

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

Order Instituting Rulemaking to Oversee the
Resource Adequacy Program, Consider
Program Refinements and Establish Annual
Local Procurement Obligations.

R.11-10-023
(Filed October 20, 2011)

REPLY COMMENTS OF NRG ENERGY, INC.

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For
NRG ENERGY, INC.

April 15, 2013

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OF THE STATE OF CALIFORNIA**

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In accordance with the March 11, 2013 *Administrative Law Judge's Ruling Resetting Schedule for Comments on Phase 2 Resource Adequacy Issues and Scheduling a Prehearing Conference* ("March 11 ALJ Ruling"), NRG Energy, Inc.¹ ("NRG") hereby submits these reply comments regarding comments submitted on April 5, 2013 on (1) the October 29, 2012 *Resource Adequacy and Flexible Capacity Procurement Joint Parties' Proposal*; (2) the January 14, 2013 *R.11-10-023 Energy Division Resource Adequacy Proposals*; and (3) the *Energy Division Flexible Capacity Procurement Revised Proposal* (appended to the March 11 ALJ Ruling), as discussed in the January 23, 2013 and March 20, 2013 workshops.

I. REPLY COMMENTS

A. Flexibility requirements could be incorporated for 2014 Under Specific Conditions.

From the range of comments received, it is clear that there is no consensus as to whether flexibility requirements should be implemented for 2014. The CAISO and Investor-Owned

¹ NRG Energy, Inc. is the parent of NRG Power Marketing LLC, GenOn Energy Management, LLC, Cabrillo Power I LLC, Cabrillo Power II LLC, El Segundo Power LLC, GenOn Delta, LLC, GenOn Marsh Landing, LLC, GenOn West, LP, High Plains Ranch II, LLC, Long Beach Generation LLC, NRG Solar Alpine LLC, NRG Solar Borrego I LLC, NRG Solar Blythe LLC, NRG Solar Roadrunner LLC and Avenal Solar Holdings LLC, each of which owns and operates generating resources in California. Because the focus of this proceeding is on California market issues, NRG Energy, Inc. appears on behalf of these entities.

Utilities support implementing flexibility requirements for 2014. Others, including CEERT, CLECA, EnerNOC, and LSA, find no need to implement flexibility requirements for 2014.

As will be further developed below, many issues necessary to implement a fully enforceable set of flexibility requirements remain unresolved. Whatever flexibility requirements can be implemented for 2014 will invariably be interim in nature and in need of further refinement from the start. Nevertheless, NRG supports implementing interim flexibility requirements for 2014 under the following conditions:

- Without any enforcement action (i.e., load-serving entities (LSEs) are not penalized for failing to procure their allocated share of flexible capacity); and
- With no explicit or separate must-offer obligation attached to flexible capacity.

NRG supports doing so for the following reasons. *First*, doing so will allow all parties to gain experience with flexibility requirements prior to the significant change in net load shape projected for 2015. *Second*, having interim requirements in place at the same time the parties are working to resolve the unresolved issues may surface concerns not yet identified, which should allow those issues to be resolved prior to when flexibility requirements affect forward procurement. *Finally*, it will provide a better platform – one of experience, not conjecture on which to hone the requirements and resolve the unresolved issues prior to those requirements being enforced.

B. More Work Remains to be Done With Regards to how Resources Count Toward Meeting Flexibility Targets.

While NRG supports implementing flexibility requirements on an unenforced basis and without a separate must-offer obligation for 2014, NRG respectfully urges the Commission to

begin work to address certain issues prior to flexibility requirements being enforced. Those issues include:

- A consistent and non-discriminatory set of rules for how use-limited resources (including demand response and energy storage resources) count toward meeting flexibility requirements, including rules to address the consequences of reaching their use limits;
- A consistent and non-discriminatory must-offer obligation for use-limited resources;
- Whether the flexibility and capacity attributes must be bundled; and
- How the flexibility attribute is conveyed in resource agreements;

This work should be completed by summer 2014 to implement for RA compliance year 2015. It is also necessary to develop and implement a repeatable, transparent, and structured process for determining forward flexibility requirements. Developing and implementing such a process may take more than a year, but work to do so should be undertaken sooner rather than later.

C. Reply Comments on Specific Issues.

NRG offers the following reply comments on specific issues related to flexibility procurement.

i. Calpine's call for discounting steam resources.

