2023-07-11 ProRate Energy Comments to UD-18-03

Before the Council of the City of New Orleans In

RULEMAKING PROCEEDING TO ESTABLISH RULES FOR COMMUNITY SOLAR PROJECTS DOCKET NO. UD-18-03, FILED PURSUANT TO RESOLUTION NO. R-23-130

INTRODUCTION

Prorate Energy (PRE) proposes several changes to the Community Solar Rules (CSR) that fall into three categories: specific technical changes, a "HOW TO GUIDE" and substantive changes.

Among the technical changes to the CSR PRE promotes are 1) correcting grammatical and logical errors found in the original text and 2) publishing the CSR on Entergy's and CURO's websites as a computer readable PDF so that these rules can be more easily accessed and understood by the public.

PRE also recommends publishing a HOW TO GUIDE FOR USING THE CSR similar to this document, namely: PRE's July 11th comments submitted to UD-18-03, so that prospective CSG owners and subscribers can rapidly figure out the scope of what is feasible, which assets are needed that they may already have and which they are encouraged to buy, how the cost of new investments (if any) will be recovered in either lower electricity bills for subscribers or increased profits for owners… all in order to rapidly get started and make mutually beneficial progress for owners and subscribers.

PRE also recommends substantive changes to the CSR which work together to rapidly increase the number, variety, and viability of all community solar generators (CSG).

One proposed rule change opens a door (that already exists in the current CSR but was inadvertently stuck closed) to investment-free development of numerous micro CSGs, one home at a time, … the only investment needed is already there: rooftop solar.

By relaxing another rule, micro CSGs can be created wherever a home has a large battery or an electric vehicle.

Combining these changes works to create pockets of high energy reliability and resilience.

Either of these rule changes help to create high load flexibility and can turn any micro CSG into a Virtual Peaking Plant (VPP).

When we have enough VPP's to aggregate them into a 5 MW VPP, this set can be paired with the macro CSG that Madison Energy Industries (MEI) intends to build to unlock 1/3 more remuneration than what MEI, NREL and TNO say MEI needs.

We will start with the textual changes in the CSR and then we continue by explaining how the proposed rules allow any home with either rooftop solar or large batteries to become a micro CSG, and then how the rules that help to make more micro solar farms also help secure more

than adequate remuneration for macro solar farms and thereby create a vibrant solar energy ecosystem. These CSR changes will also allow New Orleans to finally put its $80 million investment in smart meters to much better use and create positive incentives for small and large investment in New Orleans' solar industry.

There are a couple of challenges which will come with this new vision. Two issues will have to be tackled are 1) installing bidirectional meters at ratepayers' homes without rooftop solar, i.e. those who wish to participate with only batteries and 2) a system for supporting the needed changes in electricity billing that reflect improved subscribers' incomes and report those bill credits to CSG owners… will be necessary to make this system a boon for ratepayers and micro solar farms. PRE asserts that item 2) should have already been contemplated by and implicitly approved by the Council and ENO in 2019 and is therefore not a new requirement being proposed by PRE.

HOW TO IMPROVE THE CSR

PRE recommends:

1. Remove the requirement found on the second page of the CSR which requires a solar farm be "individually metered."

2. Revise /correct the section on Bill Credits in the manner Together New Orleans submitted to this docket on June 15, 2023.

3. Pay low-income customers at the higher value between the way NEM pays and the way the Bill Credit is calculated for non-low-income ratepayers.

4. Allow competition between micro CSG's (which may often be rooftop installations with substantial on-site consumption of the annual solar electricity output of each panel) and macro community solar which has little to no on-site consumption.

5. Publish the CSR as a Computer Readable PDF at CURO's and Entergy's websites.

6. Similarly publish this, PRE's July 7, 2023, submission to UD-18-03, (namely this document) or a much simpler version that explains how these tiny changes will unleash many benefits that are outlined at the bottom of this document.

7. Let any ratepayer request and receive a bi-directional AMI meter at no more than the cost of labor to replace it, and at no cost for the materials.

8. Accept the suggestions for optimally calculating Avoid Capacity Cost that PRE provided in its June 20, 2023, submission to this docket, namely

If a Macro CSG is paired with a matching size VPP, the resulting electricity generator will have 100% resource adequacy which should then be used in the formula for Avoided Capacity Cost, which will double the value of Avoided Capital Cost from what is printed in the current CSR.

