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Cogentrix Comments on Draft 2016 IEPR Update, Docket # 16-IEPR-1

Additional submitted attachment is included below.

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From: Cogentrix Energy Power Management, LLC

Date: November 7, 2016

Subject: Comments of Cogentrix Energy Power Management, LLC on the Draft 2016 Integrated Energy Policy Report Update

Docket Number: 16-IEPR-01

Cogentrix Energy Power Management, LLC ("Cogentrix") hereby submits these comments on the Draft 2016 Integrated Energy Policy Report Update (2016 IEPR). Our comments are on Chapter 1: Environmental Performance of the Electricity Generation System and Chapter 2: Energy Reliability in Southern California. We offer both general comments on the need and importance of maintaining fast start, flexible peaking generation and specific comments on the recommendations from those chapters. On August 29, 2016 an IEPR workshop was held that examined the Southern California Electricity Reliability Infrastructure. Cogentrix participated by presenting oral comments and written comments regarding the workshop panel presentations, specific comments on the Staff Report titled, "Mitigation Options for Contingencies Threatening Southern California Electric Reliability", providing market commentary and concluded with proposed solutions.

Cogentrix continues to recommend that a 3rd option be added to the California Energy Commission (CEC) Staff Report titled, "Mitigation Options for Contingencies Threatening Southern California Electric Reliability". This option is called *Contracting Existing Merchant Flexible Generation* and was described in both our oral and written comments on the August 29th workshop. For reliability integrity over the next few years Cogentrix urgently suggests that the CEC recommend in this 2016 Integrated Energy Policy Report Update that the other two mitigation options should only be considered after all merchant flexible generation in the relevant area or subarea has first been placed under contracts for a minimum of five years. This generation is best suited as an insurance policy against delays in the Carlsbad project online date due to litigation, delays in major transmission upgrades in Southern California, delays in the California Independent System Operator (CAISO) regionalization efforts, timing of the implementation of Integrated Resource Planning (IRP) proceeding at the California Public Utilities Commission (CPUC), and the time

needed for the energy storage market to scale up to become a viable tool for the CAISO to help maintain local reliability.

I General Comments

Since the August 29th workshop several events, public filings, statements and reports have been published that highlight the need and support for quick action on contracting merchant flexible generation for reliability purposes.

First, a report issued in mid-October by ScottMadden[1] titled, "Revisiting the Duck Curve" concluded that the issues associated with the duck curve are coming faster than expected. The report showed net loads lower than forecast, increasing ramps throughout the year, and that the duck curve was most severe on low load scenarios including the weekends. Most importantly, the report indicated that the duck curve is showing up in multiple seasons and is driven by utility-scale solar in California, not distributed resources. This is important because the most viable solution available today to manage and mitigate the duck curve is fast start, flexible gas-fired peaking plants like the Cogentrix California fleet of aero-derivative peakers.

Second, the CAISO filed comments[2] in the CPUC Resource Adequacy (RA) Phase 3 Proceeding (R14-10-010) supporting multiple year contracts for flexible generation and stated the following;

> "The CAISO strongly supports the Commission taking action to address multi-year resource adequacy needs. In the Joint Reliability Plan proceeding, the CAISO supported deferring multi-year RA until a durable flexible capacity product had been defined. However, over the past year, a number of market participants have expressed concerns about revenue insufficiency in the CAISO markets and the need for costly major maintenance on their facilities in an environment that lacks a longer-term contractual commitment structure. Further, the CAISO has received numerous inquiries from existing resources that are flexible, local, or both about potential risk of retirement capacity procurement mechanism designations. The interest in this issue points to the need to timely vet and institute a multi-year RA paradigm, particularly for local capacity. A well designed multi-year RA program will allow resource owners to make reasonable and informed investment, retirement, major maintenance, or plant upgrade decisions. Stable revenue streams that extend three to five years into the future are critical to ensure that the resources that retire today are not the resources needed to maintain reliability tomorrow. The Commission should develop a process to ensure that any resource retirement occurs in an orderly and economic fashion and does not impair the long-term reliability of the system or jeopardize the state's environmental policies."

