is that the Commission is currently devoid of answers or solutions to immediately address ongoing market transitions of Customer Choice. The lack of a plan gives rise to the risk of a crisis and the loss of the singularly most important objective of electric service – reliability. Given regulatory uncertainty, market uncertainty, and the service transitions that are occurring without regulatory oversight or a plan, the actions in such situations are to sustain the status quo. CAC has proposed an option for the Commission to address uncertainty in policies,

³ Green Book at p. 6.

procurement and transitions, by adopting a most traditional solution – a short term standstill agreement, or in this case the extension of existing agreements. With respect to existing CHP facilities, Commission IRP Staff assumed for modeling, without any basis of support at all, that these facilities will continue to operate at least through 2030.⁴ The only way to assure that outcome is to provide for an extension of existing, recently approved, CHP contracts as elected by the CHP facility for a period up to five years in length. This proposal is presented in greater detail herein. This is the second “first step” action the Commission should immediately undertake for industrial operations.

Need to Optimize and Maximize the Use of Electricity from Industrial Self-Generation Operations

Cogeneration improves the fuel efficiency of industrial processes. Industries that require high heat or steam for their production processes can also sequentially use the heat from that thermal production to generate electricity (topping cycle CHP). Similarly, industries that generate waste heat in their production, such as cement manufacturing, can use that waste heat to generate electricity, rather than exhausting it to the atmosphere (bottoming cycle CHP, with zero GHG emissions allocated to electric generation).

There are a number of existing, efficient cogeneration facilities operating in the State. Under the QF/CHP Settlement, most of these facilities sell their electricity to their interconnected utilities under contracts that will expire shortly, *i.e.*, within the next few years. Without an established market or secure purchaser to consume available export electricity, CHP facilities can no longer produce efficiently the thermal energy essential to the industrial operation provided by the cogeneration process. Instead, to ensure a reliable source of thermal energy, the industrial customer will install natural gas boilers and buy their electricity from the utilities, resulting in a net increase in fuel consumed to produce thermal and electric energy from separate generation resources. This abandonment of existing, proven, reliable efficiencies is contrary to the State’s goals, and the framework for Customer Choice must provide a market for the electricity produced by these resources.

While the State may have a goal to reduce reliance on fossil fuels, particularly for electric generation, such a goal will not be achieved in the near term, *i.e.*, before 2030 absent severe economic dislocation. It will be necessary for some time to use fossil fuels to generate the high-temperature thermal energy for industries, such as refining, chemical production, food processing, hospital and university operations and many other industrial and manufacturing processes. Similarly, the elimination of fossil fuels for transportation cannot be quickly achieved, and the refineries to produce jet fuel and automotive fuel will have to remain in

⁴ The CAISO local capacity assessment makes similar assumptions.

operation to serve the State's approximately 26 million light duty and passenger vehicles. Even assuming the most optimistic penetration of electric vehicles in the transportation market, there will be over 20 million California vehicles in 2030 requiring traditional fuels. Ensuring that such refineries operate in the most cost- and fuel-efficient manner promotes California's decarbonization goals.

Self-Wheeling or the Expansion of Industrial Direct Access or a New California Industrial Customer Load Serving Entity Enterprise

The draft Green Book is founded on the basic concept that the utilities operate the wires in a competitively neutral manner, and customers select energy sources utilizing those wires for delivery. One of the many variants in allowing complete freedom in the use of wires is allowing customers the option to distribute energy and serve loads among multiple facilities. If the utility provides the wires for whatever energy resource a customer may choose, then a truly neutral distribution system would allow customers to use the wires to re-route or dispatch energy to multiple uses. This would include allowing a customer with self-generation at one site to redistribute its excess energy to another site, using the utility wires. It would also allow flexibility in scheduling, so that a customer could schedule energy from one or multiple sources to multiple end-uses as their energy demands vary. Immediately facilitating self-wheeling for industrial customers with customer generation should be embraced by the Commission as a first step in the evolution of a Customer Choice market.

Other refinements on this same theme would include the expansion, at least for industrial customers, of direct access options to permit the sale of currently failing generation resources that have no options to a viable market.

Another option could include the establishment of an industrial customer Load Serving Entity enterprise. This entity could take advantage of the existing industrial generation, gather willing industrial loads and provide the scheduling services and interface with the CAISO to meet scheduling coordinator obligations. This option could include conditions for participation in the industrial group, including the waiver of provider of last resort obligations for the serving utility.

