BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans.	Rulemaking 12-03-014 (Filed March 22, 2012)

REPLY BRIEF OF NRG ENERGY, INC.

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NRG Energy, Inc. "(NRG") respectfully submits this reply brief in Track 4 of t he Long-Term Procurement Plan ("LTPP") proceeding pursuant to Rule 13.11 of the Rules of Pra ctice and Procedure of the California Public Utilities Commission ("Commission" or "CPUC") and the schedule set forth by Administrative Law Judge ("ALJ") David M. Gamson.

I. EXECUTIVE SUMMARY

In this reply brief, NRG respectfully urges the Commission to authorize at least the procurement amounts sought in this Track 4, for these reasons:

- The Track 1 decision in this proceeding serves as an appropriate guide for procurement authority being sought in Track 4, namely, to authorize specific amounts of gas-fired generations within the local capacity areas.
- It is neither necessary nor advisable to modify Track 4 assumptions or wait for the results of the CAISO's 2013-2014 Transmission Planning Process ("TPP") before authorizing procurement.
- The contingency that the California Independent System Operator ("CAISO") used to define the Southern California local capacity area need (the overlapping, non-simultaneous outage of the 500-kV Southwest Power Link and 500-kV

Sunrise Power Link) without the use of at least 500 MW of firm load shedding is appropriate.

- The generation authorized in Track 4 should be procured through either bilateral contracts or Request For Offers (RFO) solicitations.
- The generation that will be procured through this proceeding will have benefits far beyond serving load and maintaining reliability under peak load conditions.

NRG will elaborate on these points below.

II. INTRODUCTION

The situation in which the Commission now finds itself is this:

- Resources at the San Onofre Nuclear Generating Station (SONGS) which provided 2,200 MW of real power support and 1,100 MVAR of reactive power support to the middle of a dense urban load center, and around which the bulk power network was built and upon whose services the network depended, are now known to be permanently retired following the initial decision authorizing procurement for the Southern California Edison Company ("SCE") service area, which assumed those resources would be in service.
- State policy seeking to mitigate the biological impacts of ocean water for thermal cooling calls for the retirement of thousands of MW of generation in the SCE and San Diego Gas & Electric Company ("SDG&E") local capacity areas, around which Southern California's bulk power network has been constructed and on which, as with SONGS resources, that network reliably depends, over the next four to ten years. Furthermore, it would blatantly contradict the entire premise of this track of the rulemaking, which is long-term planning to account for the

retirement of OTC units, to assume that OTC compliance deadlines will be extended; the Commission should authorize procurement in Track 4 now, without assuming that the relevant OTC retirement dates may change.

- California has adopted ambitious goals to reduce carbon emissions, including instituting a "loading order" through the state's Energy Action Plan which calls for prioritizing the deployment of preferred resources ahead of gas-fired generation. However, nothing in the loading order prohibits the development of gas-fired generation if doing so is needed to maintain the reliability of the electric supply system.
- The impacts of electrifying the transportation sector, which is a key strategy towards achieving California's carbon reduction goals, will impose additional challenges for providing reliable electric service that are not yet fully understood.
- California is on track to fulfill its goal of having 33% of its electrical energy through renewable resources by 2020. The influx of the variable, intermittent resources through which California is meeting these goals is changing the nature of bulk power system operations and creating new challenges for reliably operating that system.
- The ability of preferred resources, including demand response and energy storage to meet local area requirements, which are determined under peak load conditions, has not been fully determined.
- Additionally, the effects of an increasingly renewable and intermittent generation mix on the CAISO's ability to maintain system reliability under *all* conditions, not just peak conditions, have not been fully studied and are not fully understood.

- Modern generating technology now provides for the ability to repower coastal generation stations with cleaner, efficient gas-fired generation that does not use ocean water for cooling. This repowered generation provides multiple benefits, including the suite of reliability services necessary to maintain reliable operations and address the challenges of increasing reliance on renewable resources, and leverages the substantial investment already made in the existing bulk power network to reduce costs to consumers.
- The lead times for developing new gas-fired generation and repowering existing gas-fired generation facilities can extend to seven to nine years – beyond the currently approved retirement dates for the once-through-cooled facilities in these areas.
- Finally, but most critically, the health, safety and economic welfare of the Southern California area - a key part of the state's economy (currently the world's eighth largest economy[1]) and home to more than 20 million people[2] - depends on reliable and cost-effective electric service.