Benefits of PRE's CSR recommendations:

1. Improved communication about community solar and its related objectives.

2. Ability to create community solar farms within hours (assuming one ignores the red tape built into the present CSR).

3. Unleash energy efficiency (EE) investments in homes with rooftop solar..

4. 50% drop in energy bills for tenants of rental property.

5. Unleash Distributed Energy Resources (DER) investments in homes.

6. Help customers invest in technologies allowing remotely controlled air conditioners, water heaters, EV charging, etc.… hereinafter referred to as Demand Response (DR) ready.

7. Provide hard to dispute proof that Net Energy Metering (NEM) underpays for rooftop and Community Solar whenever solar is paired with an adequate amount of DR ready technology.

8. Speed up the growth of our nascent, green workforce.

9. Improve reliability and resilience.

10. Repay the City's $80 million investment in Smart meters via lowering current electricity bills and avoid increases via permanent deferral of many of the most expensive future grid upgrades.

11. Unleash Realtime Time-of-Use Rates in New Orleans and beyond.

12. Unleash bi-directional payments to ratepayers in the same month the value is generated thereby making 200% decreases for high to moderate income ratepayers bills feasible and 80% decreases in utility bills for low-income ratepayers more likely.

13. Expeditious unleashing and utilization of the multi-trillion-dollar windfalls provided by the 2022 congressional Bipartisan Infrastructure Bill and Inflation Reduction Acts desperately needed to address the imminent threat of Climate Change.

14. Growth of micro and macro CSG's in New Orleans and throughout the US with better and faster synergistic effects to both.

15. Foment dependable remuneration of rooftop solar and speed up the growth of community solar.

16. Demonstrate that these principles and successes in New Orleans can be used anywhere in the US.

PRE's prescription for improvements to the CSR:

1. Remove the requirement found on the second page of the SCR that requires a solar farm be "individually metered,"

2. Rewrite the section on Bill Credits in the exactly the way Together New Orleans' June 15, 2023, submission to this docket renders of it,

3. Let low-income customers be paid at the higher value between the way NEM pays and the way the Bill Credit is calculated for non-low-income ratepayers.

4. Allow rooftop solar and other electricity producing ratepayers to participate in the open market along with macro community solar producers.

5. Publish the CSR as a Computer Readable PDF at both of CURO's and Entergy's websites so that they are easily readable and exportable, making for a hospitable environment for participation in community solar.

6. Similarly publish this, PRE's July 11, 2023, submission to UD-18-03, (namely this document) or a much simpler version that explains how these tiny changes will unleash many benefits that are outlined at the bottom of this document.

7. Allow ratepayers to request and receive a bi-directional AMI meter at no more than the cost of labor to replace it and not be required to pay the cost of the materials.

8. Apply the assertions for optimally calculating Avoid Capacity Cost that PRE provided in its June 20, 2023 submission in this docket, namely
If a Macro CSG is paired with a matching size VPP, the combined generator will be deemed 100% resource adequate and thereby receive twice the Avoided Capacity Cost as is mandated in the current CSR.

DISCUSSION about the changes in the CSR

PRE's 1.a. recommendation says delete " (xv) is individually metered;" found in II. DEFINITIONS

PRE's 1.b. and 1.c recommendations are about the key section on remuneration or bill credits for avoided capacity cost called ***VIII. SUBSCRIPTION CREDITS, E. , (3),*** which should be changed from

> "The corresponding avoided capacity cost, will be expressed in $/kWh and based on the MISO Cost of New Entry ("CONE") value for the planning year that corresponds to the month in which the credit is provided and shall be calculated as follows:

avoided capacity cost = (CV*0.5)/AEE where:

- CV is equal to the CONE value in $/kW-yr for MISO Local Resource Zone 9 for the planning year that corresponds with the month in which the credit is provided.
- 0.5 represents the adjustment used by MISO for solar resources in determining the initial Resource Adequacy value for the purposes of the Planning Resource Auction ("PRA");
- AEE is equal to the annual estimated energy in kWh from a 1 kW_{DC} solar PV installation in New Orleans as calculated by the National Renewable Energy Laboratory's PVWatts Calculator for a standard fixed array system with an tilt and orientation typical for New Orleans.
- The appropriate credit to be applied to the bill of each Subscriber that does not qualify as a Low-Income Subscriber will be a dollar amount credit determined by multiplying the Subscriber's kWhs from Section VIII.D. by the value of each CSG per kWh credit from Section VIII.E."