The CAISO should reject Calpine's suggestion to create a discount factor for the flexible capacity from steam turbine units.² Calpine asserts that steam turbine units reduce reliability because they contribute to over-generation conditions. Further, Calpine asserts that the

² See *Comments of Calpine Corporation* ("Calpine") at 6-7.

minimum load levels exacerbate uplift costs borne by load and artificially reduce prices. Calpine suggests further workshops are needed to develop a discounting factor for the flexibility for steam turbine units, which Calpine suggests could be based on the multiplier that is used to discount demand reduction programs that are called in the day-ahead instead of in real-time.

Assuming that flexibility is measured as a resource's ability to increase its output over a given period of time – the most straightforward way to measure flexibility there is no reason to discount the flexibility provided by steam turbine resources as Calpine proposes.

All generating units – including the combustion turbines and heat recovery steam generators that make up Calpine's combined cycle gas turbine (CCGT) units have minimum operating times and minimum operating levels. These operating characteristics must be accounted for when the CAISO optimizes the cost of the generation required to reliably serve load, but these factors, in and of themselves, neither require nor imply the need to discount the flexibility that generating provide. The "differentiated capacity" approach proposed by the Joint Parties and Energy Division – which NRG supports already "discounts" the flexibility of steam turbine resources by counting only the dispatchable capacity above those resources' minimum load levels if the resource has longer than a 90 minute start-up time.³ Under the differentiated capacity approach, a steam turbine unit's effective flexible capacity (EFC) is determined by a straightforward consideration of the resource's operating characteristics. Consequently, contrary to Calpine's suggestion, there is no need to create and apply a subjective discount factor to the flexibility of steam turbine units.

NRG agrees with Calpine that minimum load levels create additional costs and require bid cost recovery payments. Such uplifts, which are also created by unit minimum run times that

³ As noted in its initial comments, NRG supports additional discussion regarding using a 90 minute start-up time to distinguish between when a resource's EFC can include its minimum operating level, but nevertheless supports the differentiated capacity approach.

apply to all types of units, not just steam turbine units, mask the true cost of reliability commitment and dispatch. NRG strongly supports reforms, such as extended locational marginal pricing (ELMP), that would reduce or eliminate these uplifts and factor the unavoidable costs of complying with operational characteristics into energy prices.⁴

ii. Treatment of use-limited resources, including hydro.

One operating characteristic that warrants discounting the flexibility provided by a resource is a resource's ability to continuously produce energy. The energy produced by a resource that can increase output but cannot sustain that increased output continuously across the duration of the ramping period must be replaced by other energy. The amount of flexibility that can be provided from energy-limited and use-limited resources is substantial, and these resources should be allowed to count towards meeting flexibility needs. However, just as the maximum cumulative capability "buckets" were used to prevent LSEs from over-relying on energy-limited and use-limited resources to meet RA capacity obligations, the Commission and parties in this proceeding will need to come up with a similar system that will allow energy- and use-limited resources to count towards meeting flexibility requirements in a manner consistent with their limitations.

NRG does not oppose using the PG&E approach to allowing hydro resources to count during the interim implementation of flexibility requirements. Nevertheless, the permanent application of flexibility requirements, presumably for RA compliance year 2015 and beyond, warrants a more comprehensive examination of meeting flexibility requirements with use-limited resource – one that should lead to non-discriminatory and consistent treatment of all use-limited

⁴ As does Calpine. *See, e.g., October 31, 2012 Comments of Calpine Corporation on 2012 Stakeholder Initiatives Catalog at 5-6* (supporting a CAISO initiative to incorporate non-modeled and modeled capacity constraints and the effects of exceptional dispatch into LMPs.) Calpine's comments are available at <http://www.caiso.com/Documents/Calpine-RankingComments-2012StakeholderInitiativesCatalogProcess.pdf>

resources. While CLECA notes “If hydro can receive special treatment, there is no other reason why these resources [storage and DR] cannot,”⁵ a better approach to treating each different kind of resource meeting flexibility needs differently is to create consistent and non-discriminatory rules that apply to all kinds of resources without regard to technology. Neither hydro nor any other technology should be afforded special flexibility treatment; instead, the Commission and interested parties must work to come up with technology neutral-rules for use-limited resources to meet flexibility needs that will be applied in a uniform way.

NRG supports Calpine’s call to develop a must-offer obligation that applies as uniformly as possible to all use-limited resources.⁶ NRG also respectfully urges the Commission to direct and begin the companion work that will be necessary, namely, work to establish, prior to the 2015 RA compliance year, clear, explicit rules that determine how energy- and use-limited resources count toward meeting flexibility requirements.

iii. Consequences of using up use-limited resources.