For all of these reasons, authorizing the Southern California Edison Company ("SCE") and the San Diego Gas & Electric Company ("SDG&E ") in Track 4 of this proceeding to procure additional resources to meet local capacity requirements in the Western Los Angeles Basin and San Diego local capacity areas in an expeditious fashion is prudent, and the Commission should do just that.

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[1] See http://blogs.sacbee.com/capitolalertlatest/2013/07/california-poised-to-regain-eighth-8-rank-in-global-economy.html; http://www.ccsce.com/PDF/Numbers-July-2013-CA-Economy-Rankings-2012.pdf.

[2] Per the United States Census Bureau's Quick Facts web site (http://quickfacts.census.gov/qfd/states/06/06059.html), the combined estimated 2012 population of the counties comprising the Southern California area (Los Angeles, San Diego, Imperial, San Bernadino, Ventura, Santa Barbara, and Orange) is 22,024,058.

While parties have represented that the present moment provides a unique and irresistible moment in time to fundamentally change the nature of bulk power supply and that no additional procurement authorization is needed at this time, these representations are based on idealized perceptions of the present and visions of the future. Moreover, despite protests to the contrary, California's path towards a cleaner energy future will not be irreparably set back by procurement of gas-fired generation that is needed to maintain electric network and supply reliability in Southern California. In fact, given that more than 12,000 MWs of OTC capacity will retire by year-end 2020, not counting the 2,200 MWs lost through the SONGS retirement, the amount of new generation advocated for in Track 4 is a very small percentage of the retiring capacity. California's path towards a cleaner energy future is best built on a foundation of reliable electric service, not on a headlong rush towards relying on technologies whose contributions to reliability under all conditions are not yet fully understood.

NRG respectfully submits this reply brief and respectfully urges the Commission to take action consistent with the arguments presented herein.

III. THE TRACK I DECISION SETS AN APPROPRIATE PRECEDENT FOR TRACK 4 PROCUREMENT

As noted by some parties,[3] Decision D.13-02-015, issued in Track 1 of this proceeding (the "Track 1 Decision"), serves as a valuable guide and precedent for the decision the Commission faces in Track 4. That decision:

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[3] *See, e.g.,* Opening Brief of the Independent Energy Producers Association on Track 4 Issues ("IEP Opening Brief") at 9; Opening Brief of EnerNOC ("EnerNOC Opening Brief") at 9-10. However, while NRG agrees with EnerNOC that the Track 1Decision serves as an appropriate guide for Track 4 procurement, NRG strongly disagrees with EnerNOC on other issues, including that any Track 4 procurement be subject to further revision (e.g., EnerNOC Opening Brief at 26).

- Found that there is no evidence to suggest that the compliance deadlines associated with the state's policy regarding Once-Through-Cooled resources will change;[4]
- Noted that energy efficiency may not occur uniformly across the state, and thereby may not achieve a MW-for-MW reduction in local capacity requirements;[5]
- Adopted a conservative approach with regards to the amount of demand response that could meet local capacity requirements;[6]
- Carved out a very limited amount of procurement to be set aside for energy storage (50 MW, between 2.8% and 3.6% of the total LA Basin capacity procurement authorized);[7]
- Accounted for the state's Loading Order by directing the procurement of more preferred resources than the CAISO assumed in its studies.[8] However, ALJ Gamson also was careful to set forth a much more prescriptive set of assumptions with regards to the Track 4 assumptions than were commonly assumed for the Track 1 analysis.[9] In testimony and opening briefs, parties argue as to whether the CAISO properly followed the assumptions set forth for Track 4. The CAISO carefully explained in its opening testimony how the assumptions it used in its analysis complied with the assumptions set forth in the May 21, 2013 Scoping Ruling.[10] As a result, there should be no need to make a subjective adjustment to Track 4 procurement amounts.

