November 7th, 2025

Sasha Bergman
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place E., Suite 350
St. Paul, MN 55101

STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION

Katie Sieben	Chair
Audrey Partridge	Commissioner
Hwikwon Ham	Commissioner
Joseph K. Sullivan	Commissioner
John Tuma	Commissioner

RE: Cooperative Energy Futures' (CEF) response to the generic standards that the Commission shall adopt for the Distribution System Reactive Upgrades Process (DSRUP). (Docket Number E002, E015, E017/CI-24-288)

*Note: Cooperative Energy Futures has decided to write separate comments **only** for parts of the Upgrade Cost Thresholds and the Mobilization Threshold and Window decision options in the DSRUP framework. **CEF will provide separate responses only for C2 and F1**. CEF's responses to all of the other DSRUP framework questions (including the other parts of sections C and F) are included in the Joint Solar Coalition's (JSC) and Cooperative Energy Futures' (CEF) joint response which is submitted separately from this partial CEF response.*

C. Upgrade Cost Thresholds

Issue: What dollar amount/MW (or just dollar amount) should the Commission decide for a Minimum and Maximum Upgrade Threshold?

CEF preferred Decision Option: 2b

1 must be adopted, and the Commission must choose one subpart.

2 may be adopted with one subpart. If the Commission does not wish to set a maximum limit, it may simply not adopt 2.

2. To qualify as an eligible Reactive Cost Share Distribution Upgrade, an Upgrade must cost no more than:

a. $300,000/MWAC

b. $600,000/MW

c. No maximum

Response:

CEF believes that any Upgrade which costs more than $600,000/MW is too expensive to attract enough other projects in order to meet the Mobilization Threshold and, importantly, surpass the Mobilization Threshold in order to hopefully pay for 100% of an Upgrade's total costs. CEF projects that a $600,000/MW Upgrade would be approximately 20% of a project's costs (we will explain this estimate in section F1 below). That would mean that full interconnection costs, including the required tests, individual project upgrades, and other soft costs, would be even higher than 20% of a project's costs. In our experience, this would make a project financially infeasible unless there were extenuating circumstances which are generally not available for most projects.

F. Mobilization Threshold and Window

Issue: What should the Commission decide for a Mobilization Threshold and Window?

CEF preferred Decision Option: F1

The Commission must choose one subpart of 1.

1. The Mobilization Threshold for an individual Upgrade is set at:

a. 25 percent of total Upgrade costs.

b. 80 percent of total Upgrade costs.

c. The Mobilization Thresholds shall be tiered based on cost per MW of capacity added by the Upgrade as follows:

- *$1/MW - $149,999/MW: 30%*
- *$150,000/MW - $249,999/MW: 45%*
- *$250,000/MW - $349,999/MW: 60%*
- *$350,000/MW - $449,999/MW: 75%*
- *$450,000/MW - $600,000/MW: 80%*

Response:

The percentage of an Upgrades Costs that need to be paid for by DSRUP participants before the utility must begin construction, or the Mobilization Threshold, should be highly intertwined with the commission's best guess as to demand for Upgrades. This is because the Mobilization Threshold is meant to be surpassed and, in the best case scenario, all Upgrades should be 100% paid-for by the DSRUP participants - meaning there needs to be enough demand for other projects to enter any given Upgrade pool in order to pay off the Upgrade 100%.

One way to do that would be to attempt to match the demand for Upgrades as system-wide as an average, irrespective of location, with the Mobilization Threshold. In other words, if one thought there was a very high average demand for Upgrades across the entire system they might set the Mobilization Threshold relatively low and if they thought there was a somewhat lower demand for Upgrades then they might set the mobilization a little higher and so on. The advantage to this method is the simplicity of having a single Mobilization Threshold that can be applied across an entire utility's service territory.

The disadvantage is that it does not take into account that there will be massive differences in pro rata costs among Upgrade which means that there will be massive differences in demand for each Upgrade as well. The less expensive (per MW) Upgrades will have higher demand than the more expensive (per MW) Upgrades. This means that if the single Mobilization Threshold is set too high (relative to overall demand), DER development will be artificially stalled, and if the single Mobilization Threshold is set too low (relative to overall demand), there is a risk of too much socialization of the DSRUP.