Third, on October 27th the CPUC approved a bilateral 2017 RA contract between SDG&E and NRG/Encina for 845 MWs. Importantly 280 of the 845 MWs will MWs will be coming from 1950's vintage steamer units which have been designated as Flexible RA, thus shutting out two Cogentrix Peakers located in San Diego from any contracting opportunities with SDG&E. As such Cogentrix has put the CAISO on notice that without a contract for these units will not have a must offer

[1] Revisiting the Duck Curve, ScottMadden Management Consultants, October 2016
[2] CPUC Comments of the California Independent System Operator Corporation, September 23, 2016

obligation and this could jeopardize our availability in 2017 even though these units have been called to run by the CAISO over 300 times so far this year. The bilateral RA contract was approved because according to SDG&E there was not enough time to hold an RFO for this amount of capacity due to the OTC nature of the plant which is scheduled to close at the end of 2017. Commissioner Mike Florio stated "It is unfortunate when we're in a position of having a contract with an old, soon-to-be-retired plant, when there are newer, more flexible plants sitting there." To make matters worse for two Cogentrix Peakers located in San Diego units the 2016 IEPR recommends that the Encina plant retirement be extended beyond its required 2017 shutdown date. This would be a major step backwards in California energy policy if the state lets two newer, more flexible, more efficient plants with lower carbon footprints to potentially close in lieu of letting a 1950's vintage power plant retire in accordance with its OTC mandated shutdown date.

Finally, while the issue of how to maintain merchant flexible capacity in the San Diego area is front and center, it will likely also be a Northern California issue in the near future. Dynegy recently filed a 90-day notice to the CAISO stating that it intends to retire Units 6 & 7 at Moss Landing which is approximately 1,500 MWs of capacity. Dynegy stated that the retirement announcement was due to the units' failure to secure RA contracts leaving them unable to recover basic operating costs. Dynegy's announcement comes on the heels of Calpine's' decision to mothball its Sutter facility and Rockland Capital's denial of a request for an economic outage at its La Paloma facility which could lead to that plant shutting down. All while the morning and evening ramps (Duck Curve) are becoming steeper and arriving sooner than anticipated.

II Specific Comments

Chapter 1: Environmental Performance of the Electricity Generation System

Cogentrix is pleased that the CEC recognizes that flexible resources are need for an interim period. The quotes from the 2016 IEPR, Chapter 1 are as follows;

> "There is a growing need for flexible resources to compensate for hourly changes in variable renewable generation and energy demand, as well as outages for power plant maintenance and seasonal variations in hydropower generation. Currently, natural gas-fired power plants offer the most flexibility for quickly, reliably, and cost-effectively ramping up or down to balance supply or demand. As California moves toward reducing GHG levels to 40 percent below 1990 levels by 2030, it is important that nonfossil resources are developed to integrate renewables."[3]

> "There are also potential regional solutions for integrating renewable resources, including taking advantage of the diversity of renewable resources and related varying generation profiles across the broader western region."[4]

[3] CEC Draft 2016 Integrated Energy Policy Report Update, Pg 24
[4] CEC Draft 2016 Integrated Energy Policy Report Update, Pg 24

Cogentrix recognizes that the CEC agrees with our recommendation that flexible generation needs to be contracted for a transition period until nonfossil resources like energy storage markets achieves scale and the CAISO regionalization efforts are completed. As such. Cogentrix urges the CEC to take strong action and adopt the proposals and edits offered in this filing.

Chapter 2: Energy Reliability in Southern California

Cogentrix comments are on the section titled, "Update on Southern California Electricity Reliability".

The 2016 IEPR is using the CEC developed Local Capacity Annual Assessment Tool (LCAAT) as the basis for the Staff Report on Mitigation Options for Contingencies Threatening Southern California Reliability. The two options analyzed were 1) to defer the OTC shutdown date and 2) to have a pool of already permitted plants that could be built in faster timeline than normal. The 2016 LCCAT shows that the San Diego Subarea, even with the addition of the Carlsbad plant, is short capacity throughout the study period up until 2025. As a result of this shortfall, and uncertainties with ongoing litigation on the Carlsbad project and several delays in transmission upgrade projects, a shutdown deferral request for certain once through cooling units slated for retirement due to their use of unfavorable environmental characteristics is recommended. The 2016 IEPR also states that it is possible a shutdown deferral request would also be needed for the Redondo Beach Plant or the Alamitos Plant.

The LCAAT is designed to show the generation resource surplus or deficit for different Local Capacity Areas. This is the tool being used to support any mitigation measures for the different areas. As we stated in our previous comments the LCAAT is incorrectly premised on the assumption that all existing merchant fossil generation will remain on line. The 2016 LCAAT shows that the San Diego Subarea, where Cogentrix's two uncontracted merchant 49.5 MW plants (Border & Enterprise) are located, is short capacity in almost every year of the ten year study even with the inclusion of the 500 MW Carlsbad plant.