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[4] Track 1 Decision at 42.
[5] Track 1 Decision at 50.
[6] Track 1 Decision at 56.
[7] Track 1 Decision at 61-62.
[8] Track 1 Decision at 78.
[9] Attachment A of the May 21, 2013 Revised Scoping Ruling and Memo of the Assigned Commissioner and Administrative Law Judge ("May 21 Scoping Ruling") which explicitly and precisely sets forth the assumptions to be used in Track 4 of this proceeding.
[10] Ex. ISO-1, Sparks Opening (for CAISO), p. 3:18.

- Further, even accounting for the state's Loading Order, the Track 1 Decision specifically ordered the procurement of between 1000 and 1200 MW of gas-fired generation to meet the Western LA Basin local capacity requirements.[11]

There is no compelling reason to abandon the thoughtful and thorough approach set forth in the not-yet-year-old Track 1 Decision, which authorized the procurement of gas-fired generation to meet the bulk of the identified local capacity requirements. There are, however, compelling reasons to maintain the Track 1 Decision's approach to local capacity procurement:

- The permanent retirement of 2200 MW of real power support and 1100 MVAR of reactive power support from SONGS, announced on June 7, 2013;
- Decision D.13-10-040 separately establishes a 1,325 MW procurement target for energy storage, obviating the need to carve out storage targets in Track 4 procurement;
- Continued uncertainty as to how preferred resources count towards meeting local area capacity requirements established through snapshot analysis of *peak demand conditions*;
- Continued uncertainty about how the CAISO will maintain reliability under *all* conditions with a greater reliance on preferred resources; and
- Uncertainty regarding whether preferred resource could be developed in sufficient amounts and at the right locations to meet local capacity requirements by 2018.[12]

NRG believes that preferred resources will play an important role in California's electricity future. To that end, NRG has in operation now, or will have in operation soon, nearly

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[11] Track 1 Decision at 81.
[12] Opening Brief of the California Independent System Operator Corporation ("CAISO Opening Brief") at 36.

2,000 MW of solar thermal and solar photo-voltaic projects. NRG is also actively involved in the deployment of electric vehicle infrastructure in California and is interested in the roles electric vehicle fleets can play in providing ancillary services to the CAISO. However, while the future of preferred resources is bright, that future is still fuzzy, at least with regards to these resources' ability to ensure reliability, especially not just at the time of peak demand, but under all system conditions. To that end, NRG shares some parties' concerns about putting too much reliance on preferred resources before the level to which these resources can dependably meet reliability needs is fully understood.[13] Preferred resources hold great promise and serve an important role, but relying on them as a primary means to maintain the reliability of the Southern California bulk power system on which millions of people depend is relying on a fact not yet in evidence.

Preferred resources can provide pieces of what is needed to maintain reliability within a local capacity area – real power support (when the fuel source is available), reactive power support (in the case of solar photo-voltaic resources, even when the fuel source is not available through the use of smart inverters), and even some measure of dispatchability (under the right set of conditions). Likewise, demand response may provide pieces of the reliability puzzle, such as the ability to reduce load to meet local capacity requirements and may even provide a modicum of dispatchability, again, under the right set of conditions (e.g., when the supporting demand is available). Further still, energy storage may provide some of the needed reliability services, depending on its state of charge and its energy duration capability. However, at present, only gas-fired generation provides all of these services with a high level of availability, independent of demand, wind, or sun. Moreover, gas-fired generation located at repowered sites that no

[13] *See, e.g.,* Track 4 Opening Brief of AES Southland LLC at 1-2, 13; Track 4 Opening Brief of Pacific Gas And Electric Company (U 39 E) at 5.

longer rely on ocean water for cooling provides all of these services at key locations within the bulk power system – locations around which the bulk power network was built.

NRG agrees with the Center for Energy Efficiency and Renewable Technologies ("CEERT") that it would be appropriate for the Commission to identify next steps that should be taken to determine how preferred resources can meet local area needs and be relied on to ensure reliability under all system conditions.[14] However, that work has not yet taken place, and therefore it would be premature to carve out any significant amount of Track 4 procurement as a set-aside for preferred resources.

IV. PROCEEDING WITH PROCUREMENT NOW IS PRUDENT

A. The Commission Should Authorize SCE and SDG&E To Procure Sufficient Generation To Take Advantage of Repowering Opportunities.

