BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for Development of Distribution Resources Plans Pursuant to Public Utilities Code Section 769.	Rulemaking 14-08-013 (Filed August 14, 2014)
And Related Matters.	Application 15-07-002 Application 15-07-003 Application 15-07-006
(NOT CONSOLIDATED)	
In the Matter of the Application of PacifiCorp (U901E) Setting Forth its Distribution Resource Plan Pursuant to Public Utilities Code Section 769.	Application 15-07-005 (Filed July 1, 2015)
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CLEAN COALITION COMMENTS ON ADMINISTRATIVE LAW JUDGE'S AMENDED RULING REQUESTING COMMENTS ON THE ENERGY DIVISION WHITE PAPER ON AVOIDED COSTS AND LOCATIONAL GRANULARITY OF TRANSMISSION AND DISTRIBUTION DEFERRAL VALUES

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I. INTRODUCTION

Pursuant to Rule 14.3 of the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission"), the Clean Coalition respectfully submits these comments in response to *Administrative Law Judge's Amended Ruling Requesting Comments on The Energy Division White Paper on Avoided Costs and Locational Granularity of Transmission and Distribution Deferral Values*, dated June 13, 2019.

II. DESCRIPTION OF THE PARTY

The Clean Coalition is a nonprofit organization whose mission is to accelerate the transition to renewable energy and a modern grid through technical, policy, and project development expertise. The Clean Coalition has been an active and consistent participant in both

the Integration Capacity Analysis ("ICA") and Locational Net Benefits Analysis ("LNBA") working groups and an original advocate for distribution resource planning and processes. In addition, we have remained a leading intervenor in interconnection proceedings and an active participant in the Integrated Distributed Energy Resources ("IDER") proceeding that seek to utilize the ICA and LNBA results.

III. COMMENTS IN RESPONSE TO QUESTIONS FOR PARTIES

The Clean Coalition appreciates the opportunity to submit these comments in response to the Ruling. We support the Commission's continued and evolving efforts in this proceeding to assess the impacts of DER and locational factors such that the benefits may be realized for ratepayers at large, individual customers, and communities. In this light, we question the conclusion of the White Paper regarding the negligible value of DER in avoided unspecified future transmission in particular and seek further clarification.

Responses to questions posed to parties in the Ruling:

1. *Do you agree with staff's interpretation of the task at hand?*

Yes.

2. *Please comment on staff's proposed revisions to the definitions of important terms and proposed framework for specifying use cases.*

Staff's proposed revised definitions and framework are helpful and reasonable.

3. *Please comment on staff's assessment of the uncertainty for each category of value and use case, and their recommendations for the appropriate location granularity for the various use cases.*

It is important not to confuse certainty and granularity - for transmission deferral the location is less granular, but not less certain. Certainty of unspecified deferral increases as granularity decreases. It is easier to use DER growth to avoid future transmission needs than distribution needs.

For example, the NP15 transmission area may have a high certainty of increasing capacity need, and this could in turn be met with high probability by DER throughout that region

in line with its Peak Capacity Factor. Conversely, DIDF may specify a specific need at a specific location, but with lower certainty of the need forecast or of the ability to procure DER to defer it. [Although installed DER offer great opportunity to employ changes in operational profiles to quickly meet evolving distribution needs through dynamic inverter or load modification]

4. *Considering staff's preliminary analysis of Pacific Gas and Electric Company's (PG&E's) 2018 GNA, please comment on staff's recommendations regarding the methodology for estimating:*
   b. Unspecified distribution deferral value
   &
   d. Unspecified transmission deferral value

While precise estimation of future grid needs and the value of avoiding these as-yet-unrealized needs is inherently based on incomplete information it should not be considered speculative in a pejorative sense – the goal is to improve the accuracy of estimated value based on the available information, accounting for uncertainty.

It is most reasonable to assume that new additional grid needs will occur consistent with historical experience and forecasts, and that DER will be able to mitigate the probable future grid needs to a degree at least equal to their ability to meet existing needs.