Below is the baseline results of the 2016 LCAAT for the San Diego Subarea. We have added to the bottom of the results what it would look like if Cogentrix's Border and Enterprise projects were shut down due to lack of a contract. This should be very alarming for SDG&E, the local governments and the people and businesses located there.

Table B-5: Baseline Results for San Diego Subarea

	Variables (Summer Peak MW)	Source	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
San Diego Sub-Area													
	Base Load Forecast	2014 IEPR Up	5324	5372	5453	5529	5602	5654	5698	5742	5778	5814	5850
less	Load Forecast Adjustment (positive is a decrease)		0	0	0	0	0	0	0	0	0	0	0
less	AAEE	2014 IEPR Up	39	78	118	146	181	213	245	280	319	358	401
less	Preferred EE	ISO 14/15 TPP	0	0	0	3	7	10	13	17	20	18	16
less	Preferred BTM Energy Storage	ISO 14/15 TPP	0	0	0	0	26	26	26	26	26	26	26
less	Preferred BTM DG	ISO 14/15 TPP	0	0	0	0	0	0	0	0	0	0	0
=	Managed Load Forecast		5285	5294	5335	5380	5389	5405	5414	5420	5413	5413	5407
	Gross Local Capacity Requirements		3382	3430	4011	4227	3963	3937	4129	4187	4248	4309	4375
less	T-system Upgrade Impacts		(240)	(240)	(840)	(1086)	(846)	(846)	(846)	(846)	(846)	(846)	(846)
less	LCR Change from Demand Adjustments	input value	(39)	(78)	(118)	(149)	(213)	(249)	(284)	(322)	(365)	(401)	(443)
=	Adjusted LCR Base		3103	3112	3054	2992	2904	2842	2999	3018	3037	3062	3086
less	OTC Non Nuclear	ScenTool	965	965	859	0	0	0	0	0	0	0	0
less	OTC Nuclear	ScenTool	0	0	0	0	0	0	0	0	0	0	0
less	Hydro	ScenTool	44	44	44	44	44	44	44	44	44	44	44
less	Solar	ScenTool	37	37	37	37	37	37	37	37	37	37	37
less	Wind	ScenTool	5	5	5	5	5	5	5	5	5	5	5
less	Geothermal	ScenTool	0	0	0	0	0	0	0	0	0	0	0
less	Biomass	ScenTool	21	21	21	21	21	21	21	21	21	21	18
less	Cogeneration	ScenTool	135	135	135	135	135	154	154	154	154	154	154
less	Pump	ScenTool	0	0	0	0	0	0	0	0	0	0	0
less	Non OTC Peaker	ScenTool	513	626	513	513	513	513	513	513	513	513	513
less	Non OTC Thermal	ScenTool	1218	1218	1218	1218	1218	1218	1218	1218	1218	1218	1218
less	Various and Unknown	ScenTool	1	1	1	1	1	1	1	1	1	1	1
less	Incr. Peaker Additions	Picker AD	0	0	308	808	808	808	808	808	808	808	808
less	Incr. Thermal Additions	D14-03-004	0	0	0	0	0	0	0	0	0	0	0
less	Incr. RPS Calc - Renew	14/15 Port	0	0	0	0	0	0	0	0	0	0	0
less	Incr. RPS Calc - DG	14/15 Port	0	25	36	37	41	45	52	53	64	64	64
less	Storage Additions	D14-03-004	0	0	0	0	0	0	0	0	0	0	0
less	DR Program Capability/Preferred DR Capab	multiple	19	19	19	20	20	21	21	21	21	21	21
=	Total Resources Base		2956	3094	3195	2838	2842	2866	2874	2875	2886	2886	2883
=	Resource Need (Surplus/Deficit) Base		(147)	(18)	141	(154)	(62)	24	(126)	(144)	(152)	(176)	(203)
	Border & Enterprise		-	-	(99)	(99)	(99)	(99)	(99)	(99)	(99)	(99)	(99)
	Adj. Resource Need (Surplus/Deficit) Base		(147)	(18)	42	(253)	(161)	(75)	(225)	(243)	(251)	(275)	(302)

The Staff Report: Mitigation Options for Contingencies Threatening Southern California Electric Reliability was presented at the August 29th workshop and it proposed two contingency mitigation options: 1) OTC facility deferral and 2) new conventional generation

- OTC facility deferral beyond 90 days requires review by the State Water Resources Control Board (SWRCB), which can take from 12-18 months given the review and approval timeline and if approved keeps 40-50 year old coastal power plants running which will result in further damage to the sea life and the ecology of the ocean.
- New conventional generation would take upwards of 4-5 years to complete and bring online and would increase cost for SCE and SDG&E ratepayers. Developing new conventional generation does not fit within the timing needs of the grid.