to

"The corresponding avoided capacity cost, will be expressed in $/kWh and based on the MISO Cost of New Entry ("CONE") value for the planning year that corresponds to the month in which the credit is provided and shall be calculated as follows:

avoided capacity cost = (CV* Solar Resource Adequacy Percentage)/AEE, where:

- CV is equal to the CONE value in $/kW-yr for MISO Local Resource Zone 9 for the planning year that corresponds with the month in which the credit is provided.
- The Solar Resource Adequacy Percentage refers to the proportion of the solar project's installed capacity that can be relied upon to contribute to system peak demand.
- AEE is equal to the annual estimated energy in kWh from a 1 kW_{DC} solar PV installation in New Orleans as calculated by the National Renewable Energy Laboratory's PVWatts Calculator for a standard fixed array system with a~~n~~ tilt and orientation typical for New Orleans, where AEE is expressed in units of kWh/kW-yr.
- The appropriate credit to be applied to the bill of each Subscriber that does not qualify as a Low-Income Subscriber will be a dollar amount credit determined by multiplying the Subscriber's kWhs from Section VIII.D. by the value of each CSG per kWh credit from Section VIII.E."

DISCUSSION of the Benefits of PRE's recommended CSR:

1. Improve communication about community solar and these related objectives.

2. Allow a community solar farm to be created in hours (if you ignore the host of RED TAPE chores heavily built into the CSR).

With the recommended CSR changes, any existing rooftop solar customer (ERTSC) (who we assume is receiving NEM remuneration and therefore must have a bidirectional AMI meter) can create a CSG as simply as: signing up at least 2 or 3 subscribers and otherwise follow the CSR except for remuneration as explained in the next sentence. Each subscriber will be assigned a fixed percentage of ERTSC's exports to the grid and the bill credit to that subscriber will be the current MISO price of each kWh.

For clarity and to simplify reference in this document, let us call this kind of CSG a Converted Rooftop Solar (CRT-CSG). Note, a CRT-CSG is a special kind of micro CSG.

Notice that if the ERTSC does this, (s)he will no longer receive future bill credits at retail value (i.e., via NEM) but instead will receive a stream of income from the contracts (s)he made with each subscriber at a contract price something like "You pay me 4 cents a kWh for each kWh my array exports to the grid and is allocated to your ENO bill via the just described bill credit mechanism". This can work because 4 cents is less than what ENO will credit on average to the subscriber for each kWh. By this method, there will rapidly be many thousands of kWh sold to subscribers around the city via CRT-CSGs and each ERTSC will receive timely cash in the same month it is generated. Moreover, as explained in the following section on Energy Efficiency, this can easily become a net money-making opportunity for the ERTSC despite the lower income per kW because, as that section explains, CRT-CSG owner will export many more kWh. Notice 4 cents is just a guess at what may become the "going rate" for the Price of Community Solar Subscription Energy (PCSSE).

PRE envisions that free markets will quickly be created for the value or price of various kinds of PCSSE, and it will result in competition, all to the benefit of both ERTSC's and Subscribers. PRE envisions that there will be at least two markets for these, one for normal a CSG that uses the Bill Credit rules already in the CSR and another for bill credits from CRT-CSG.

Note that without the first rule change that PRE recommends, an ERTSC will have to pay as much as $10,000 to individually or separately meter those panels that (s)he has, more than consumption.[1] But, with PRE's recommended change, 1.a., no electrician need be hired, no wires need be moved or installed. All that is needed is paperwork. With that much of a financial barrier to doing this in the current CSR, there should be no wonder why there are no micro community solar farms in New Orleans. But without that barrier there could easily be hundreds in a month and thousands in a few years.

Notice that the value paid to a subscriber to CRT-CSG (recall that a CRT-CSG only exports the net of production minus consumption of a rooftop solar array) should not be expected to be well-estimated by the standard Bill Credit as described in the current rules. This is because the justification of standard Bill Credit remuneration assumes that each solar panel of every community solar farm will export to the grid (nearly) all the electricity it generates. However, every rooftop panel of a CRT-CSG does double-duty, namely: sometimes meets consumption needs and at other times exports. Since some of each rooftop panel's electricity is consumed, the

[1] Brian McGraw, a licensed electrician working in New Orleans, rapidly estimated/quoted this price for Myron Katz in a cellphone discussion on July 6th, 2023. He estimated the cost of adding a 100 AMP service and moving key wires from the solar array to that service at $10,000.

ratio of consumption to export will vary from day to day and season to season, and this ratio should be expected to increase during the very times that the utility's peak demand occurs, the current Bill Credit's estimates of the average energy value and even more so, the average capacity value of such kWh would also fall and thus that estimate of their values would be greatly out of sync with their real avoidable costs for both energy and capacity.