There is precedent for these types of alternatives. The Green Book makes reference to the NY REV model that contemplates resources such as a community solar power plant and a local CHP plant with the system distributing this energy to multiple customers. A legal barrier in California would be the existing Public Utilities Code §218(b) that restricts the sale or delivery of CHP power to more than two immediately adjacent properties – thereby excluding a “community.” The contemplation of the NY REV model would be to expand the ability to rely on distributed generation resources. But that reliance should not be limited to a residential micro

grid. With existing, efficient, California CHP currently capable of providing power to other industrial customers, there is an opportunity not to waste an existing State investment. That CHP investment is at material risk in the current California “energy market.” Reconsideration of a legal bar to the use and distribution of that investment to benefit both the generator and other industrial customers is warranted as a Customer Choice option. Section 218(b) was established at a time to preserve the monopoly status quo of utility service to all customers. The dated provision has no place in a Customer Choice world, and the Commission, to address Customer Choice options, should include the revision or elimination of this restriction for industrial operations, while preserving the exemption from utility regulation.

The Most Critical Action for Now: Call Time-Out on the Extermination and Loss of Existing CHP Resources

The singularly most important action item the Commission should undertake to foster Customer Choice and to preserve the status quo option to reach customer choice objectives is to establish a program for the short term preservation of existing CHP assets. In short, the Commission in the Customer Choice proceeding should address and IRP issue and adopt a 5-year CHP “market” stabilization plan while the CPUC “figures things out.”

Following is a summary of key points raised with the Commission in CAC’s January 17, 2018 comments to the Decision of Commissioner Randolph in the IRP proceeding.⁵

1. Staff’s Reference Plan is predicated on the retention of certain existing, efficient resources, including CHP, through 2030, and the plan’s incremental procurement design assumes the retention of these existing resources.
2. There is no established California program for the retention of greater than 20 MW CHP resources after the expiration of the CHP Settlement, yet federal law (PURPA⁶) remains as an obligation for the retention of existing and development of new California CHP resources.

⁵ R.16-02-007 OIR to Develop an Electricity Integrated Resource Planning Framework and to Coordinate and Refine Long-Term Procurement Planning Requirements, *Comments of the Cogeneration Association of California on the Proposed Decision of Commissioner Randolph*, January 17, 2018. A copy of the CAC filing is attached.

⁶ Public Utility Regulatory Policies Act, 16 USC § 2601, *et. seq.*; *see also*, the recent judicial holding on the applicability of PURPA to Commission actions, *Winding Creek Solar LLC v. Michael Peevey, et al.*; US District Court for the Northern District of California; Case 13-cv-04934-JD, dated December 6, 2017.

3. CHP is not, and should not be considered, a natural gas plant in the context of the Staff's IRP modeling [but it remains so considered].
4. Termination of existing, efficient CHP facilities will likely result in increased GHG emissions as industry replaces cogeneration with industrial boilers and the existing grid remains in transition. This means increased industrial loads resulting from terminated CHP will be met, at least in the short term, with increased natural gas generation.
5. Time is of the essence. Planning decisions for major industry relying on CHP cannot await 2018 or 2019 in hopes there will be a solution in 2020. Industrial facilities are making long term, irrevocable decisions now about thermal and electric power supply for 2020 and beyond.

CAC's proposed solution in the IRP Docket:

CAC presented the factual and legal case for the Commission to take action to fulfill Staff's modeling assumption that existing, efficient CHP resources would remain in the base case through 2030. As demonstrated, there is no program beyond 2020 to provide for CHP resources to secure power purchase agreements, and the CAISO day ahead market will not sustain these resources. The IOUs have expressed to the Energy Division and to CHP parties that there is no CHP Settlement program post 2020. In light of that fact, CAC sought Commission action to provide a reasonable extension of existing PPAs to bridge the IRP analysis, decision and implementation gap post 2020.

No action has been publicly announced on this proposal in any CPUC forum to address this market shortfall for existing CHP resources.

CONCLUSION

CAC appreciates the opportunity to address the Commission's consideration of Customer Choice options. CHP parties seek timely, immediate action by the Commission on this critical issue, particularly for the preservation of existing, efficient CHP resources. CHP provides a contribution to a balanced and diversified California portfolio of resources needed for reliability and affordability as the State transitions to the optimization of carbon use. As noted herein, the Commission should avoid any action to impose CPUC or State oversight to private industrial and manufacturing operations. Most importantly, the Commission should proactively look for solutions, embracing the transition that is happening "without a plan."