The Staff report does not include any discussion of existing merchant flexible generation's role in providing reliability. The CalPeak Southern California peakers currently serve as a necessary insurance policy to support the reliability needs of the grid. Contracting with existing peakers offers a "path of least resistance" to counter further delays at Carlsbad and address other

reliability concerns: it is superior to both of the other options in terms of environmental impact, certainty of execution, and cost.

As Cogentrix stated in our previous comments a third mitigation option should be Contracting Existing Merchant Flexible Generation. Uncontracted flexible generation needs to be prioritized over any other options. This means that the other two mitigation options should only be considered if all merchant flexible generation in the relevant area or subarea has first been placed under contract for a minimum of five years. The advantages of this third option are a better solution than extending the life of coastal power plants or bringing new fossil plants online because:

- Existing generation already has both electric and gas interconnections, making it immediately available, in contrast to the 4-5 years required to deliver new build;
- Peakers offer greater flexibility;
- Peakers offer shorter start times;
- Peakers offer shorter minimum run times
- Peakers can start multiple times per day
- Peakers have a much smaller environmental footprint
- Peakers can be contracted for at a fraction of new build cost; and
- Peakers are the true least cost, best fit generation connected to the grid today

It is important to note that the Staff report recognizes the need for PPAs to keep both options viable and that they would not be able to obtain their required revenues from the CAISO energy market alone. This is consistent with our view regarding the need for a contracts for Cogentrix's existing merchant plants. In order for local flexible uncontracted generation to remain available to California, utilities or CAISO need to enter into PPA, similar to the other two options.

<u>Comments on the 2016 IEPR Recommendations</u>

Cogentrix offers comments on the first two recommendations from Chapter 2, San Onofre Shutdown and Once-Through Cooling Compliance, page 136

The first recommendation is:

• ***Assuring Local Reliability in San Diego.*** *Inter-agency staff (staff from the Energy Commission, CPUC, California ISO, and ARB) should prepare a draft report for consideration by Statewide Advisory Committee on Cooling Water Intake Structures (SACCWIS) that recommends deferral of Encina's once-through cooling compliance dates until Carlsbad comes on-line. The interagency staff should identify specific units at Encina for which to request deferral based on studies by the California ISO, with the study results and inputs agreed upon by the joint agency team.*

Cogentrix comment – We concur that there should be identification of which units should be deferred. The fact of the matter is that the SACCWIS is made up of 6 state agencies and the CAISO and it will take from 6 to 9 months or longer for them all to agree to a draft application to the SWRCB for approval to defer. That deferral process will take anywhere from 12 to 18 months to complete and there will likely be strong opposition to this mitigation measure which could cause

further delay and there would be a possibility of litigation in an attempt to stop the deferral. This is one reason Cogentrix believes that the 2016 IEPR should be proposing that existing merchant flexible generation should be contracted for a 5 year period as a reliability insurance policy for inevitable process delays in obtaining approval to defer the OTC closing of Encina.

The second recommendation is:

• ***Assuring resources needed for local reliability remain available.*** *The CPUC should consider revising its resource adequacy program to require that resources required for local reliability are contracted sufficiently forward to assure their availability until new options can be assessed, permitted, and developed.*

Cogentrix comment – While we appreciate this recommendation it is not as strong or specific as it needs to be on this topic. This recommendation should be specifically requiring flexible, fast starting peaking plants to assure reliability. This topic appeared in the 2015 Integrated Energy Policy Report (2015 IEPR) as follows -

