Joint Comments on the California Independent System Operator's Draft 2013-2014 Transmission Plan (February 3, 2014) by the Clean Coalition, the Natural Resources Defense Council and the Environmental Defense Fund

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I. Introduction

These comments of the Joint Parties focus on Section 2.6.3.1 of the Draft 2013-2014 Transmission Plan, regarding the Local Preferred Resources Assessment (Non-Conventional Alternatives Assessment) for the Los Angeles Basin and San Diego areas. The Joint Parties commend the California Independent System Operator (ISO) for proposing a methodology in its September 2013 Non-Conventional Alternatives Straw Proposal to support the greater use of local preferred resources as alternatives to transmission and conventional generation solutions to meet local reliability needs.[1] We also support the ISO's decision to first apply this new methodology to the LA Basin and San Diego areas to "identify the volume of non-conventional alternatives and the needed performance attributes that could effectively address the local reliability needs," while also considering complementary transmission solutions to "reduce the need for conventional generation to fill the gap."[2]

Replacing the San Onofre Nuclear Generating Station (SONGS) presents an exciting opportunity to demonstrate how California can meet its future energy needs with clean resources, serving as a model for future energy development within the state and throughout the country. The Joint Parties urge the ISO to model scenarios that rely 100% on local preferred resources and transmission solutions, except to the extent that the California Public Utilities Commission (CPUC) Long Term Procurement Plan rulemaking requires minimum levels of gas-fired generation.

The Clean Coalition is a California-based nonprofit organization whose mission is to accelerate the transition to local energy systems that deliver cost-effective renewable

[1] ISO Straw Proposal, "Consideration of alternatives to transmission or conventional generation to address local needs in the transmission planning process", September 4, 2013, pp. 3-4. The Straw Proposal defined these local preferred resources as "specifically energy efficiency, demand response, renewable generating resources and energy storage."
[2] ISO Straw Proposal on Non-Conventional Alternatives, pp. 3-4.

energy, strengthen local economies, foster environmental sustainability, and enhance energy security. The Clean Coalition drives policy innovation to remove barriers to the procurement and interconnection of Wholesale Distributed Generation, integrated with Intelligent Grid solutions, such as demand response, energy storage, and advanced inverters. The Clean Coalition also works with utilities to develop demonstration projects that prove that local renewables can provide at least 25% of the total electric energy consumed within the distribution grid, while maintaining or improving grid reliability. The Clean Coalition is active in numerous proceedings before California agencies and other state agencies throughout the United States.

Natural Resources Defense Council (NRDC) is a non-profit membership organization, with nearly 100,000 California members with an interest in receiving affordable energy services and reducing the environmental impact of California's energy consumption. We have participated in numerous California proceedings over the last three decades with a particular focus on representing our California members' interest in the utility industry's delivery of cost-effective energy efficiency programs, renewable energy resources, and other sustainable energy alternatives. In this proceeding, we focus on representing our California members' interest in receiving affordable energy services and reducing the environmental impact of California's energy consumption.

Environmental Defense Fund (EDF) is a leading non-profit organization representing more than 320,000 members across the country. Since 1967, EDF has linked science, economics, law, and innovative private-sector partnerships to create breakthrough solutions to the most serious environmental problems. EDF has been active in California on environmental issues since the 1970's, and has participated in proceedings on energy-related topics at the California Public Utilities Commission since 1976. EDF has interest and expertise in the role that market-based approaches can play in achieving positive environmental outcomes, an approach that is particularly salient to CAISO's processes.

The Joint Parties offer the following recommendations to refine the Local Preferred Resources Assessment for the LA Basin and San Diego to better reflect the methodology set forth in the Straw Proposal, to model scenarios that rely on the minimum level of gas-fired generation required by the CPUC Long Term Procurement Plan, and to reach an optimal portfolio of resources to meet local reliability needs.

II. Reflect Methodology From Non-Conventional Alternatives Straw Proposal

We recommend refining the next Local Preferred Resources Assessment for the LA Basin and San Diego to better reflect the methodology set forth in the Straw Proposal. We urge the ISO provide stakeholders with the "preliminary catalogue" of local preferred resources, which is the first step in the Straw Proposal. This catalogue of resources should include the essential performance characteristics of each resource, listed in the Straw Proposal as response time, availability, and duration.[3] The Draft 2013-2014 Transmission Plan included scenario data tables, such as the one below, which only addressed one of the three performance characteristics (duration).