At this time, PRE recommends that subscribers to a CRT-CSG should be paid only the current MISO price of that kWh. This is negligibly different from the Avoided Energy Cost part of the current Bill Credit already found in the CSR. But this remuneration approach does not pay any **avoided capacity costs**. Although, PRE has already recommended a way to provide an even larger remuneration for non-avoided energy costs for each kWh purchased or exported to the grid within ProRate, which is also a cross-subsidy-free approach, called CLEPm, for sake of getting things moving, PRE will desist from pushing for this at this time as a compromise within this docket just to get the program going for the CRT-CSG category of CSGs.

3. Unleash highly cost-effective energy efficiency (EE) investments in most of the very buildings where the owner probably has is more than adequate ability to act but because of over-investment in rooftop solar and the remuneration restrictions of Net Energy Metering (NEM), EE opportunities are totally thwarted because once comfort is obtained, there is no incentive or possibility for payback that returns the cost of investment at all, much less at a profit.

Consider the following example of ***Solar Lipstick on an Energy Hog*** described at this website: https://bigpivots.com/solar-lipstick-on-an-energy-hog/ wherein a $7000 EE investment grossly outperforms over $30,000 spent on two rooftop solar arrays. This should not be expected to be an uncommon situation in New Orleans' homes. Thus, the owner of this home is an ERTSC and once comfort is obtained, (s)he could free up solar exports to the grid far more cheaply, as measured in $/kWh, than the cost to install more solar panels in either a micro or macro solar farm. In most of the US, there is no payback, because NEM does not create a payback, neither in dollars nor lowered future electricity bills when production consistently exceeds consumption. But with the upgrades to the CSR recommended by PRE, this homeowner can keep investing in increasingly cost-effective EE that will return dollars that more than repay such retrofit costs.

3. EE improvements/upgrades can be expected in rental property because landlords have the capital and tax burden so they can use federal tax credits to increase rental income because tenants can be expected to see more than 50% drops in energy bills.

There are many barriers to this but anything that can help a landlord get more rent is a normal and customary business practice of a landlord. Consider that a landlord may also be an ERTSC and will be delighted to subsidize the electricity bill of her/his tenants. Such activities are tax-deductible for the landlord and help both landlord and tenant. Consider another possibility that the rental property itself receives solar panels onto its roof. In pursuit of this, one of the recent Federal Acts over and above the 30% base will allow an extra 10% tax credit if the tenants are

low-income. The amount of solar power exported to the grid increases with increasing EE of the building and/or the willingness of the tenant to conserve consumption which also becomes an additional economic incentive for the tenant. This landlord can expect the tenants' electricity bills to be less than half of similar tenants on the same block in almost identical housing stock. This marginal effect can be used to request and receive higher rent but still lower the total cost of living for the tenant. This is a win-win.

4. Unleash the full set of Distributed Energy Resources (DER) investments in most of the very buildings where there is more than adequate capital and tax liability to act quickly.

To show that this is possible for any DER, we will start with the linchpin DER, the electric battery. An electric battery may be the hardest to recover its purchase price in electricity bill savings in a situation that exists now where ENO does not allow time-dependent electric pricing, a.k.a. time-of-use rates. The electric battery is installed at a home (which could be stationary and inside or outside and mobile like an electric vehicle (EV)). But it is also the most versatile DER and, nevertheless, is usually a more cost-effective investment than solar, whether on a roof or in a large solar farm.

But the way to make it profitable and avoid shifting costs onto others is complex.

The background data you need to know is that ENO customers buy electricity from MISO, our wholesale marketplace, and MISO prices usually change by at least 10 cents or more every day.

Buying and selling at wholesale can pay for batteries.