Various parties have offered specific procurement targets in this proceeding, ranging from zero to several thousand megawatts. The specific numbers depend on different precise assumptions, which, in light of the fact that the studies project conditions as much as a decade in advance, must be taken with the requisite amount of salt.

NRG does not have its own artificially precise procurement authorization numbers to offer. However, NRG notes that the present affords a window in time to take advantage of several repowering projects in the SCE and SDG&E local capacity areas. NRG related the multiple benefits of such repowering projects in its opening brief, and will not re-enumerate those benefits here.[15] Those benefits are significant enough that these repowering projects should be afforded due, if not special, consideration. Consequently, the Commission should

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[14] Opening Brief of the Center For Energy Efficiency and Renewable Technologies on Track 4 (San Onofre Nuclear Generating Station)("CEERT Opening Brief") at vii, 3.
[15] Opening Brief of NRG Energy, Inc. ("NRG Opening Brief") at 14-15.

authorize Track 4 procurement sufficient to allow SCE and SDG&E to take advantage of these repowering opportunities.

B. The Commission Should Not Modify The Track 4 Assumptions

There is no unanimity of opinion among parties with regards to any aspect of Track 4 procurement – the amount of need, the types of resources that could be used to meet the need, or the timing of the need. However, among the parties most directly affected by the permanent retirement of SONGS, there is agreement that SCE and SDG&E should be authorized *now* to procure additional capacity within their respective areas independent of any other action that may or may not be taken (e.g., additional transmission that may be authorized through the CAISO's 2013-2014 Transmission Planning Process ("TPP") or whether new information may change the assumptions adopted in Track 4.

In particular, two entities at the heart of this proceeding advise strongly against revising the planning assumptions used in Track 4:

- The CAISO recommends that the Commission authorize an incremental amount of "no-regrets" procurement in Track 4 that should move forward "expeditiously".[16] Moreover, the CAISO recommends that the Commission reject calls to revisit and possibly revise the Track 4 assumptions.[17]
- SDG&E rightly observes that "assumptions change over time" and "debating exact assumptions serves little purpose".[18]

The Assigned Commissioner and Administrative Law Judge in this proceeding took great care to explicitly set forth the assumptions to be used in Track 4. The CAISO, SCE and SDG&E

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[16] CAISO Opening Brief at 3, 33-34.
[17] CAISO Opening Brief at 35-36.
[18] SDG&E Opening Brief at 14.

followed those assumptions in their analysis, or, to the extent they did not, explained the differences and the resulting impacts.[19] As a result, there is nothing to be gained by modifying the Track 4 assumptions at this point. Doing so would seek to impose on the future an alternate and artificial precision that, while it may suit parties' individual interests, cannot be justified and needlessly, and perhaps dangerously, delays the urgent need to authorize procurement necessitated by the permanent retirement of SONGS.

C. It Is Prudent For the Commission to Proceed Expeditiously To Authorize Track 4 Procurement

Proceeding with procurement authorization in an expedited fashion is prudent. As SDG&E observes, the Commission's disdain for "just-in-time" procurement and the reality that generation development can take seven to nine years, even for brown-field repowering projects, militates against any delays in authorizing procurement.[20]

Some parties suggest that seeking delays in OTC retirement dates to defer any new procurement would be the best strategy.[21] These parties suggest this despite no evidence from the Track 1 Decision that any changes in the OTC retirement schedule will occur,[22] or that any evidence presented in Track 4 that delays have been proposed or approved since the Track 1 Decision was issued.

As the Commission already found in the Track 1 Decision, it would be inappropriate now, as it was then, to rely on modifications to OTC retirement dates to maintain reliability in

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[19] For example, SCE explained that while their studies did not use CAISO reliability criteria, SCE took that approach not because it disagrees with CAISO reliability criteria or the use of those criteria, but to provide another reference point. *See* SCE Opening Testimony at 7.
[20] Opening Brief of San Diego Gas & Electric Company in Track 4 Of The Long-Term Procurement Plan Proceeding ("SDG&E Opening Brief") at 11.
[21] Opening Brief of Alton Energy, Inc. on Track 4 Issues ("Alton Opening Brief") at 4; The Office of Ratepayer Advocates Opening Brief on Local Reliability Procurement to Account For the Closure of San Onofre Nuclear Generating Station ("ORA Opening Brief") at 27; TURN Opening Brief at 4-5.
[22] Track 1 Decision at 42.

the Western LA Basin or in San Diego. While such delays might modestly delay the construction of new generation, such delays would invariably increase those areas' reliance on what the CAISO described as "…inefficient Korean War era once-through cooled power plants, with associated air quality, sea life entrainment, and efficiency impacts."[23]

The Commission should authorize procurement in Track 4 now, without waiting for new and ever-changing assumptions, which may or may not suggest different results, or without any expectation that the relevant OTC retirement dates may change.