Table 8:

Actual and Planned Retirements of Natural Gas and Nuclear Power Plants in California and PG&E Hydro Facilities Under Evaluation (2010–2029)

FACILITY & UNITS	FUEL TYPE	CAPACITY (MW)	RETIREMENT DATE	REASON
ACTUAL				
Humboldt Bay 1, 2	nat. gas	135	9/30/2010	OTC compliance
South Bay	nat. gas	296	12/31/2010	OTC compliance
Potrero 3	nat. gas	207	2/8/2011	OTC compliance
Texaco Exploration Cogeneration	nat. gas	19	3/14/2011	Economic retirement
Wellhead Gates	nat. gas	47	12/31/2011	Economic retirement
El Centro 3	nat. gas	50	12/31/2011	Economic retirement
JRW Associates Cogeneration	nat. gas	10	12/31/2011	Economic retirement
United Cogeneration	nat. gas	31	3/31/2012	Economic retirement
Huntington Beach 3, 4	nat. gas	452	11/1/2012	OTC compliance
Escondido Energy Center	nat. gas	44	12/31/2012	Economic retirement
Los Esteros Critical Energy	nat. gas	192	12/31/2012	Economic retirement
Contra Costa 6, 7	nat. gas	674	4/30/2013	Retired 4/30/2013
Wheelabrator Lassen Cogeneration	nat. gas	39	5/21/2013	Economic retirement
San Onofre 2, 3	nuclear	2,246	6/7/2013	Economic retirement
Haynes 5, 6	nat. gas	535	6/1/2013	OTC compliance; replaced as air-cooled
El Segundo 3	nat. gas	335	7/27/2013	OTC compliance; replaced as air-cooled
Lake Shore Mojave Cogeneration	nat. gas	55	8/5/2013	Economic retirement
Morro Bay 1–4	nat. gas	912	2/5/2014	OTC compliance
North Midway Cogeneration Plant	nat. gas	11	5/9/2014	Economic retirement

FACILITY & UNITS	FUEL TYPE	CAPACITY (MW)	RETIREMENT DATE	REASON
Kearny 1	nat. gas	15	12/28/2014	Economic retirement
Coolwater	nat. gas	727	1/15/2015	Economic retirement
Cardinal Cogeneration	nat. gas	54	3/31/2015	Economic retirement
El Segundo 4	nat. gas	335	12/31/2015	OTC compliance
Scattergood 3	nat. gas	450	12/31/2015	OTC compliance; replaced as air-cooled
Kearny 3	nat. gas	55	12/31/2015	Economic retirement
Oildale Cogeneration	nat. gas	40	1/5/2016	Economic retirement
Moss Landing 6, 7	nat. gas	1,510	12/31/2016	OTC compliance
El Cajon	nat. gas	13	12/31/2016	Economic retirement
Mid-Set Cogeneration	nat. gas	39	12/31/2016	Economic retirement
Miramar	nat. gas	33	12/31/2016	Economic retirement
Pittsburg 5, 6, 7	nat. gas	1,307	12/31/2016	OTC compliance
Encina 1	nat. gas	106	4/18/2017	OTC compliance
PLANNED				
San Joaquin Cogeneration	nat. gas	48	6/27/2017	Economic retirement
Mandalay 1, 2, 3	nat. gas	565	2/7/2018	Economic retirement
Encina 2, 3, 4, 5	nat. gas	840	12/31/2018	OTC compliance
Metcalf 1, 2, 3	nat. gas	565	TBD 2018	Economic retirement
Feather River	nat. gas	48	TBD 2018	Economic retirement
Yuba City	nat. gas	48	TBD 2018	Economic retirement
Redondo 7	nat. gas	493	10/1/2019	OTC compliance
Huntington Beach 1	nat. gas	226	12/31/2019	OTC compliance; being replaced as air-cooled