In fact, DER have a proven record of eliminating the need for new transmission infrastructure investment, as CAISO has recognized. Growth in DER led to the cancellation of $2.6 billion in unneeded transmission projects in 2017-18 alone, due to changes in local area load forecasts strongly influenced by energy efficiency programs and increasing levels of residential, rooftop solar generation.[1] Ratepayers saved not just the $2.6 billion in initial capital costs but also tens of billions of dollars in future return on equity payments, operations and maintenance costs by the transmission owners. If the ACC or LNBA are not reflecting these actual savings, then the methodology needs further refinement.

We agree with using the peak capacity factor rating of each DER type, and this is already attempted in the ACC methodology and results. It is worth noting however that the purpose of

[1] CAISO 2017-18 Transmission Planning Process, www.caiso.com/Documents/BoardApproved-2017-2018_Transmission_Plan.pdf

the (avoided) transmission investment is critical to consider. Peak capacity is the driving factor for facilities built to meet capacity needs, but not for policy driven transmission investments; in these cases, other factors such as access to renewable resources may be the driving factor. Where transmission would have otherwise been built to deliver energy from large scale PV development, this may be avoided MW for MW with local distributed PV resources, after accounting for the relatively small differences in the two PV output profiles. In such cases, Commission driven distributed PV and other DER growth directly reduces the future as-yet-unspecified transmission needs that would be required to meet the states RPS and GHG goals.

The primary limitation on the use of DER as an alternative to conventional utility investment is not technical but is the narrow time window created by the planning and procurement process. The Distribution Investment Deferral Framework ("DIDF") requires that an "alternative" to the planned investment must be deployed at a date sufficiently in advance of the projected need to allow time for the utility to still construct the planned conventional project if the DER alternative has not successfully mitigated the need in advance of that date. For this reason, projects planned for needs occurring within three years are generally excluded from consideration for deferral. When DER reduces future and as yet unspecified grid needs, this also eliminates the requirements for time to procure DER specifically to meet those needs, and the time required to allow for scheduling and construction of conventional solutions. As such, the ability of DER to mitigate future as yet unspecified grid needs and provide an alternative to projects that have not yet entered the planning phase is considerably greater than the opportunity for DER to address projects already within the planning phase, and should not be ignored.

For example, Micro-grids are proven distribution level systems capable of meeting all the electrical needs within a defined area, even doing so "islanded" in complete separation from other distribution or transmission grids. It is objectively clear that where needs have already been met by DER, this DER has resulted in avoiding having these needs ever enter into consideration in either the distribution planning process ("DPP") or the transmission planning process ("TPP").

Likewise, the Long Island Power Authority (LIPA) identified a high locational value and offered a 7¢/kWh premium to 40 MW of appropriately sited solar DG facilities to encourage locational capacity sufficient to avoid $84,000,000 in new transmission costs that would

otherwise be incurred, resulting in a net ratepayer savings of $60,000,000.[2] This was a recognized need. However, if a comparable quantity of DER had already been deployed in this area, the "need" for new transmission capacity would not have arisen. The quantity and location of the DER would have been the same, and the same new transmission capacity would have been equally avoided regardless of whether the DER were deployed before or after the capacity shortfall potential was recognized. If DER mitigates load service requirements such that the limits of existing infrastructure capacity will not be reached within the planning cycle, the value is no less than if it provides the same mitigation after a mitigation project is triggered.

The Commission remains correct in recognizing that future as-yet-unplanned-for needs have value, also correct in recognizing that there is uncertainty in forecasts, and consequently in seeking to apply a probabilistic analysis of future needs, and in utilizing a "no DER growth" scenario as a basis of comparison for determining the impact of forecast growth in DER. It is precisely these impacts, both positive and negative, which the Commission is appropriately seeking to capture through a benefits assessment, with the added component of locational variation in the LNBA.

As noted in prior uncontested testimony,[3] deploying DER that displace transmission-sourced energy during peak demand periods avoids the need to increase transmission capacity, which preempts the need for future infrastructure investment planning.