D. The Commission Should Not Wait For The TPP Results To Authorize Track 4 Procurement.

A number of parties ask that the Commission defer authorizing new procurement until the results of the CAISO's 2013-2014 Transmission Planning Process ("TPP") are approved in March 2014.[24] There is no reason to do this. First, the amount of procurement being sought by SCE and SDG&E would not completely eliminate the need for new transmission. Second, given the siting and permitting challenges that any new transmission in urban Southern California would face, mere approval of a particular project in the CAISO's 2013-2014 TPP would not be conclusive evidence of a transmission project's viability. Third, while new transmission projects allow for power to flow into a local area, transmission projects do not provide all of the services needed to maintain reliability (e.g., controllable reactive power support, inertia, real power response, to name a few) in local areas. As such, these transmission projects are not, in and of themselves, full solutions to the current and future reliability challenges. Finally, neither SCE, SDG&E nor the CAISO recommend deferring authorizing procurement until the 2013-2014 TPP results are approved. For all of these reasons, the

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[23] CAISO Opening Brief at 5.
[24] *See, e.g.,* Opening Brief of the Natural Resources Defense Council at 14-15; CEERT Opening Brief at 20; EnerNOC Opening Brief at iv.

Commission should not wait for the approved results of the 2014-2014 TPP, but should proceed with authorizing Track 4 procurement as soon as possible.

E. The Procurement Authorized In Track 4 Should Not Be Reduced.

While a number of parties suggest that the Commission could authorize an interim amount of procurement that could later be reduced,[25] NRG strongly advises against authorizing an amount of procurement that could be reduced by a later decision. The uncertainty that would be created by such a decision would not lead to efficient or effective procurement. Instead, the Commission should authorize an amount of procurement that cannot be reduced by a later decision.

For all of the reasons set forth in this section, the Commission should not revise the Track 4 Planning Assumptions, nor wait for the CAISO's approved TPP results, nor authorize an amount of interim procurement that could be later reduced. Instead, the Commission should proceed to promptly authorize an amount of procurement for SCE and SDG&E that cannot be later reduced.

V. GENERATION SHOULD BE PROCURED EITHER THROUGH BILATERAL CONTRACTS OR THROUGH REQUESTS FOR OFFERS

NRG agrees with SDG&E[26] and TURN[27] that any procurement authorized in Track 4 could be met either through bilateral contracts or through utility Request For Offers (RFOs) solicitations. Bilateral negotiations, as well as the procurement review process, would ensure that bilateral contracts are cost-effective.

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[25] *See, e.g.,* EnerNOC Opening Brief at iv.

[26] SDG&E Opening Brief at 5 ("For procurement authorized in this proceeding, the Commission should direct SDG&E to issue a request-for-offers ("RFO") or to contract bilaterally. As SDG&E has pointed out, moving forward on an expedited basis with a bilateral contract to address a portion of LCR need would support the policy goals of the State related to timely retirement of OTC facilities and would promote system reliability – the sooner new local resources are added to the portfolio, the lower the reliability risk.");

[27] Opening Brief of The Utility Reform Network on Track 4 Issues ("TURN Opening Brief") at 3 ("However, TURN does not necessarily oppose highly cost-effective proposals with third-party suppliers that are reached through bilateral negotiations.")