FACILITY & UNITS	FUEL TYPE	CAPACITY (MW)	RETIREMENT DATE	REASON
Alamitos 1, 2, 5	nat. gas	848	12/31/2019	OTC compliance; being replaced as air-cooled
Moss Landing 1, 2	nat. gas	1,020	12/31/2020	OTC compliance deadline
Huntington Beach 2	nat. gas	226	12/31/2020	OTC compliance deadline
Redondo 5, 6, 8	nat. gas	850	12/31/2020	OTC compliance deadline
Alamitos 3, 4, 6	nat. gas	1,163	12/31/2020	OTC compliance deadline
Ormond Beach 1, 2	nat. gas	1,516	12/31/2020	OTC compliance deadline
Diablo Canyon 1	nat. gas	1,120	11/2/2024	Owner decision to close; forego federal relicensing
Scattergood 1, 2	nat. gas	367	12/31/2024	OTC compliance; plans to replace as air-cooled
Diablo Canyon 2	nuclear	1,120	8/26/2025	Owner decision to close; forego federal relicensing
Haynes 1, 2	nat. gas	444	12/31/2025	OTC compliance; plans to replace as air-cooled
Haynes 8	nat. gas	575	12/31/2028	OTC compliance; plans to replace as air-cooled
Harbor 5	nat. gas	229	12/31/2029	OTC compliance; plans to replace as air-cooled
Total Retirements		23,285		
DeSabra-Centerville	hydro	26	TBD	Facility owner has not announced retirement plans
Narrows	hydro	12	TBD	Facility owner has not announced retirement plans
Potter Valley	hydro	9	TBD	Facility owner has not announced retirement plans
Hydro Facilities Under Evaluation		47		

Source: Energy Commission, Tracking Progress, Once-Through Cooling Phase-Out, 3/8/2017.

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Develop
an Electricity Integrated Resource
Planning Framework and to Coordinate
and Refine Long-Term Procurement
Planning Requirements

R.16-02-007
(Filed February 19, 2016)

**COMMENTS OF
THE COGENERATION ASSOCIATION OF CALIFORNIA ON THE
PROPOSED DECISION OF COMMISSIONER RANDOLPH**

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**BEFORE THE PUBLIC UTILITIES COMMISSION
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R.16-02-007
(Filed February 19, 2016)

**COMMENTS OF
THE COGENERATION ASSOCIATION OF CALIFORNIA ON THE
PROPOSED DECISION OF COMMISSIONER RANDOLPH**

The Cogeneration Association of California¹ (CAC) files these comments on the Proposed Decision (PD) of Commissioner Randolph pursuant to Rule 14.3 of the Commission's Rules of Practice and Procedure.

I. INTRODUCTION AND SUMMARY

CAC commends and appreciates the effort of the Assigned Commissioner and Commission Staff for endeavoring to address many issues in the extensive PD. To do so required sorting through: (a) 46 sets of opening comments with almost 1,200 pages of detailed opening positions; and, (b) 22 sets of reply comments with over 300 pages of additional views. Collectively, these wide-ranging stakeholder comments expressed multiple concerns and reservations about the Staff's proposed Reference Plan and modeling assumptions.

¹ CAC for the purposes of this filing represents the existing, efficient combined heat and power and cogeneration and related Utility Prescheduled Facility (UPF) operation interests of Midway Sunset Cogeneration Company and Watson Cogeneration Company. References to existing CHP in this pleading include the associated related UPF operations.

Notwithstanding this effort, the PD has effectively ignored a critical and unsubstantiated assumption from Staff regarding the retention of existing generation resources, specifically existing, efficient CHP resources.² The Commission can and should remedy this failing now in this proceeding, and to be timely, in this PD.

Staff's workshop presentations and express statements unequivocally established that the Reference Plan for the IRP is focused upon ***incremental*** resource additions to meet SB 350 goals. Staff has also acknowledged that modelling assumptions included, among other things, the retention of generation capacity from existing, efficient combined heat and power (CHP) resources. Watson Cogeneration Company and Midway Sunset Cogeneration Company fall into this class of generation resources.

In comments filed with the Commission, CAC demonstrated several factual, technical and legal issues that compel actions to establish a program that will reasonably sustain these resources, as assumed by Staff's model. These issues included: (1) the IOUs' express position that there is no greater-than-20MW CHP retention program beyond the 2020 termination of the CHP Settlement;³ and (2) the LTPP/IRP proceeding is the proper forum to address

² CHP facilities refer not only to cogeneration/combined heat and power operations but also associated Utility Prescheduled Facility facilities supporting industrial and manufacturing operations under contracts approved by the Commission.