Table 1: LA Basin Preferred Resource Scenario Data[4]

	Gas Fired Gen (*0)	Solar PV (*1)	Storage (4 hr) (*2)	Storage (2 hr) (*2)	Storage (1 hr) (*2)	Demand Response (x=4 hr) (*3)	Demand Response (x=2 hr) (*3)
Scenario 1	1400	0	0	0	0	900	0
Scenario 2	1400	0	0	0	0	450	450
Scenario 3	1400	320	580	0	0	0	0
Scenario 4	1400	320	290	290	0	0	0
Scenario 5	1400	320	290	145	145	0	0
Scenario 6	1400	320	290	0	0	290	0
Scenario 7	1400	0	0	0	0	900	0

Stakeholders should have an opportunity to comment on the preliminary catalogue of local preferred resources. This is an essential step for ensuring that the modeled

[3] ISO Straw Proposal on Non-Conventional Alternatives, pp. 8-10.
[4] Draft 2013-2014 Transmission Plan Presentation by ISO on February 12, 2014, slide 43.

scenarios include an optimal mix of resources, that the performance characteristics of such resources are realistically described in light of cost and availability considerations. For example, while the ISO prefers demand response products that can respond in "sufficiently less time than 30 minutes from the CAISO dispatch,"[5] it may be more cost-effective from ratepayer perspective to address local reliability needs with a combination of demand response products with different performance characteristics. Similarly, stakeholders should have opportunities to participate in the annual updating of the catalogue of local preferred resources to include new technologies and products.[6] For example, future catalogues of local preferred resources should include advanced inverters paired with solar and storage facilities for providing reactive power and voltage support.[7]

III. Rely on Local Preferred Resources

The Joint Parties recommend that the ISO model scenarios that rely 100% on local preferred resources and transmission solutions, except to the extent that the California Public Utilities Commission (CPUC) Long Term Procurement Plan rulemaking requires minimum levels of gas-fired generation. We recommend the following specific refinements to the Local Preferred Resource scenarios to reflect the CPUC's recent proposed decision in Track 4 of the Long Term Procurement Plan, provided that such requirements are affirmed in the final decision.[8]

[5] ISO Draft 2014-2015 Transmission Study Plan, February 20, 2014, p. 28.
[6] See the Clean Coalition comments to ISO Straw Proposal on Non-Conventional Alternatives, October 10, 2013.
[7] The CPUC is currently is currently expediting revisions to operational safety technical standards to allow advanced inverters paired with solar and storage facilities to ride-through voltage events and provision reactive power. See the Clean Coalition comments to the Straw Proposal on Non-Conventional Alternatives, Appendix B.
[8] CPUC R.12-03-014 (Track 4), Proposed Decision Authorizing Long-Term Procurement for Local Capacity Requirements Due to Permanent Retirement of the San Onofre Nuclear Generations Stations, February 11, 2014.

First, the ISO should adjust all local preferred resource scenarios to reflect the minimum amount of additional gas-fired generation (1300 MW rather than 1400 MW) required by the CPUC's proposed decision. The proposed decision concluded that no additional gas-fired generation is required in the LA Basin and San Diego area beyond the 1000-1500 MW of gas-fired generation authorized for the Southern California Edison territory and the 300 MW Pio Pico gas-fired plant authorized for San Diego Gas & Electric territory.[9] Developing scenarios with the minimum amount of required gas-fired generation is consistent with the stated intent of the Straw Proposal to identify the volume of local preferred resources that, combined with transmission solutions, will reduce the need for conventional generation to fill the gap.

Table 2: Long Term Procurement Plan Proposed Decision Procurement Authorization[10]

Resource Type	Track 1 LCR Resources (D.13-02-015)	Additional Track 4 Authorization	Total Authorization
Preferred Resources **Minimum Requirement**	150 MW	400 MW	550 MW
Energy Storage **Minimum Requirement**	50 MW		50 MW
Gas-fired Generation (including CHP) **Minimum Requirement**	1000 MW		1000 MW
Optional Additional: Only From Preferred Resources /Energy Storage	Up to 400MW		Up to 400 MW
Additional from Any Resource	200 MW	100 to 300 MW	300 to 500 MW
Total Procurement Authorization	**1400 to 1800 MW**	**500 to 700 MW**	**1900 to 2500 MW**

Second, if the CPUC affirms its initial finding that the Mesa Loop-In solution for reducing local capacity requirements is too uncertain to be counted, the ISO should separately model sufficient additional local preferred resources to replace this

[9] CPUC proposed decision in R.12-03-014 (Track 4), p. 95.
[10] CPUC proposed decision in R.12-03-014 (Track 4), p. 138.

transmission solution.[11] We support the ISO's approach of identifying transmission solutions to avoid investment in additional gas-fired generation. However, we are concerned that if the ISO does not timely show how the potential gap can be met with local preferred resources, such a gap would be met with gas-fired resources by default.