Similarly, a May 2012 study by Southern California Edison found that transmission upgrade costs for their share of the Governor's goal of 12,000 MW of distributed generation could be reduced by over $2 billion from the trajectory scenario. As illustrated in Figure 1 the lower costs were associated with the "guided case" where 70 percent of projects would be located in urban areas, and the higher costs were associated with the "unguided case" where 70 percent of projects would be located in rural areas.[4]

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[2] Uncontested Testimony of Kenneth Sahm White: *CLEAN COALITION REBUTTAL TESTIMONY REGARDING PACIFIC GAS AND ELECTRIC COMPANY'S AND SAN DIEGO GAS AND ELECTRIC COMPANY'S APPLICATIONS TO ESTABLISH GREEN TARIFF SHARED RENEWABLES PROGRAMS* January 10, 2014; CPUC Proceeding A.12-01-008 and A.12-04-020, at 2.

[3] ibid at 5-7.

[4] The Impact of Localized Energy Resources on Southern California Edison's Transmission and Distribution System, SCE, May 2012.

Figure 1: Locational Integration Cost Factors for Distributed Generation

Locational Cost Impacts

Clean Coalition

SCE Share of 12,000 MW Goal

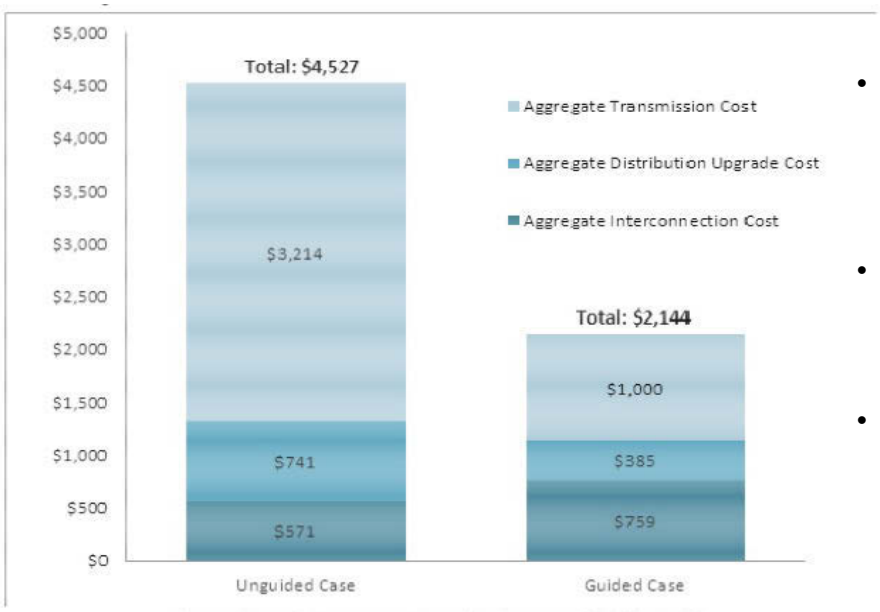


Figure 8: Total SCE System Costs of LER Proposal (Million USD)

- Locational Value methodology should include transmission costs
- Avoids reliability, economic and policy driven projects
- Interconnection and compensation policies should incent high value locations

Guided Siting Saves Ratepayers 50%

Source: SCE Report May 2012

Making Clean Local Energy Accessible Now 3

Recognizing such location driven differences in costs and benefits of DER growth are again precisely the purpose of LNBA. In this instance we clearly see that there would be major transmission and distribution infrastructure cost savings if forecast DER growth occurred where there was greater capacity to accommodate that growth. However, since specific infrastructure projects for either scenario had not yet been planned, and LNBA methodology that only considered planned projects would fail to reflect the very cost differential predicted by the utility planners.

Failing to account for unspecified projects that have not yet been planned, or the value of DER mitigations relative to the ratepayer costs that would otherwise occur in the absence of these mitigations, provides a false and unrealistically low projection of future costs and savings. The staff's proposed methodology and examples, while recognizing the potential to avoid

unspecified future needs, appears to conclude that the avoided transmission value is negligible, in contrast to the examples offered here and previously by parties.

