|  |  |  |  |
| --- | --- | --- | --- |
| NPRR Number | [1224](https://www.ercot.com/mktrules/issues/NPRR1224) | NPRR Title | ECRS Manual Deployment Triggers |
|  | |  | |
| Date | | May 15, 2024 | |
|  | |  | |
| Submitter’s Information | | | |
| Name | | Jeff McDonald | |
| E-mail Address | | [JMcDonald@PotomacEconomics.com](mailto:JMcDonald@PotomacEconomics.com) | |
| Company | | Potomac Economics, Ltd., Independent Market Monitor (IMM) | |
| Phone Number | |  | |
| Cell Number | |  | |
| Market Segment | | Not applicable | |

|  |
| --- |
| Comments |

**Comments of IMM on the Proposed ERCOT Contingency Reserve Service (ECRS) Deployment Trigger**

Potomac Economics, serving as the Independent Market Monitor (IMM), submits the following comments regarding the current proposal for deployment of ECRS.

The current proposal specifies deployment of ECRS into the Real-Time energy market based on a measure of magnitude and duration of under-generation. The proposal, as amended at the PRS meeting on May 9, now includes a $1,000 per MWh offer price floor for ECRS capacity that is released to the Real-Time Market (RTM) dispatch model (Security-Constrained Economic Dispatch (SCED)). We provide comments on both of these aspects of the proposed design below, however those comments require discussion of the appropriate price baseline.

**Artificial Shortage Pricing Caused by ECRS**

The IMM provided analysis, most recently in December 2023, demonstrating that the existing practice of holding large quantities of ECRS out of SCED, caused SCED to perceive shortages that were not real, and set energy prices that were much higher than the true marginal reliability value of energy.[[1]](#footnote-1) This violates the most fundamental economic market design principle for wholesale electricity markets.

The reason sequestering the ECRS (and Responsive Reserve (RRS)) Resources from SCED resulted in artificial spikes in energy prices is that SCED will more quickly move up the supply curve and clear very high-priced Generation Resources and include an administrative shortage price via the power balance constraint penalty when available supply in SCED is insufficient. The analysis also demonstrated that releasing even a portion of the sequestered ECRS into the Real-Time SCED generally relieved the artificial shortage and resulted in energy prices that did not reflect the artificial shortage.

Importantly, ERCOT has a robust framework to price shortages when they actually occur under the Operating Reserve Demand Curve (ORDC). Hence, releasing ECRS and avoiding artificial shortage pricing does nothing to either increase overall reserve levels or prevent legitimate shortage pricing under the ORDC.

To mitigate the substantial costs of pricing shortages that are not real, we recommend the following: a re-evaluation of the ECRS procurement quantities, establishing a deployment trigger that eliminates SCED shortages that are not real shortages, and *not* applying an offer floor to the deployed Resources. The first recommendation will hopefully be addressed through the Ancillary Service Study we are cooperatively developing with ERCOT and the Public Utility Commission of Texas (PUCT). The remaining two items are the subject of these comments and discussed below.

**ECRS Deployment Trigger**

The current proposal contains a trigger for the release of ECRS capacity to the Real-Time energy market based on measured under-generation. Specifically, it would deploy ECRS when under-generation of at least 40 MW persists for ten minutes.

The underlying premise is that such conditions indicate an energy market need for the capacity that is sequestered. This deployment trigger is a considerable improvement over the practice in 2023 where there was no deployment. We believe that this trigger will likely avert the extreme price scenarios that were observed in 2023 that were the result of artificial shortage.

While releasing ECRS to the Real-Time energy market based on this trigger will avert more extreme artificial shortage conditions and resulting extreme high prices, we note that the trigger requires under-generation which will necessarily increase price. In under-generation conditions, the power balance constraint is violated, setting an administrative penalty price in the RTM. Thus, we suggest the following:

* The under-generation value in the deployment trigger headroom (e.g., High Dispatch Limit (HDL) minus Generation To Be Dispatched (GTBD)) in SCED so ECRS is deployed *before* artificial shortages occur. For example, a 200 MW headroom criteria is set at a very low value to minimize the impact of artificial shortage on price prior to deployment. We suggest a value of 5 MW of under-generation for two consecutive 5-minute intervals.
* Alternatively, ERCOT could establish a price-based trigger that would signal the need for the ECRS Resources before artificial shortage conditions affected price.
* Such alternatives would eliminate most of the artificial shortage pricing caused by ECRS. Some may still remain as rising demands could cause SCED to move from having headroom > 200 MW to under-generation in one interval. Nonetheless, this would generally address the pricing concerns raised the ECRS implementation.