While PG&E supports allowing non-hydro use-limited resources to count towards meeting flexibility requirements, PG&E also asserts that such resources should no longer count towards meeting flexibility obligations when they have reached their use limits.⁷

NRG also supports allowing use-limited resources – both hydro and non-hydro – to count towards meeting flexibility requirements. However, the integration of use-limited resources into daily CAISO operations is a complex topic, and NRG does not support the simple notion that a resource that can no longer economically offer to the CAISO should no longer count towards meeting flexibility requirements. While structuring the nature of the offering obligation that

⁵ *Comments of the California Large Energy Consumers Association in Response to the Administrative Law Judge’s Ruling of March 13, 2013 (“CLECA”)* at 8.

⁶ Calpine at 7.

⁷ *Comments of Pacific Gas & Electric Company (U 39 E) on Workshops and Proposals (“PG&E”)* at viii, 5. 23.

attaches to use-limited resources is important, a use-limited resource that complies with the offering obligation may have little opportunity to ration how the CAISO uses that resource across the course of a month or a year. While allowing use-limited resources to count towards meeting flexibility needs may benefit both the buyers and sellers of such resources, a system that affords little to no control over how a resource will be used, but mandates that a resource that has unpredictably reached its use-limits can no longer count towards meeting flexibility requirements (saddling the seller with potential non-availability penalties and the buyer with possible replacement obligations) benefits neither the buyer nor the seller. This topic warrants additional consideration, and NRG looks forward to the process in which that consideration will be given.

iv. Treatment of preferred resources (demand response and storage).

A number of parties (CESA, Clean Coalition, DECA, among others) assert that the Joint Parties' and Energy Division proposals fail to define how preferred resources (especially demand response (DR) and energy storage) can provide flexibility, and advocate determining how such resources can provide flexibility before implementing flexibility requirements. These resources should be allowed to provide flexibility on the same basis as all other resources – based on their ability to (1) dependably change output levels, and (2) sustain that change in output level for some period of time.

A next important step in developing a permanent flexibility requirement will be to establish the rules determining how much flexibility a given resource provides. These rules should be technology-neutral, and should apply to both load and generation resources. These flexibility rules should focus on the resource's salient operational characteristics; other characteristics, such as the resource's carbon impacts, while important in a larger context, are already covered by rules established in other contexts. Once the need for flexibility has been established, the

uniform application of these rules will then determine how much a particular resource can count towards meeting flexibility requirements.

NRG supports allowing all resources, demand and supply, regardless of technology, to compete to provide flexibility on the basis of a uniform definition of flexibility and uniform application of proper counting rules.

v. Flexibility not explicitly procured should not count towards meeting flexibility requirements.

Some parties continue to imply that capability that meets the flexibility need not be explicitly acquired. TURN observes that “it is not too optimistic to expect dispatchable EFC that does not have an RA contract to be available to provide flexibility to the system as needed.”⁸ DRA offers that “Energy and ramping services can, and likely will, be provided by resources that do not have a forward flexible capacity contract.”⁹

NRG would support these comments if it believed that these organizations supported the kind of robust, unmitigated spot markets that would be necessary to eliminate the need for forward procurement of flexibility services, and to allow such services to be procured solely through the CAISO’s spot markets. However, NRG does not believe that TURN and DRA support procuring flexibility through such spot markets; rather, TURN and DRA appear to be expressing a desire for getting something of value (flexibility) for nothing in return (no forward commitment or payment).

As noted in its initial comments, NRG is highly skeptical of the requirement in both the Joint Parties’ Proposal and Energy Division’s proposal that flexibility must be “bundled” with generic RA capacity. Such a requirement seems more tied to limitations of current tracking and

⁸ *Post Workshop Comments of The Utility Reform Network (“TURN”)* at 6.

⁹ *Comments of the Department of Ratepayer Advocates on Flexible Capacity Procurement Workshop Issues (“DRA”)* at 11.

accounting systems than an organic, fundamental nexus between those two attributes. However, accepting the apparent system limitations for tracking, NRG recognizes that bundling may be necessary to achieve interim implementation, but strongly opposes continuous bundling. Ultimately, NRG fears bundling dilutes the value of one operational attribute by unnecessarily linking it to another. NRG also sees bundling as recreating what it believes remains a flaw in the RA program, namely, the notion that the entire value of an indivisible physical asset can be acquired by contracting with only a portion of the unit. NRG will strongly object to any design for incorporating flexibility into RA procurement that would allow parties to count towards meeting their flexibility obligations flexibility that has not been expressly acquired and compensated.

II. CONCLUSION

NRG thanks the Commission for this opportunity to submit these reply comments and respectfully asks the Commission take action consistent with the discussion herein.

Respectfully submitted,

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