³ The Qualifying Facility and Combined Heat and Power Program Settlement Agreement (CHP Settlement or Settlement); *Decision Adopting Proposed Settlement*, D.10-12-035, A.08-11-001 (December 21, 2010), as modified by D.11-03-051 and D.11-07-010, available at http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/128624.pdf. Other CPUC Decisions addressing subsequent modifications to the Settlement conditions include D.15-06-028 and D.15-11-046. See also, FERC's action on the

post-CHP Settlement issues under PURPA. The extent of the PD's recognition of these specific CHP issues is captured in two passages in the 131-page decision:

- *For CHP resources, CAC argues that the Commission should assume a five-year extension of the existing contracts. The IOUs, in their reply comments, argue against this suggestion.*⁴
- *For the current round of analysis, we are satisfied that Commission staff has utilized the best available assumptions and functionality, and has run enough sensitivity analyses that we can evaluate the impact of changes in certain assumptions to inform our decisionmaking and IRP framework.*⁵

From a CHP perspective, the Commission's inaction related to the retention of existing CHP resources is, of course, disappointing and concerning. There is a truth that the consequence of inaction often means action. In this instance, the Commission's failure to address a CHP retention program has adverse consequences not simply for the CHP projects, but for attaining the Commission's SB 350 objectives. Industrial hosts that rely on CHP will be left with the option to replace existing resources with natural gas industrial boilers for thermal energy. The grid in the short term will most likely rely on emitting

Settlement as part of its evaluation of PURPA 210(m) conditions in *Pacific Gas and Elec. Co.*, 135 FERC ¶ 61,234 (2011).

⁴ PD at 38. To be precise, CAC did not argue that the Commission assume a five-year extension of existing contracts. What CAC presented was the factual and legal case for the Commission taking action to fulfill Staff's modelling assumption that existing, efficient CHP resources would remain in the base case through 2030. As pointedly demonstrated, there is no program beyond 2020 to provide for CHP resources to secure power purchase agreements, and the CAISO day ahead market will not sustain these resources. The IOUs have expressed to the Energy Division and to CHP parties that there is no CHP Settlement program post 2020. In light of that fact, CAC sought Commission action to provide a reasonable extension of existing PPAs to bridge the IRP analysis, decision and implementation gap post 2020.

⁵ PD at 43.

resources to accommodate the increased load from industrial energy demand resulting from the loss of CHP electric generation. These consequences undermine the very assumptions Staff has relied upon to support its Reference Plan for incremental IRP resources, *i.e.*, sustaining the presumed availability of existing CHP resources.

The following is an outline summary of factual, technical and legal issues that compel revision to the PD are addressed in these comments:

1. Staff's Reference Plan is predicated on the retention of certain existing, efficient resources, including CHP, and the plan's incremental procurement design assume the retention of these resources.
2. There is no established California program for the retention of greater than 20 MW CHP resources after the expiration of the CHP Settlement, yet federal law (PURPA⁶) remains as an obligation for the retention of existing and development of new California CHP resources.
3. CHP is not, and should not be considered, a natural gas plant in the context of the staff's IRP modelling.
4. Termination of existing, efficient CHP facilities will likely result in increased GHG emissions as industry replaces cogeneration with industrial boilers and the existing grid remains in transition. This means increased industrial loads resulting from terminated CHP will be met, at least in the short term, with increased natural gas generation.
5. Time is of the essence. Planning decisions for major industry relying on CHP cannot await 2018 or 2019 in hopes there will be a solution in 2020 and beyond. Industrial facilities are making long term, irrevocable decisions now about thermal and electric power supply for 2020 and beyond.

⁶ Public Utility Regulatory Policies Act, 16 U.S.C. § 2601, *et. seq.*; *see also*, the recent judicial holding on the applicability of PURPA to Commission actions, *Winding Creek Solar LLC v. Michael Peevey, et al.*; US District Court for the Northern District of California; Case 13-cv-04934-JD, dated December 6, 2017.

II. THE PD FAILS TO ADDRESS FACTUAL, TECHNICAL AND LEGAL ISSUES TO SUSTAIN EXISTING, EFFICIENT CHP RESOURCES IN THE IRP REFERENCE PLAN

A. Staff's Reference Plan Depends Upon the Retention of Existing Efficient CHP Resources

The Staff's IRP Reference Plan presents a path for procurement in anticipation of 2030 that is ***incremental*** to assumptions relative to existing, efficient CHP resources.⁷ This assumption, particularly for existing, efficient CHP resources, is rather critical. The Commission's action on this assumption will either send the existing CHP operators a message supporting retention, or a message that there is no program contemplated to sustain their operations through 2030. That message will prompt business decisions and actions either consistent with or directly contrary to the Reference Plan assumptions adopted by the PD. Absent revision, the PD is factually and technically inconsistent with the assumptions underlying the Staff's Reference Plan with regard to the retention of existing, efficient CHP resources.