IV. Optimize Portfolio of Local Preferred Resources

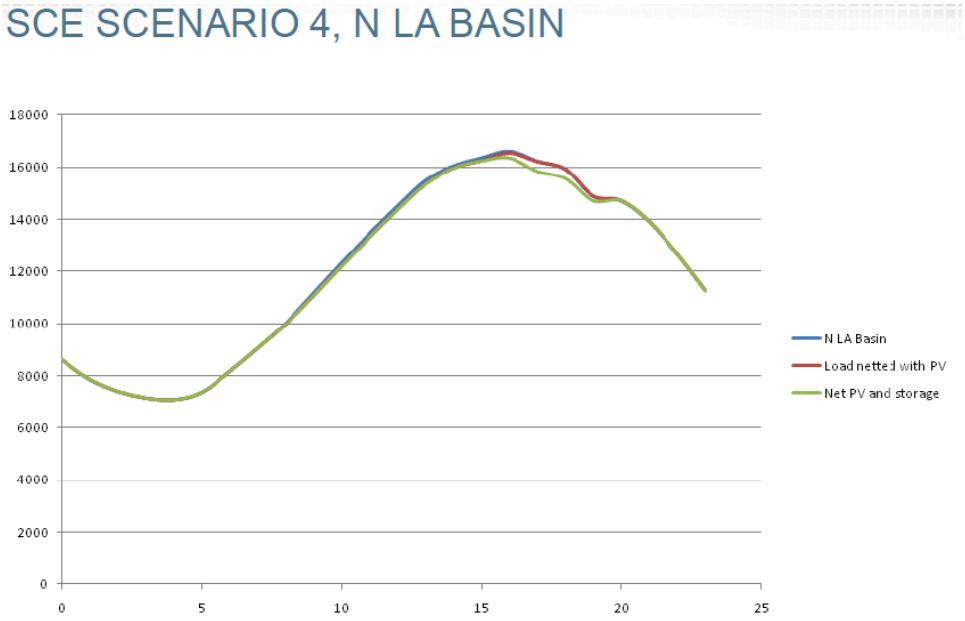
The Joint Parties recommend that the ISO make the following refinements to the local preferred resources scenarios to optimize the portfolio of resources to meet local reliability needs.

We recommend that the ISO develop new scenarios that include demand response, distributed renewable generation, *and* energy storage. As shown in Table 1 above, each of the seven proposed scenarios contain *either* 900 MW of demand response *or* 900 MW of distributed renewable generation and energy storage. However, the CPUC proposed decision requires that the resource mix include at least 50 MW of energy storage.[12] Further, local preferred resources have complementary performance characteristics. For example, the draft transmission plan notes that Scenario 4 "appears to be infeasible due to higher net peak load resulting for the San Diego and LA Basin study area and some conventional resources partly located in less optimal area of the northwest LA Basin."[13] Net peak load concerns can be addressed with "load modifier" demand response products, such as time of use rates, which reshape or reduce load.[14] The

[11] CPUC proposed decision in R.12-03-014 (Track 4), p. 70.
[12] CPUC proposed decision in R.12-03-014 (Track 4), p. 138.
[13] Draft 2013-2014 Transmission Plan p. 100.
[14] The recent CPUC proposed decision on bifurcation of demand response programs recognizes two categories of demand response: "1) load modifiers, which reshape or reduce the load by indirectly reducing the resource adequacy requirement and 2) supply resources, which can be scheduled and dispatched into the California Independent System Operator (CAISO) energy markets when and where needed." CPUC R.13-09-011, Proposed Decision Addressing Foundational Issue of the Bifurcation of Demand Response Programs, dated February 21, 2014.

potential for Smartmeters to enable ratepayers to better manage their electricity use remains largely untapped, as do associated rate and enabling technology innovation.

Table 3: LA Basin Scenario 4 Net Load Curve[15]



We also recommend that the ISO develop response time requirements for demand response that reflect actual needs for first and second contingencies, consistent with response time requirements for other types of resources that meet local capacity requirements. This will increase the volume of demand response available to meet local reliability needs. Demand response products that can response faster than minimum requirements should receive a premium.[16]

In addition, we urge the ISO to work with the California Energy Commission to develop a scenario that accounts for the potential impact on load curves of a future

[15] Draft 2013-2014 Transmission Plan Presentation by ISO on February 12, 2014, slide 50.
[16] For example, PJM Interconnection relies on an Emergency Demand Response program with three different response times (30 minutes, 60 minutes, and 120 minutes) and offers different prices for shorter response times. See PJM Emergency DR (Load Management) Training Presentation, dated January 8, 2014, available at http://www.pjm.com/~/media/training/core-curriculum/ip-dsr/load-management-in-rpm.ashx.

requirement of residential default time of use after 2018, as well as current load reshaped prompted by mandatory time-variant rates imposed in all non-residential classes. New, time-variant tariffs could significantly reshape load, reducing the need for peaking and ramping resources. Similarly, as the electric vehicle population continues to grow, it will provide a means to soak up bountiful clean electricity generated mid-day and provide ramping and peaking resources during the later-afternoon and early evening.

We also recommend that the ISO modify the quantity of local preferred resources in each scenario as needed to meet local reliability needs. The initial seven scenarios rigidly adhere to an artificial requirement that the total capacity of local preferred resources must add up to 900 MW, and this resulted in findings that certain portfolios that relied upon resources with shorter durations could not meet reliability needs. Considering portfolios with a greater total capacity of local preferred resources is important since such portfolios may be less expensive for ratepayers than portfolios with a lower total capacity that only includes the most expensive types of resources. As shown in Table 2 above, this is permitted by the proposed Long Term Procurement Plan decision.

The Joint Parties look forward to continued collaboration with the CAISO, and we appreciate the opportunity to offer comments on the Draft 2013-2014 Transmission Plan.

Respectfully submitted,

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