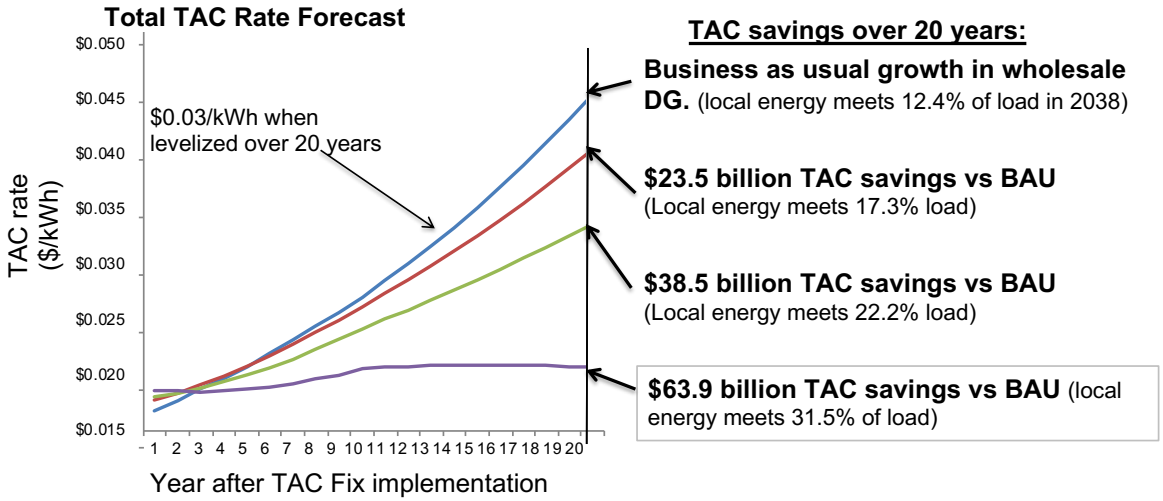
As demonstrated in the attached *Figure 2: Projected Total PG&E Transmission Access Charges: Accounting for Investments Not-yet-planned, Relative to DER Growth Scenarios,*[5] if we forecast the continued addition of new transmission projects beyond the current planning period, even utilizing CAISO's lower projected average future estimate of 7% nominal escalation (5% real) over the next 20 years, the transmission charges, and associated ratepayer costs, do not actually level off, but continue to climb. Increased deployment of DER mitigations would result in major savings that must be recognized.

Figure 2: Projected Total PG&E Transmission Access Charges: Accounting for Investments Not-yet-planned, Relative to DER Growth Scenario

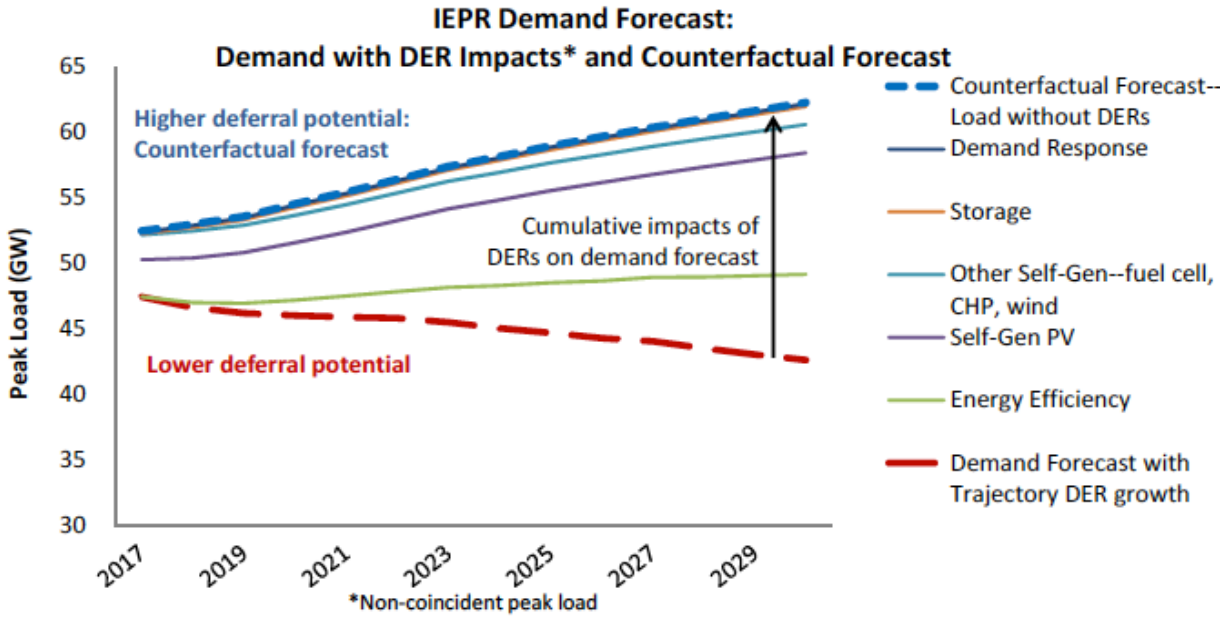
Cumulative Total TAC payments to CAISO ($ in billions)	Year 1	Year 20	Change	Change	Notes
Business As Usual (BAU)	$3.3	$135.8	$-	-	
Post-TAC fix Scenario 0: BAU with new billing determinant	$3.3	$128.4	$(7.5)	-6%	Change versus BAU
Post-TAC fix Scenario 1: Total DG added per year 1.5x of BAU	$3.3	$112.4	$(23.5)	-17%	Change versus BAU
Post-TAC fix Scenario 2: Total DG added per year 2x of BAU	$3.3	$97.4	$(38.5)	-28%	Change versus BAU
Post-TAC fix Scenario 3: Total DG added per year 3x of BAU	$3.3	$71.9	$(63.9)	-47%	Change versus BAU