B. The CPUC QF/CHP Program Settlement Terminates in 2020; What California Program Will Sustain Existing CHP Resources to Meet Federal Obligations?

The CPUC QF/CHP Program Settlement will expire by its terms in 2020. The Settlement expressly identifies an objective that it “[e]stablishes a platform for a State CHP Program with identified features through 2020, and sets a

⁷ Staff's slide deck entitled “All-Party Meeting on the Proposed Integrated Resource Planning Process and Reference System Plan,” November 2, 2017, at 11: “*Note: all resources shown in this chart are selected by RESOLVE and **are in addition to baseline resources***” and at 32, “*All cases studied assumed that most existing gas resources continued to be available.*”

*framework for a sustained State CHP Program beyond 2020.*⁸ CAC, other CHP parties to the Settlement and the CPUC Energy Division have been advised expressly by the IOU parties that there is no such program beyond 2020. This fact leaves open to the Commission what actions it will take to address this void in policy over California's existing CHP resources.

CAC remains confounded by the IOU responses and objections on this subject, since there is no Settlement or CHP retention program, according to the IOUs, post 2020. CAC's comments do not seek an extension of the Settlement, but an extension of existing contracts approved by the Commission as a reasonable, available and timely means to sustain the Staff's Reference Plan assumptions.

The Commission and the state of California still have responsibilities under federal law, PURPA. The recent *Winding Creek Solar* case should be a clear reminder to the Commission of this point.⁹ CHP parties also have the option of seeking FERC reconsideration of the must-take and avoided cost pricing options under PURPA §210(m) in the event of non-action by the Commission for the post-2020 period.

All of these litigated or contested actions are suboptimal for CHP and CPUC interests. These actions can and should be avoided, and the Commission, in the IRP proceeding holds the jurisdictional keys to secure a simple and reasonable program, consistent with IRP assumptions. Simply

⁸ QF/CHP Settlement §1.2.2.9.

⁹ *Winding Creek Solar*, supra note 6.

extending existing, recently approved contracts of existing CHP resources for a 5-year term is consistent with a reasonable exercise of the Commission's prerogative. Why a 5-year term? Because that this the typical cycle of major maintenance overhauls to sustain the reliability of the generation equipment (just like any combined cycle or combustion turbine). That 5-year term will provide the assurances to the operations that they will be financially viable to perform the necessary maintenance and recover those costs. The option to extend could be provided for CHP resources for the period up to but not exceeding 2030 to be consistent with the Staff's modeling assumptions, and be triggered by a formal request by the CHP contract holder with the IOU. The request would be subject to an advice letter filing with the Commission and resolution.

C. The Commission and IRP Staff Need to Recognize and Model the Distinctions between Existing CHP and Natural Gas Plants

While CHP facilities may be fueled by natural gas, they should be distinguished and modelled differently from what Commission Staff has modeled as "natural gas plants." To quickly review the basics of cogeneration, the system can either be a topping cycle or a bottoming cycle operation.

A bottoming cycle captures waste heat, typically from an industrial process, and produces power from the waste heat. This bottoming cycle operation is attributed with no greenhouse gas emissions since the emissions are attributable to the industrial process.

Alternatively, a topping cycle operation sequentially burns a single fuel, often natural gas, first in a turbine to produce electric power, and then uses the heat from the turbine combustion to produce thermal energy, typically process

steam. The topping cycle operations, particularly for larger capacity projects, are thermally matched to meet high steam demands, and the byproduct of that process produces base load, highly reliable, firm electric power. That “excess” electric power is made available to the grid, and under California CHP contracts the provider is only paid upon meeting strict and exacting delivery obligations.

These projects are industrial and manufacturing steam plants. They were installed as an efficiency and environmentally beneficial option to reliance on industrial boilers for the production of thermal power using a single fuel. By combining the production of thermal power with the production of electric power, the benefits of cogeneration or CHP are made available to the grid, to consumers, and to communities with CHP operations. The result has been lower overall emissions, high efficiency, and a sustained industrial/manufacturing base from combined heat and power as opposed to separate heat and power.

In contrast, a natural gas plant burns a single fuel to produce a single product, electric power. The natural gas plant does not support the thermal demands of an industrial operation, or replace the industrial need for a boiler. When the boiler is needed for all hours or a material number of hours in a year, the efficiency and emissions profile of a CHP facility provides benefits in comparison to separate heat and power. In short, CHP significantly differs from natural gas plants; not only in operational characteristics, but also with respect to the role of electric production.