Although PRE would like this completely easy and straightforward, via its proposed electricity rate design defined at the footnoted link,[2] PRE asserts that a less revolutionary step in that direction is possible using a similar approach described above for the CRT-CSG, i.e., converting a rooftop solar operation into a micro CSG. In this case, after a homeowner that does not have rooftop solar requests and gets a bidirectional AMI meter, (s)he can buy and install an electric battery and use it to buy electricity when it is cheap (which is typically around 1 to 5 AM and has MISO prices near or below 2 cents per kWh) and "export" it to the grid when it is expensive (which is typically at 2 to 5 PM in the summer when the prices are seldom below 6 cents per kWh and sometimes exceed $1 per kWh).

How can that more than pay for the battery?

That homeowner could also contract with "subscribers" who would each agree to buy a fixed percent of the exports with similar contracts as those described for the CRT-CSG. We will call this operation a BAT-CSG, for a Battery CSG. This business activity has nothing to do with solar power even though it operates much like a CRT-CSG, and it works because what they want and get are profits for owners and bill credits to the subscribers that cost less than they provide and thereby lowers their utility bills, respectively. And that is what we will assume until the end of this discussion. (However, just after that, we will show that a CRT-CSG enhanced with a 5 to

[2] https://www.change.org/EngageTheMarketToSlowClimateChange

10 kWh battery, will get much more income for the solar output, with the battery than without it.)

Like the CRT-CSG bill credit, PRE envisions a contract for this transaction but not at a fixed price per kWh but at a fixed percent of the bill credit, say 80%. For example, the owner of the BAT-CSG could buy a kWh at a 2 cents MISO price and export it to the grid when the MISO price is 6 cents. Assuming the 80% contract price, the Subscriber would pay the BAT-CSG owner, 80% of 6 cents = 4.8 cents. In this case, the subscriber nets 1.2 cents and the BAT-CSG owner pays the normal, time-independent ENO's electricity price of 12 cents and thus loses 7.2 cents.

But that is not the end of the story because there are ways to make this profitable for both the owner of the BAT-CSG and the subscriber. One way is for the owner of the CSG to only export to the grid when the difference between the retail price and export prices is big enough. Assuming subscriber payments are set at 80% of the export price, the BAT-CSG owner makes a profit if the export price is bigger than 12 cents / 80% = 15 cents.

But this is not the whole story because the BAT-CSG owner and subscribers are not the only parties to the transactions; ENO and its horde of ratepayers are also parties. This is because if the owner buys electricity from MISO at a price higher than the average price ENO pays for electricity in any month, which is called the **Cost of Energy** (CoE) and is typically around 3 cents per kWh, then ENO incurs a cost for which it is not compensated. That is, every penny more than the CoE inherent in the price the BAT–CSG owner causes ENO to buy from MISO becomes a penny ENO must recover from its customers.

To make the pair of transactions, the purchase and export by the owner of the BAT-CSG to be profitable for the owner and subscribers and not throw costs onto ENO and its ratepayers, the right rules (if the BAT-CSG does not pay ENO anything to compensate ENO) are

1. The BAT-CSG always buys from MISO through ENO when the wholesale price $\leq$ CoE and
2. The BAT-CSG always exports to ENO when the MISO Price is $\geq$ 15 cents / kWh.

This works, but it is not possible or even optimal for the first condition to always be true. But what is feasible is that the sum of all transactions by the BAT-CSG owner must be revenue neutral or below the CoE. Notice that a purchase one penny below the CoE has the same benefit to ENO and its ratepayers as an export to ENO one penny above the CoE. Note that a purchase one penny above the CoE is completely compensated for by an export one penny above.

That is, to avoid burdening ENO and its ratepayers, all the purchase and export transactions of the owner of a BAT-CSG must be added together in the following fashion, to satisfy:

[Sum (MISO price - CoE) for each buy] minus [Sum (MISO price - CoE) for each export] < 0

Because a BAT-CSG has a business model that maximizes income by buying electricity when the wholesale price is lower than later when the same kWh is later exported, in practice, the value calculated above is far less than zero and thus, it is actually an uncompensated "gift" to ENO and its ratepayers; because in this circumstance, the CoE is lowered for all ratepayers

without any benefit going to the owner of the BAT-CSG. (This deficiency is fully accommodated in ProRate but we are ignoring that for now.) This completes the discussion of how a BAT-CSG can operate to the mutual benefit of its owner, its subscribers and without throwing costs onto others.

The battery enhanced CRT-CSG (BCRT-CSG).