CAISO peak load after additional WDG versus baseline (MW)	2016	2017	2018	2019	2020
Post-TAC fix Scenario 0: BAU with new billing determinant	49,243	49,392	49,542	49,692	49,843
Business As Usual (BAU)	49,243	49,392	49,542	49,692	49,843
Post-TAC fix Scenario 1: Total DG added per year 1.5x of BAU	49,243	49,200	49,185	49,187	49,191
Post-TAC fix Scenario 2: Total DG added per year 2x of BAU	49,243	49,008	48,827	48,682	48,539
Post-TAC fix Scenario 3: Total DG added per year 3x of BAU	49,243	48,823	48,334	47,891	47,450

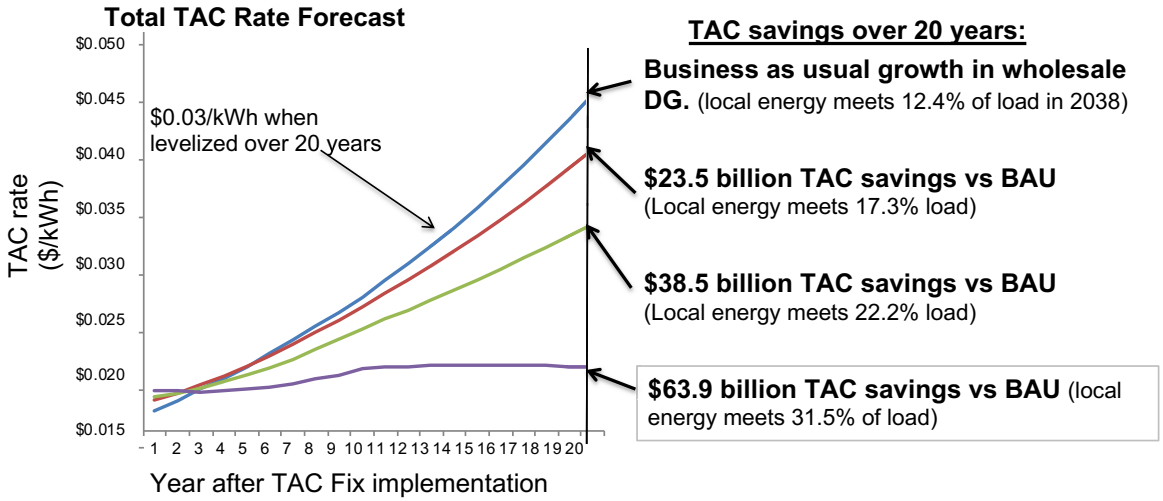
[5] Clean Coalition Transmission Access Charge Impact Model, available at: http://www.caiso.com/informed/Pages/StakeholderProcesses/ReviewTransmissionAccessChargeStructure.aspx



While these values are only indicative and subject to variation based on input assumptions, they align with the IEPR Demand Forecast clearly indicates that DER are projected to have a very significant effect on peak load over the next decade, as shown in slide 9 of the Energy Division at the Dec 20, 2018 workshop. Energy Efficiency and distribution level PV in particular contribute to mitigating peak load growth that would otherwise occur, and the associated transmission and generation costs.