Staff modeled CHP in a similar manner as Natural Gas plant in the RESOLVE model simulations, yet Staff also acknowledges the differing attributes

and considerations for the CHP operations and products. From an environmental and efficiency standpoint, CHP, as an option to separate heat and power (an industrial boiler plus electric generation operations) should be distinguished from natural gas plants.

Specifically, PD Conclusion of Law 15 and Ordering Paragraph 7 should be modified to recognize and distinguish CHP from natural gas plants.

Moreover, the going-forward Staff modelling should recognize and distinguish these resources.

Finally, because of the clear nexus between natural gas generation (as distinguished from CHP operations) and emissions in disadvantaged communities within the electric sector, we will require that any LSE proposing to develop new natural gas resources or re-contract with existing natural gas resources (as distinguished from CHP operations) in their IRP, regardless of whether it is located in a disadvantaged community, make a showing as to why another lower-emitting resource could not meet the need identified.¹⁰

D. Termination of Existing Efficient CHP Facilities Will Undermine the Commission's SB 350 Objectives

Not unlike PURPA, SB 350 and actions to implement the law, like those undertaken in the IRP, should seek to optimize the use of fossil fuels to minimize impact on the environment. It would be unwise and uneconomic to risk reliability by terminating existing, efficient CHP resources with a goal towards eliminating all forms of carbon generation. CHP resources are predicated upon the dual use of a carbon fuel for efficiency and environmental benefits. Moreover, they sustain the thermal and electric demands of industrial and manufacturing industries dependent upon base load, firm, 8760 operations.

¹⁰ PD at 57; see COL 15 and Ordering Paragraph 7.

The PD and the Commission must consider the retention of the benefits of CHP operations as it transitions to 2030. These existing, efficient resources provide material benefits, and their continued operation is assumed by the IRP Reference Plan. Consider the following factors in the event of the termination of these resources:

- A thermal-dependent industrial or manufacturing business will install industrial boilers, most likely utilizing natural gas, to provide thermal energy in order to sustain operations. This means the “elimination” of GHG emissions by terminating CHP resources is illusory, since the business will likely continue operations with more traditional means of thermal generation.
- The terminated CHP operation will no longer provide on-site electric generation to serve the industrial load. Separate electric supply will need to replace the terminated CHP generation. This means there will be higher demand on the supplying utility for both generation and distribution (wires) services.
- As the State trends toward 2030 SB 350 objectives, during the 10 years between 2020 and 2030, the grid will not be carbon free, and generation to serve 8760-hour demand industries will undoubtedly come from some increase in natural gas generation. This likely means an increase, and not a decrease in overall GHG emissions from separate heat and power under the CHP termination option.
- The reliability of service to an industrial customer will depend upon securing firm generation supply, and place greater transmission and distribution strain on the local grid serving the industrial customer.

There will be environmental and efficiency consequences to the choice to retain or terminate CHP resources contrary to SB 350. These are all consequences that can be mitigated or eliminated by the retention of the existing CHP resource for an interim period, up to 2030, while the CPUC IRP direction is resolved, and procurement paths are established. CAC has offered this option to the Commission – an interim extension for existing, efficient CHP contracts -- and it should be adopted in the PD.

E. Time is of the Essence for Existing CHP Retention; the Commission Need to Act Now

From the perspective of a CHP operation, the PD sets forth a leisurely, and commercially untenable, procurement implementation plan for contracts terminating in the 2020 timeframe. Time is of the essence, and the Commission needs to take action now in this PD.

The PD sets forth the planning and procurement timeline in the introduction. That timeline "...adopts a two-year planning cycle for the Commission to conduct modeling and analysis, set greenhouse gas (GHG) emissions targets, and consider IRP filings from all LSEs. ...At the end of each two-year cycle, the Commission will authorize procurement, where appropriate, that is necessary to occur within the next 1-3 years, to meet the targets and needs identified in the IRP process. The first such procurement authorization, if needed, is anticipated to come near the end of 2018 at the end of the first IRP cycle."¹¹

Once again, this passage should apply to **incremental** IRP resource additions; however, there is nothing in the PD addressing the impending loss of baseline resources, particularly existing, efficient CHP.