Given the treatment of the Western LA Basin and San Diego local capacity areas as a single area for the purposes of the local capacity analysis, and the identified interplay between procurement in the Western LA Basin and the San Diego local areas, allowing for some bilateral procurement, as well as allowing for some flexibility around specific utility procurement, would likely lead to the most effective and efficient procurement. As the CAISO notes, if procurement is split 80/20 percent between the Western LA Basin and San Diego area (for which 3722 MW was assigned to the Western LA Basin and 920 MW was assigned to the San Diego area), the total identified need is 2534 MW, whereas if the procurement is split 67/33 percent between the two respective areas (for which 3022 MW was assigned to the Western LA Basin and 1485 MW was assigned to the San Diego area), the total need is decreased to 2399 MW.[28] As a result, authorizing SDG&E to procure above its requested 620 MW target[29] could reduce the overall procurement requirement.

VI. THE CONTINGENCY USED TO DEFINE THE LOCAL AREA NEED IS APPROPRIATE, AS IS NOT USING LOAD SHEDDING TO MITIGATE THE IMPACTS OF THAT CONTINGENCY

As IEP noted, a substantial amount of time and energy in this proceeding has been devoted to arguing the finer points of transmission planning criteria, including the contingency that defines the local area need – the overlapping, non-simultaneous loss of the 500-kV Southwest Power Link and 500-kV Sunrise Power Link.[30] In particular, parties have argued whether SDG&E should be allowed to use 500 MW of more of firm load shedding to mitigate

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[28] CAISO Opening Brief at 32. While the label in the first column of the second row of this table mistakenly indicates the second row also presents the results of the "80/20" split, the second row is, in fact, reporting the results of the "67/33" split.
[29] Opening Brief of San Diego Gas & Electric Company in Track 4 Of The Long-Term Procurement Plan Proceeding ("SDG&E Opening Brief") at 3-4.
[30] IEP Opening Brief at 2.

the impacts of – and, consequently, the local generation requirement stemming from – this contingency.

Various parties have supported the use of 500 MW or more of firm load shedding to mitigate the impacts of this contingency.[31] Other parties object to the use of firm load shedding.[32] Most notably, the entity whose service area and customers are directly impacted by this debate - SDG&E - ultimately concluded that the use of this amount of load shedding to mitigate the N-1-1 contingency was not appropriate.[33] SDG&E based its conclusion on these factors:

- While load shedding might be a necessary mitigation as a "bridge" strategy for a short period of time, it was not appropriate to use for a long or undefined period of time.[34]
- That amount of load shedding would have a "major, negative impact on SDG&E customers", and would create both "direct and indirect economic losses as a result of a power outage" as well as a possible "wide-range of adverse civil consequences given that the outages would take place in densely populated urban areas."[35]
- It would be imprudent to rely on load shedding as a system planning approach, as doing so would undermine the robustness of California's electric grid and would impair the State's ability to meet the growing needs of its residents."

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[31] *See*, e.g., Opening Brief of City of Redondo Beach at 13, 20; Sierra Club Opening Brief at 25-26.
[32] *See*, e,g, CAISO Opening Brief at 16-19; Opening Brief of the Nevada Hydro Company at 5 ("Unless California is to become a third world country, curtailment should never have to be considered as an option to solve a reliability problem").
[33] SDG&E Opening Brief at 27-32.
[34] SDG&E Opening Brief at 28.
[35] SDG&E Opening Brief at 30.

- The use of 500 MW or more of load shedding only reduces the local capacity requirement by 150-250 MW.[36]

TURN offers that the blackouts that would result from shedding 500 MW of more of customer load to mitigate the impacts of the Category C.3 N-1-1 contingency could be managed to mitigate their impacts.[37] However, the CAISO thoroughly counters this notion, correctly observing that no party submitted testimony providing that such widespread load shedding could be targeted to non-critical load. Further, there is no agreement as to what "non-critical" load actually is. The assumption that residential air conditioner load is "non-critical load" does not fit well with the most likely scenario in which the overlapping outage of the two 500-kV lines would take place, namely, as the result of wildfires occurring during a prolonged heat wave. Assuming that 500 MW represents service to approximately 375,000 persons, the idea that none of those 375,000 persons would be adversely – perhaps dangerously – affected by the loss of air conditioning during a severe heat wave strains credulity. Similarly, the presumptions that the widespread load shedding needed to mitigate this contingency could be surgically targeted to avoid adverse impact, or that service interruptions due to firm load shedding would always be short-lived and could be precisely rotated to avoid adverse impact, are unrealistic.