Forecast simplified for illustrative purposes. Actual counterfactual forecast must be adjusted for Codes and Standards and peak shift, and impact of EVs is included in forecast but not shown on this chart



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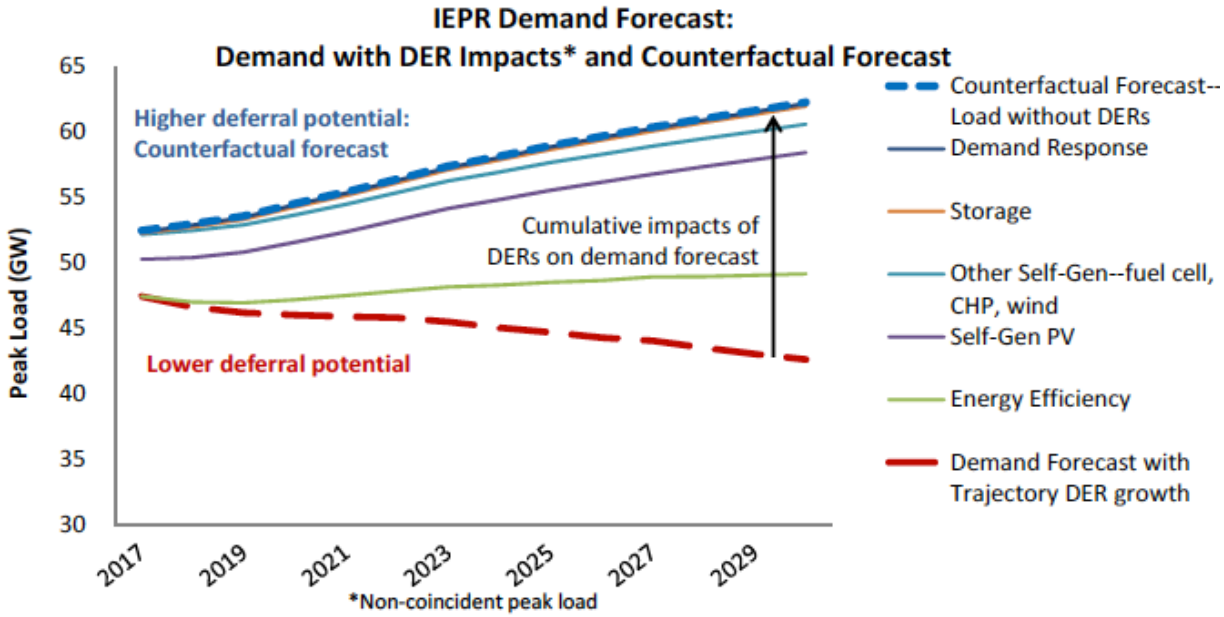

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IV. CONCLUSION

The Clean Coalition appreciates the opportunity to submit these comments in response to the Ruling. We question the conclusion of the White Paper regarding the negligible value of DER in avoided unspecified future transmission in particular and seek further clarification. We support the Commission's continued and evolving efforts in this proceeding to assess the impacts of DER and locational factors such that the benefits may be realized for ratepayers at large, individual customers, and communities.

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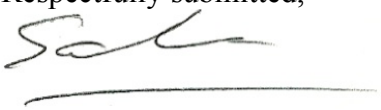


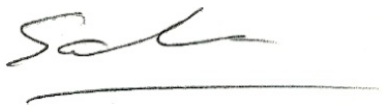
Kenneth Sahm White
Director, Economic & Policy Analysis
Clean Coalition

Dated: June 21, 2019

VERIFICATION

I, Kenneth Sahm White am the representative for the Clean Coalition for this proceeding. I am authorized to make this verification on the organization's behalf. The statements in the foregoing document are true of my own knowledge, except for those matters that are stated on information and belief, and as to those matters, I believe them to be true.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on June 21, 2019, at Santa Cruz, California



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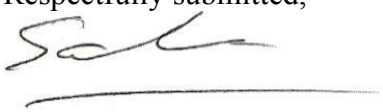

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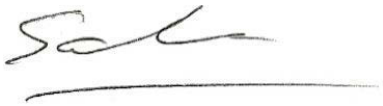

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