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

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# REPLY COMMENTS OF THE COALITION OF CALIFORNIA UTILITY EMPLOYEES RESPONDING TO SCOPING RULING OF MAY 3, 2016

July 19, 2016

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# REPLY COMMENTS OF THE COALITION OF CALIFORNIA UTILITY EMPLOYEES RESPONDING TO SCOPING RULING OF MAY 3, 2016

The Coalition of California Utility Employees (CUE) respectfully submits these Reply Comments Responding to Scoping Questions Pursuant to the Scoping Memo and Ruling of Assigned Commissioner and Assigned Administrative Law Judge issued May 3, 2016, and the May 25, 2016 Email Ruling Notifying Parties of a Revised Comment Schedule and Workshop

## 1. Which Data Should be Used to Determine Appropriate TOU Periods

The primary reason for revising TOU periods is the explosion in installed solar generation in the last few years. Behind-the-meter (BTM) solar, principally on rooftops, has had the effect of flattening the load curve and shifting the peak load in the summer later in the day. In front of the meter (IFOM) solar, along with wind generation, has had the effect of decreasing the amount of load which needs to be met with dispatchable resources, increasing the late afternoon ramp rate for those dispatchable resources, and greatly increasing potential overgeneration during spring afternoon hours. Major expansion of both BTM and IFOM solar generation is expected to continue, exacerbating these effects.

In order to properly respond to these effects, revised TOU periods should be based on data that reflects them. Thus, the Commission should look to net load data, which subtracts nondispatchable wind and solar generation from total load.

**2. Number of Seasons per Year**

There are currently at least three electricity seasons with dramatically different load shapes and dramatically different impacts from solar. In the summer (June-September), net load shapes are characterized by late afternoon peaks driven by air conditioning load. In the spring (March-May), net load shapes are characterized by minima during the daytime (as opposed to the 1 a.m. - 5 a.m. period when minimum net loads typically occur the rest of the year), creating the "belly of the duck" potential overgeneration problem that the CAISO has warned about. Note that the CAISO "duck curve" chart almost always uses a spring day to exemplify the "duck curve" problem. During other months of the year, peak net loads are likelier to occur later in the evening, after dark, while afternoon minima are much less common.

In order to properly reflect these effects, there should be at least three TOU seasons, Spring (March-May), Summer (June-September or possibly October, depending on the data), and Fall/Winter (the rest of the year).

### 3. <u>Width of the On-Peak Period</u>

The purpose of on-peak TOU periods is to signal customers which hours of the day would be the best ones in which to conserve energy, or to shift energy out of (in the case of demand management, where energy use is not being reduced but rather shifted in time). A wide on-peak TOU period makes it less likely that customers will act in response to the TOU price signal; it's much easier to avoid running a clothes dryer in a four-hour window than a 10-hour window, for example. In addition, by having a narrower (shorter) on-peak TOU period, the high prices during that on-peak period can be targeted at the hours that are the ***most*** valuable hours in which to have conservation and load management. Thus, a narrower on-peak TOU period is preferable to a longer one.

### 4. <u>Appropriate TOU period for post-peak hours</u>

In the first couple of hours after the daily peak (whether gross load peak or net load peak), load is usually still very close to the peak level, but is starting to decline. One could argue (and SEIA indeed argued),[1] that because loads are declining post-peak, and because reducing generation is easier than increasing it, there is no need to incent reducing energy use post-peak and thus no need for on-peak TOU periods to extend later than the time of the daily peak.

Such an argument is flawed, for at least two reasons. First, because the time of the daily peak varies from day to day, setting an end to the on-peak TOU period based on the average net load peak would mean that on some days net loads would still be increasing when the on-peak TOU period had already ended. Second, load

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[1] SEIA Opening Comments, p. 15.

that is deferred until after the on-peak period ends will cause a spike in load as the on-peak period ends. If the on-peak period ends at a time when loads have only dropped a small amount from their (apparent) daily peak, then the resultant spike could cause loads to increase above the level of the prior peak, setting a new daily peak during the off-peak period.

Having the daily net peak load occur during on off-peak TOU period is clearly contrary to the intent of TOU rates. Thus, the on-peak TOU period should extend sufficiently far past the expected time of the net demand peak to account for both variation in that time and the slow decline in net load immediately after the daily net demand peak.

## 5. Number of Daily TOU Periods

The number of daily TOU periods must obviously be at least two, at least on days that have an on-peak period. But if a day has on on-peak TOU period and only one other TOU period, there will be a sharp price drop at the end of the TOU period. That will cause customers to have a strong incentive to defer load to the end of the on-peak TOU period, and no further. The result will be a spike in loads at a time when loads are still near their peak for the day (see the previous comment).

To mitigate the post-on-peak spike in loads, a more gradual drop in price after the end of the on-peak period would be appropriate. A series of prices that ramped down from the on-peak TOU period to an off-peak TOU period would send an appropriate signal to smooth out the price response to TOU rates, but would be too complex for many customers. The simplest solution is to add just one intermediate TOU period, for a total of three periods (at least during days with an on-peak period). Then some customers would shift their load from on-peak to the immediately following intermediate TOU period, but others would shift their load farther, to the off-peak TOU period that would begin sometime after the end of the on-peak TOU period.

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Respectfully submitted,

/s/

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