A battery can move a kWh that was generated in the rooftop array from the time it was generated to allow export later the same day. For example, summer MISO prices near 10 AM are usually at least 5 cents lower than at 4 PM and MISO prices at 4 PM can also be much higher. Also, this export does not require a purchase from ENO and thus does not incur the 12 cents/kWh retail cost which caused some exports to be uneconomical in a BAT-CSG. Thus, much more net profit is possible for the owner and much more income is available for the Subscriber.

The battery enhanced CRT-CSG can even export to the grid after sunset.

These characteristics are hardly the whole story because this home can also continue to operate during a grid failure and thus experiences far better reliability and resilience than all other ratepayers.

Moreover, such a homeowner may consider defecting from the grid altogether. To do that may require buying enough batteries and solar to outlast weeks of cloudy days. That is usually too expensive for all but the very rich, but ENO's enhanced CSR could entice the same customer to reconnect to ENO's grid by reaping enough income as a BCRT-CSG. If the income is great enough, a grid defection can be reversed, and the entire grid is made more reliable and resilient with that home's DER assets than without them.

Other DER assets that can be financed with PRE's recommended improved CSR.

Electric Vehicles can be connected to a home with bidirectional chargers that can be remotely controlled.

Many modern major appliances are far more efficient and cost-effective than their predecessors and a good percentage of these are WIFI compliant. Just this year, I installed 8 WIFI compliant AC's and two water heaters. I did this not because of the WIFI remote control features but because of the efficiency, price, and ease of installation. The WIFI connectivity was merely a bonus. E.g., Rheem Heat Pump Water heaters are 4 x as efficient and have WIFI remote controls.[3] And MrCool Ductless mini splits have 20+ SEERS and WIFI controls.[4] All of these can be controlled miles away from their installed location via the Internet.

This means that simple pursuit of optimal EE often gets load flexibility or "Demand Response" ready at no extra charge.

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[3] Rheem Performance Platinum 50 Gal. 10-Year Hybrid High Efficiency Tank Electric Heat Pump Water Heater XE50T10H45U0 - The Home Depot

[4] MrCool DIY 12k BTU 22 SEER Ductless Heat Pump Split System 4th Generation - DIY-12-HP-WM-115C25 • Ingrams Water & Air (iwae.com)

These are the very ingredients needed to assemble a virtual peaking plant.

Thus CRT-CSG, and BCRT-CSG spawn VPPs.

Whether one shifts the export to a later time with a battery or the demand to a later time with a WIFI Controlled water heater or AC, the net effect is the same, more solar power is sent to the grid and more of this is sent during peak hours.

5. Pay customers to invest in technologies that allow remotely controlled air conditioners, water heaters, EV charging, etc.… which we will call, hereinafter, Demand Response (DR) ready.

A good explanation of this is found in the answers to items 2 to 5.

8. Speed up the growth of our nascent, green workforce.

Simply because more EE and DERS will be installed, this will create much work for these individuals and companies.

9. Improve reliability and resilience.

This is explained in 2 through 6.

10. Unleash Realtime Time-of-Use Rates in New Orleans and beyond.

The explanation of BAT-CSG pointed out that it is a potential money maker to move electricity from the time of purchase to another and presented a mechanism to do it within PRE's enhanced CSG rules. It revealed a way around the "assumption" that customers could not pursue negative electric bills. And did it even while we are still locked into time-independent electricity pricing. PRE points out that this is just the tip of the iceberg regarding the benefits of time-of-use rates.

Realtime time-of-use rates provide different prices as often as MISO's prices change, namely as often as every five minutes, and are more lucrative. ProRate is such a rate, and better, because it is bidirectional.

Give ProRate a try with a 1000-home ProRate pilot. PRE asserts and this document helps the reader understand that such a pilot is likely to become a 5 MW VPP. This will help Madison Energy Industries get the remuneration it needs, and the Council will get what it wants, a 2 to 5 MW CSG.

11. Pay back the City's $80 million investment in Smart meters via lower electricity bills.

ProRate will start paying back the $80 million for AMI meters in two ways:

1. by lowering participant customers' bills by more than 50% while lowering everyone else's by a tiny percent, and

2. will completely forestall foolish investments like the $200 million spent on the New Orleans Power Station in 2018 and the 2022 proposed upgrades in the distribution system to improve resilience currently estimated to cost over one billion dollars.