Absent currently unforeseeable regulatory or market tools to sustain operations, existing CHP will face termination due to the failure of the day ahead market to provide revenues to sustain these operations. As noted, timely Commission action is essential. The CHP Settlement terminates in 2020, and

¹¹ PD at 2.

the IOUs have expressly stated there is no continuing program for CHP resources beyond those with less than 20 MW of capacity.

The PD expressly states that it only anticipates addressing procurement for the two-year window of 2019 and 2020. Accordingly, the loss of existing CHP, in contrast to the Staff's RESOLVE modeling assumptions, is exacerbated by the PD's lack of a solution.

For businesses trying to make informed choices relative to thermal and electric demand and supply options, the issue is far more acute. No business can await long term planning until options are extinguished. Businesses relying on CHP must make a business choice now to be able to permit, develop and construct alternative options for electric and thermal supply in 2020. If business elections are made now to revert to boiler installations, the actions in 2020 will be the assured termination of CHP resources relied upon by Staff's modelling as baseline for the Reference Plan.

There are other consequences to the loss of the existing CHP resource fleet. In addition to the system reliability and inefficient use of existing resources associated with the loss of a large amount of industrial CHP, the RESOLVE model results do not reflect the reliability implications associated with the loss of CHP generation in local reliability areas. The loss of CHP at an industrial facility with a large electric and thermal energy requirement have a compound impact on local reliability.¹²

¹² As noted in Section II.D, the loss of existing CHP electric generation serving local off-site electric load will place additional stress on distribution and transmission facilities. These wires will, in the event of termination, be required to deliver more remote system generation to serve the CHP host site requirements and electric load. Moreover, a

From an existing CHP resource perspective, the PD is both disappointing and of material concern. Time is of the essence, and failure to promptly and meaningfully address retention of existing generation resources in the face of Staff's assumptions is a troublesome issue for the PD to ignore.

III. CONCLUSION

The PD fails to take advantage of the opportunity to timely address key and critical timing issues for existing efficient CHP facilities like MSCC and Watson. CAC recommends adoption of a five year-extension for Commission-approved CHP contracts. This action will provide needed certainty to industrial facilities to sustain existing CHP operations, particularly as the Commission sorts out the IRP path.

For all of the foregoing reasons, the CPUC should institute a program to extend the PPAs of existing, efficient CHP and associated UPF facilities for a period of five-year terms. This measure will establish the needed program stability to retain these resources, but also provide the CHP operator with revenues to support the major maintenance costs that occur every five years.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Michael Alcantar", with a horizontal line extending to the right.

Michael Alcantar
Executive Director and Counsel to the
Cogeneration Association of California

January 17, 2018

proven, highly reliable source of electric generation will be lost (e.g., large industrial CHP facilities continued to supply emergency electric generation throughout the California energy crisis without payment from the IOUs).

Appendix A

Proposed Findings of Fact and Conclusions of Law

New Proposed Finding of Fact 24: The Commission acknowledges that the IRP modelling, and Reference Plans address incremental resource procurement planning, and that there are assumptions related to baseline, existing resources that require actions to assure the sustained availability of those resources for GHG emission and reliability interests.

New Proposed Finding of Fact 25: For IRP modelling and Reference Plans existing CHP, as a baseline resource, is to be considered separate and distinct from natural gas plant electric generation.

New Proposed Finding of Fact 26: Good cause has been shown to address the retention of existing, efficient CHP resources under Commission approved contracts. A five-year extension of such existing CHP contracts is a reasonable and necessary option as the optimal IRP procurement for 2030 is established by the Commission.

Conclusion of Law 15: The Commission should require a showing from any LSE seeking to acquire new or re-contract with existing natural gas resources (as distinguished from CHP operations) as part of its IRP filing, justifying why the need met by such a resource cannot be met by another, lower-emitting resource.

New Conclusion of Law 33: The Commission is obligated under federal law to consider measures to sustain existing efficient CHP resources, and has the authority to permit extensions of existing, approved contracts for such resources.

Modified Ordering Paragraph 7, as presented in Section IIC, above.

New Ordering Paragraph 18: The Commission adopts the proposal to extend for 5-year terms existing contracts previously approved by the Commission for existing, baseline CHP resources as proposed by CAC. Existing CHP contract holders may notify the interconnected or contracting IOU of the desire to extend and IOU shall promptly file an advice letter seeking approval of such extension on the same price and non-price terms as the Commission deems reasonable. Such extensions shall be permitted within the time period between 2020 and 2030, with the initial date of any extension being the termination date of the existing Commission-approved contract.