**Offer Price Floor**

The ERCOT proposal did not include an offer price floor for ECRS capacity that is released into the Real-Time energy market. The proposal was modified in the PRS meeting on May 9, 2024, to include a $1,000 per MWh price floor for offers from ECRS capacity that is released into the Real-Time energy market. The ostensible justification for this offer price floor is to avoid price suppression that can result from the injection of capacity with lower priced offers into the market, especially if the market price is higher reflecting administrative pricing. Concerns about price suppression arise from two possible misconceptions about the deployment of ECRS.

*ECRS deployment is an out-of-market action / deployed ECRS is out-of-market (“OOM”) supply*. It is easy to equate ECRS deployment with other truly OOM actions, such as reliability unit commitments, but this is a misconception. It is only ERCOT’s market and software limitations that prevent ERCS capacity from being “in-market” and visible to SCED. In reality, these resources have historically been in-market and they will be in-market in the future:

* Historically, the peaking Resources that are not running but available to start quickly would be self-committed by their owners when conditions begin to tighten and prices start rising. Importantly, such Resources were free to be offered competitively and there was no price suppression concerns with such commitments. The implementation of ECRS interferes with this competitive and efficient response to tightening conditions.
* In the future, when ERCOT implements Real-Time Co-Optimization (RTC) of reserves and energy, the ECRS capacity will be visible to the RTM and optimally utilized.

*Deploying ECRS will deplete reserves and the effects of this depletion must be priced*. This is also a misconception for two reasons:

* First, starting a peaking Resource doesn’t generally deplete the reserves available to the system, it simply shifts the reserves from Off-Line to On-Line Resources.
  + For example, when a peaking unit providing 50 MW of ECRS is deployed, it will start and be dispatched economically based on its offer curve. If we assume it produces 40 MW of energy, the system will Dispatch another unit down by 40 MW (effectively shifting On-Line reserves to that unit) and the system will retain 10 MW of reserves on the unit that was deployed.
  + Hence, the 50 MW still exist, they are now simply visible and optimized by SCED.
* Second, even if reserves levels do fall because SCED does not have sufficient supply to hold the same level of reserves On-Line, the ORDC framework will capture this reserve reduction and price it. No offer price floor is necessary.

If one sets aside these two misconceptions and views ECRS deployments accurately, it leads to a few clear conclusions:

* The Real-Time prices post-deployment are not artificially suppressed, instead the it is the pre-deployment price that reflects the sequestering of the ECRS Resources that is artificially inflated.
* There is no basis for imposing and offer price floor on deployed ECRS.

Therefore, we strongly recommend that TAC eliminate the proposed $1,000 per MWh offer price floor. Such a provisions would retain a significant portion of the artificial shortage pricing that we documented in 2023, mitigating only those prices that exceeded $1,000 per MWh. While this may be in the economic interest of suppliers in the short term, setting prices that are not based on market fundamentals (i.e., the marginal reliability value of supply) will undermine the credibility of the ERCOT markets over the longer term. All participants have a stake the long-term credibility and competitiveness of the ERCOT markets.

As we have documented in past reports, the adjustments to the ORDC that have been implemented over the past few years have substantially increased shortage revenues, particularly for dispatchable resources. There is no need or basis to supplement such revenues with artificial shortage revenues generated by sequestering the ECRS resources from SCED.

|  |
| --- |
| Revised Cover Page Language |

None

|  |
| --- |
| Revised Proposed Protocol Language |

None

1. See IMM presentation at <https://www.ercot.com/files/docs/2023/12/11/13%20Independent%20Market%20Monitor%20(IMM)%20Report.pdf> [↑](#footnote-ref-1)