CEF proposes a tiered set of Mobilization Thresholds which attempts to better represent the demand of any given Upgrade through the proxy of the pro rate cost of that Upgrade. We set the tiers up according to the percentage of total project cost that each pro rata tier (which is a dollar/MW range) represented. In order to do that we used total project cost numbers (and other judgements that ring true for CEF which, we assume but could be incorrect about, is similar to other developers experiences) and we even leaned heavily toward the conservative (high) side when it came to average total project costs just to be safe. Our assumed average total project cost was $3M/MW, which is quite conservative (high) as our experience is closer to ~$2M/MW. Once total project cost is established one can then figure out the percentage of the total project cost it is to perform that project's portion of the needed Upgrade. We then compared that percentage to the percentage of the total project cost CEF usually allows for total interconnection costs. These are not purely accurate comparisons because the cost of an Upgrade is not the total cost for interconnection but, nonetheless, we compared the two because the Upgrade is usually the bulk of the interconnection costs. This is further complicated by the fact that sometimes the bulk of the interconnection costs are upgrades but they are upgrades specific to the project and not universal upgrades - which is one of the reasons I was extremely conservative when establishing a baseline for average total project cost. Now we can calculate what percentage of a project's total cost each Upgrade will be and we can group these pro rata costs into proxy demand-related categories based on those percentages. The ranges of Mobilization Thresholds and their percentages of total project costs, with an explanation of why we chose that Mobilization Threshold, are as follows:

- $1/MW - $149,000/MW (**30% Mobilization Threshold**):
    - The expensive end of this tier of pro rata Upgrade ($149,000/MW) would represent, at most, about 5% of average total project cost. Our judgement is that this would be an extremely high demand Upgrade because the percentage of the Upgrade costs compared to total project cost is very low, well below what we estimate our average percentage of total cost to be. Because of that, we believe that if 30% of the total Upgrade cost is paid for, there will be more than enough demand to pay off the rest of the 70% of total Upgrade cost. This type of Upgrade will be the first type that developers will flock to.
- $150,000/MW - $249,000/MW (**45% Mobilization Threshold**):
    - The expensive end of this tier of pro rata Upgrade ($249,000/MW) would represent, at most, about 8% of average total project cost. We feel this tier of Upgrade would similarly be in very high demand, albeit, a little less than the tier above. For that reason we think that if 45% of the total cost of the Upgrade is reached, there will be more than enough demand from DSRUP participants to pay for the remaining 55% of the Upgrade cost.
- $250,00/MW - $349,000/MW (**60% Mobilization Threshold**):

    - The expensive end of this tier of pro rata Upgrade($349,000/MW) would represent, at most, about 11% of average total project cost. CEF estimates that this tier represents an average/medium amount of demand. If enough projects can pay for 60% of the total cost of the Upgrade, we feel there will be enough projects that will enter the pool that 100% of the Upgrade will be paid for before the Payback Period ends.
- $350,000/MW - $449,000/MW (**75% Mobilization Threshold**):
    - The expensive end of this tier of pro rata Upgrade ($449,000/MW) would represent, at most, about 15% of average total project cost. This tier represents a lower demand than the tiers above which is why we chose a number as high as 75% of the total cost of an Upgrade for the Mobilization Threshold. If 75% of the total cost of this tier of Upgrade has been paid for, even though the percentage of total project cost is above what we think is average, there are most likely enough other advantages to this Upgrade that enough projects will follow and pay the rest of the cost of the Upgrade.
- $450,000/MW - $600,000/MW (**80% Mobilization Threshold**):
    - The expensive end of this tier of pro rata Upgrade ($600,000/MW) would represent, at most, about 20% of average total project cost. This last tier has the lowest demand that we feel is justifiable to have any type of Mobilization Threshold, after which 100% of the Upgrade costs should be paid for before the utility is required to begin construction. This is why we set the Mobilization Threshold so high (80%). We believe that if enough projects enter into an upgrade pool that 80% of the total cost of the Upgrade is paid for, there is a high enough probability that enough other projects will enter to pay off the remaining 20% of the Upgrade costs.

It should be noted that CEF would be open to discussing changes in the pro rate number ranges or the Mobilization Threshold percentages associated with the tiers. These numbers represent an estimation and judgment-call based on our experience as a distributed generation developer. It is the concept of the tiered Mobilization Threshold based on a proxy for a specific Upgrade's demand, thereby informed by a locational component, that we think is a more accurate estimation of demand and therefore a better fit for the purpose of the Mobilization Threshold- which is to speed up DER deployment by appropriately estimating demand (and constructing Upgrades accordingly) while mitigating the risk of socializing Upgrades.