12. Unleash bi-directional payments to ratepayers in the same month the value is generated and thereby make 200% decreases in high to moderate income ratepayers bills quite feasible and 80% decreases in utility bills of low-income ratepayers even more likely.

This is explained with examples and a full calculation using actual MISO 2018 data at this link.[5]

13. Rapidly unleash and spend the multi-trillion-dollar windfalls provided by the 2022 congressional Bipartisan Infrastructure Bill and Inflation Reduction Acts which are desperately needed to address the imminent threat of Climate Change forthrightly and expeditiously. Democrats are worried that access to these potential assets will be shut down when and if we get a Republican-Controlled Congress and Presidency. And that these congressional acts may be the last and best chance to save New Orleans from the long-term threat of sea level rise in the future.

14. Grow both micro and macro CSG's in New Orleans and throughout the US. Although the Council decided in 2022 to revisit this docket specifically on the request of Madison Energy Industries to build macro solar farms, solutions to both will work much better and faster because of these synergistic effects.

15. Fixes the remuneration system for rooftop solar to allow community solar to grow in New Orleans.

PRE responds to comments by ENO and TNO

Here is what ENO submitted on July 7th in response to PRE's June 20th comments.

"Response to PRE Comments

"While its comments are unclear, PRE initially appears to somewhat reasonably describe the non-low-income bill credit calculation methodology in the Council's Rules. PRE quickly goes off track, however, with a factor it labels the "Solar Resource Adequacy Percentage" for which PRE somehow assumes a 20% value. The correct value is 50% as clearly discussed in the Council's Rules. This percentage represents the capacity value that MISO initially assigns to a solar PV resource. Using the correct percentage and the results of the MISO PRA for 2023-2024, the value for avoided capacity is $0.0315/kWh – not $0.011411/kWh as calculated by PRE.

[5] CLEP Lowers Greenhouse Gas Emissions While Financially Benefiting All Ratepayers - Smart Solutions for Dumb Buildings! (buildingscienceinnovators.com)

"There is no basis whatsoever for changing the correct value of 50% to PRE's proposed 100% under the misguided theory that implementing a real-time pricing scheme would somehow then create a virtual power plant ("VPP"). In addition, PRE wrongly asserts that the avoided cost of energy for the Subscriber credit rate should be $0.083/kWh referencing a U.S. Department of Energy article dated October 9, 2020, about 2019 wholesale market prices around the United States. The correct value for avoided energy for ENO's load zone is $0.070056/kWh, calculated using 2022 actual LMPs and reflected in the updated Subscriber credit rates. The current non-low-income credit rate accounting for both avoided capacity and energy, which was put into effect June 2023, is $0.101605/kWh.

"As to the separate issue of PRE's proposed ProRate real-time pricing scheme, the Council has rejected the proposal in varying forms over the years on multiple occasions, including the Company's 2018 Rate Case.[Footnote: 11] The Company has also gone on record several times across multiple dockets that it strongly opposes PRE's convoluted concept on myriad grounds, including but not limited to the proposal having no basis in cost-of-service ratemaking, the very significant costs that would be incurred for manual billing each month, and the serious financial risks that a participant would be assuming. [Footnote: 12]"

PRE Responds to ENO:

Although ENO's assertions about the failures by the Council to adopt CLEP, a.k.a. ProRate, electricity rate design are full of mistakes and exaggerations, what it stated about how to calculate Bill Credits for non-low-income subscribers provides valuable food for thought:

ENO just published that the Avoided Energy cost = $0.070056/kWh and using 50% as the resource adequacy of a solar plant, the Avoided Capacity cost = $0.0315/kWh.

Also note that ENO did not dispute the primary assertion of PRE's June 20th submission, that optimal resource adequacy can properly be set to 100% if paired with a same sized VPP. In that case, the Avoided Capacity cost is twice as high, namely $0.0630/kWh.

ENO only disputed that such a VPP can be created by adopting ProRate which ENO is consistently against but for dubious reasons that are no more onerous or difficult to implement than what is needed to implement the CSR.

Adding them provides $0.070056/kWh + $0.0630/kWh = $ 0.133/kWh… the non-low-income bill credit if a CSG is paired with a same size VPP. And note that this value is not very different from what PRE asserted was the sum in its June 20th submission, namely 13.9 cents/kWh.

. . . . .