> ”Recommendation 16: Develop a Forward Procurement Mechanism
>
> The Energy Commission recommended a forward procurement mechanism for 3–5 years ahead to provide revenue streams for the flexible capacity resources needed to integrate renewable resources and allowing all integration resources – such as demand response, energy storage, and flexible natural gas-fired power plants – to compete on a level playing field.
>
> There has been little progress on this recommendation. The CPUC established the 2014 Long-Term Procurement Plan proceeding in late 2013, which was focused principally on flexibility issues at the 10-year forward horizon. Efforts of parties to develop satisfactory forward projections of flexibility requirements were unsuccessful, and the CPUC terminated this portion of the proceeding in March 2015. Instead, the CPUC has initiated a model development effort for the balance of 2015 to improve the models for use in the upcoming 2016 Long-Term Procurement Plan proceeding.
>
> In early 2014, the CPUC established the Joint Reliability Plan rulemaking, which investigated whether to extend resource adequacy requirements from the one year forward horizon to a three-year forward horizon. In October 2014, CPUC staff issued a report summarizing several workshops, but parties were opposed to mandating the current interim method of setting forward flexibility requirements, and the CPUC suspended this portion of the Joint Reliability Plan rulemaking in January 2015. As of July 2015, the portion of the proceeding addressing forward planning requirements (system, local, and flexible) is awaiting CPUC Energy Division staff analyses intended to shed light on the risk of retirement for existing generators.”[5]

[5] 2015 Integrated Energy Policy Report, Appendix A, Renewable Energy Action Plan Progress, Pg A-12

As noted from that passage even last year there was little progress on the recommendation of a 3-5 year forward procurement mechanism and another year has elapsed with no mechanism for those types of contracts needed to keep existing generation online. Now is the time for action and below are our proposed edits to the recommendation -

• ***Assuring resources needed for local reliability remain available.*** *The CPUC should consider, on an urgent basis, revising its resource adequacy program to require that ~~resources~~ flexible generation required for local reliability ~~are contracted~~is contracted sufficiently forward, 5-7 years, to assure their availability until new options can be assessed, permitted, and developed. This recommendation should be applied prior to any other mitigation measures.*

III Conclusion

Cogentrix believes that the existing fleet of peaking resources is an essential bridge to the future low carbon grid, including battery storage, which is the ultimate goal of California. As more intermittent generation is added to the grid the CAISO needs tools to deal with the effects of the duck curve. Until the storage market is large enough to be an actual CAISO tool then peaking plants are critical to reliability. There may even be a permanent role for peakers in the future market. The only market besides the CAISO energy markets that is currently available to the peaking plants is the Resource Adequacy (RA) market. Cogentrix continues to be concerned about this market. The current RA market is a short term market of one year or less with many utilities actually selling their excess RA to other market participants. RA prices continue to decline due to RA credit given to renewables.

Peaking Plants rely on capacity payments given their limited run time. California cannot have a weak RA market when dispatchable resources are needed on the system. The CAISO also has a weak energy market. The results of these poor market economics helps explain recent withdrawals (or attempts to withdraw) from market by Calpine (Sutter) and Rockland Capital (La Paloma, and Dynegy (Moss Landing Units 6 & 7).

There are a number of different solutions that could help resolve the market weakness and properly compensate flexible resources for the value they provide to the grid while ensuring their continued availability and benefits to the grid. Any one of these solutions will incentivize the peaking plants to remain online to provide their critical service needed for grid reliability.

- 5 to 7-year Standard Offer “Green Shaping” Contracts to transition to greater energy storage buildout and CA renewable goals which are awarded based on certain plant characteristics.
- 5-year flexible Capacity Procurement Mechanism Contracts from the CAISO.
- 3-5 year Resource Adequacy Contracts
- Stronger Resource Adequacy requirements for all LSEs that prioritize the procurement of fast-start flexible resources and recognize the shift in peak net demand to hours after the sun has set

A solution is urgent: as more units continue to roll off long-term contracts, additional downward pressure will be applied to the merchant RA and energy markets exacerbating the ability of generators to remain viable. Revenue certainty beyond one year at a time is critical to existing generation to continue to be the insurance policy for reliability. Loss of existing flexible generation will result in increased cost to ratepayers to support new generation or increased environmental harm caused by keeping OTC plants open beyond their scheduled shutdown. Peakers are particularly at-risk given their reliance on RA contracts for cash flow visibility. Weakening economics in the RA and energy markets will force peakers to forego required maintenance or shutdown.

Cogentrix urges the CEC to take strong action and adopt the Cogentrix proposed edits to the 2nd recommendation regarding support for sufficient forward contracts (5-7 years) for flexible, fast start peaker plants. We also strongly recommend adding a 3rd option to the mitigation measures which is - Contracting Existing Merchant Flexible Generation.

Respectfully Submitted,

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