While one party attempted to quantify the procurement cost savings that would result from the use of firm load shedding,[38] not a single party attempted to quantify the economic, civil, or human costs that would result from intentionally blacking out at least 500 MW of firm customer demand. Without any such estimates, any decision to rely on load shedding in lieu of local area generation would be based on incomplete information.

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[36]SDG&E Opening Brief at 24.
[37] Opening Brief of The Utility Reform Network on Track 4 Issues ("TURN Opening Brief") at 17.
[38] TURN Opening Brief at 10-15.

Despite this asymmetry of critically relevant information, a number of parties continue to oppose the use of the N-1-1 contingency without firm load shedding to define the local capacity need.

The Protect Our Communities Foundation ("POCF") asserts that the N-1-1 Category C.3 contingency is a "new reliability criterion" that "has not previously been found reasonable by the Commission".[39] Both assertions are incorrect. The Category C.3 N-1-1 has been part of NERC and WECC's Transmission Planning (TPL) Standards for some time. The fact that, in the absence of SONGS, this contingency, and not the G-1/N-1 contingency, now defines the local capacity requirements, does not mean that the CAISO is applying novel, new standards that never existed prior to Track 4. It simply means that the loss of SONGS and the resulting loss of real and reactive power support at a key location within the bulk power system has shifted the conditions within the bulk power system such that a new combination of contingencies now creates a different local capacity requirement. The use of a multiple-transmission-line contingency to define the local capacity requirement is certainly not new; the Commission based its Track 1 procurement authorization, issued a mere ten months ago, on a defining contingency that included the loss of multiple transmission lines.[40]

The California Environmental Justice Alliance ("CEJA") asserts that

> The purported need for new long-term procurement is based on a highly improbable scenario in which three import pathways to the SONGS study area are unavailable on the hottest day in ten years, to which CAISO adds a 2.5% reserve margin not required by NERC reliability standards, and refuses to allow for

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[39] Opening Brief of the Protect Our Communities Foundation ("POCF Opening Brief") at 5.

[40] Track 1 Decision at 40 ("We recognize that the ISO models use assumptions of rare and unusual circumstances, which may never occur. However, this methodology is well-tested in our RA proceedings as a means of procurement of resources for local reliability purposes. As PG&E points out, the Commission must ensure the system will be reliable under a variety of possible future states, including a high load stress condition. While the circumstances underlying the methodology are (hopefully) rare, the consequences of not having sufficient resources in such a rare situation would be extremely serious.")(footnotes omitted)

controlled load shedding under SDG&E's WECC-approved Special Protection Scheme.[41]

All three arguments in this assertion warrant a response. *First*, in an apparent attempt to inflate the nature of the defining contingency, CEJA describes the defining contingency as the loss of *three* import pathways to the SONGS study area. In fact, as the CAISO carefully described, the cross-tripping of the Comision Federal de Electricidad ("CFE") Otay Mesa to Tijuana line following the N-1-1 outage is a planned remedial action scheme intended to protect the line and the downstream facilities, and the loss of that line is *not* part of the defining contingency.[42] *Second*, the CAISO added a 2.5% reserve margin to its analysis to evaluate reactive power margin in accordance with a WECC requirement – a requirement with which the CAISO must comply as rigorously as if the requirement was a NERC requirement. *Third,* evaluating the local capacity need based on the one-in-ten year peak demand has been the Commission's and the CAISO's standard practice since the original implementation of local capacity requirements within the Resource Adequacy program in 2006. As the Track 1 Decision and other prior decisions have noted, using this stressed condition to define the local capacity requirement is prudent. *Finally,* as has been repeatedly explained, while SDG&E has a Special Protection Scheme to shed firm load in place, neither SDG&E nor the CAISO view load shedding as a long-term solution over an indefinite period for maintaining system reliability.

Sierra Club California similarly repeats its assertion that the N-1-1 Category C.3 contingency is "the functional equivalent of a Category D contingency" and that, as a result, no new resources should be built to address this contingency.[43] As explained above, the cross-trip of the third line – apparently Sierra Club's basis for asserting that the N-1-1 contingency is

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[41] California Environmental Justice Alliance's Track 4 Opening Brief ("CEJA Opening Brief") at vii.
[42] CAISO Opening Brief at 21-22.
[43] Post-Hearing Opening Brief of Sierra Club California in Track 4 ("Sierra Club Opening Brief") at 24.

functionally equivalent to a Category D contingency – is a remedial measure taken to protect the CFE system, and does not amplify a Category C contingency to a Category D contingency.