It is also interesting that Together New Orleans (TNO) also submitted comments for the recent filing deadline of July 7th, but they did so on July 10, (i.e., a few days late). Those comments assert that the minimal remuneration needed to make a Macro CSG viable is $0.10056 /kWh. Here is an excerpt of their comments:

"The minimum price for the solar credit required for community solar development to be viable at a baseline threshold, according to the NREL's economic modeling, is $0.10056 /kWh."

TNO also reiterated its description of the *actual* formula for Avoided Capacity cost to be the same as PRE had quoted earlier in this document which also is the same as was stated in PRE's June 20th comments.

Note that PRE's recommendations produce a $0.133/kWh remuneration which is 1/3 more than what MEI, TNO and NREL say that MEI needs.

A glimpse of the benefits PRE believes that follow from PRE's recommended CSR.

1. Improve communication about community solar and these related objectives.

2. Allow a community solar farm to be created in hours (if you ignore the host of RED TAPE chores heavily built into the CSR).

3. Unleash highly cost-effective energy efficiency (EE) investments in most of the very buildings where the owner probably has more than adequate ability to act but because of over-investment in rooftop solar and the remuneration restrictions of Net Energy Metering (NEM), EE opportunities are totally thwarted because once comfort is obtained, there is no possibility for payback that returns the investment at all, much less at a profit.

4. EE improvements/upgrades can be expected in rental property because landlords have the capital and tax burden so they can use federal tax credits to increase rental income because tenants can be expected to see more than 50% drops in energy bills.

5. Unleash the full set of Distributed Energy Resources (DER) investments in most of the very buildings where there is more than adequate capital and tax liability to act quickly.

6. Pay customers to invest in technologies that allow remotely controlled air conditioners, water heaters, EV charging, etc.… which we will call, hereinafter, Demand Response (DR) ready.

7. Provide hard to dispute proof that Net Energy Metering (NEM) underpays for rooftop and Community Solar whenever solar is paired with an adequate amount of DR ready technology.

8. Speed up the growth of our nascent, green workforce.

9. Improve reliability and resilience.

10. Unleash Realtime Time-of-Use Rates in New Orleans and beyond.

11. Pay back the City's $80 million investment in Smart meters via lower electricity bills.

12. Unleash bi-directional payments to ratepayers in the same month the value is generated and thereby make 200% decreases in high to moderate income ratepayers bills quite feasible and 80% decreases in utility bills of low-income ratepayers even more likely.

13. Rapidly unleash and spend New Orleans' fair share of the multi-trillion-dollar windfalls provided by the 2022 congressional Bipartisan Infrastructure Bill and Inflation Reduction Acts which are desperately needed to address the imminent threat of Climate Change forthrightly and

expeditiously. Democrats are worried that access to these potential assets will be shut down when and if we get a Republican-Controlled Congress and President. And that these congressional acts may be the last and best chance to save New Orleans from the long-term threat of sea level rise in the future.

14. Grow both micro and macro CSG's in New Orleans and throughout the US. Although the Council decided in 2022 to reopen this docket specifically on the request of Madison Energy Industries to build macro solar farms, solutions to both micro and macro CSG will work much better and faster because of these synergistic effects.

15. End and reverse the causes of the demise of good and dependable remuneration of rooftop solar and the slow growth of community solar by demonstrating that better than NEM remuneration found within the updated SCR and the multiple successes in New Orleans can be used anywhere in the US.

Acronyms Glossary

ACC – Avoided Capital Cost

AEE - annual estimated energy in kWh/KW-yr

AMI - Automated Metering Infrastructure, a.k.a., AMI meter, a.k.a. Smart meter

BAT-CSG - Battery CSG

CLEP - Customer Lowered Energy Price, a.k.a. ProRate, electricity rate design

CoE - Cost of Energy = weighted average wholesale price ENO pays to MISO in any month

CONE - Cost of New Entry = the cost to acquire and operate a natural gas peaking plant.

CRT-CSG - Converted Rooftop Solar CSG, a special kind of micro CSG

CSG - Community Solar Generator

CSR - Community Solar Rules

CURO - Council Utilities Regulatory Office, New Orleans City Council

DER - Distributed Energy Resources

DR - Demand Response

EE - Energy Efficiency

ENO – Entergy New Orleans

ERTSC – existing rooftop solar customer

MISO - Midcontinent Independent System Operator Inc. = ENO's wholesale marketplace

NEM – Net Energy Metering

PRE – ProRate

VPP - Virtual Peaking Plant