Assuming, *arguendo,* that the defining contingency *is* a Category D contingency, such classification would neither excuse the CAISO, SCE or SDG&E from having to assess the risks and impacts of such an event, nor would it excuse these entities from having to take action to mitigate its impacts. Table 1 of NERC TPL-001-3 requires transmission planners and operators to evaluate Category D outages for risks and consequences.[44] The accompanying footnote 'd' to Table 1 expressly requires that "[a] number of extreme contingencies that are listed under Category D and judged to be critical by the transmission planning entity(ies) will be selected for evaluation."[45] Classifying the N-1-1 contingency as a Category D contingency would not transform that event into an event so improbable or catastrophic that it would not be worth studying or mitigating. Even considering it as a Category D contingency, it would be irresponsible not to evaluate the risks and consequences of the overlapping outage of two transmission lines providing power to a highly populated area which are in relative proximity to each other in a region which has experienced severe wildfires in recent history. While this contingency is *not* a Category D contingency, it is easy to argue that evaluating the impacts of this contingency fully complies with the NERC Transmission Planning Standards, and equally easy to argue that not studying the impacts of such an event would be in clear violation of these standards.

VII. LOCAL CAPCITY RESOURCES PROCURED THROUGH TRACK 4 WILL HELP MEET A HOST OF RELIABILITY NEEDS UNDER ALL CONDITIONS

[44] A complete set of NERC reliability standards, including the transmission planning ("TPL") standards, is available at http://www.nerc.com/pa/Stand/Reliability%20Standards%20Complete%20Set/RSCompleteSet.pdf.
[45] *Id.*

CLECA asserts that the resources that would be procured to maintain reliability as proposed by the CAISO, SCE and SDG&E "will be rarely if ever be used".[46] This assertion is based on the misperception that the only time new generation within a local area will be used will be under super-peak load conditions. Even assuming that the generation procured in Track 4 would be the *least* efficient generation in the relevant local area, it is *certain* that such generation will be used under more than just super-peak conditions. As noted in NRG's opening brief, local generation provides a suite of reliability services beyond serving load in that local area, including voltage support, network flow management and renewable integration.[47] Local gas-fired generation also allows for the transmission network and other generation to be maintained during off-peak conditions while still ensuring the reliability of the bulk power delivery system and, consequently, reliable service to load. The dependably high availability of local gas-fired generation serves to keep the network secure under *all* conditions, with or without wind or sunshine, at times of low load as well as at times of peak load. Looking at system reliability through the snapshot lens of the time of peak demand may tempt one to believe that assembling a portfolio of resources that can maintain reliability at that single moment in time will serve to maintain reliability under all other conditions. That temptation, however, has no basis in the reality of operating and maintaining a reliable bulk power delivery system under *all* conditions, and must be resisted.

VIII. OTHER PARTIES' ASSUMPTIONS ABOUT THE CONTINUED OPERATION OF NRG REOURCES IS WITHOUT FOUNDATION

POCF cites Sierra Club's opening testimony to assert that assumptions about the retirement of generating stations owned by NRG (Cabrillo I (Encina) and the Cabrillo II Peakers)

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[46] Opening Brief on Track 4 of the California Large Energy Consumers Association ("CLECA Opening Brief") at 4.
[47] Opening Brief of NRG Energy, Inc. at 9-11.

are incorrect, implying that these older units will continue operating indefinitely. Inasmuch as POCF does not own these facilities, has no insights into their economics and is not involved with any discussions about their future operation, their position on this matter should be given no regard. Similarly, absent adequate capacity revenues for older NRG facilities serving the LA Basin such as the Etiwanda Generating Station, the Commission should not assume that those facilities will remain available to meet reliability needs in the local area.

IX. CONCLUSION

Based on the foregoing, the Commission should authorize Track 4 procurement amounts as soon as possible.

Respectfully submitted,

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