

out aging power plants over the next several years and replace that capacity with solar, firmed up by battery storage and a leased natural gas resource.



Public Comments on CPS Energy FlexPower Bundle Proposal

CPS Energy is soliciting feedback on their FlexPower Bundle proposal. However, CPS Energy has not provided the public with sufficient information about this proposal in order for the public to provide informed feedback.

JANUARY 6, 2020 RESPONSES FROM CPS ENERGY TO EDF ARE EMBEDDED:

1. CPS Energy has shared proposed additions to their generation mix but not their demand forecast. What is your forecasted increase in demand over the next 5-10 years?

It has been highly publicized that both the Texas and San Antonio's population levels are expected to climb significantly over the next 20-plus years. Assuming future Save for Tomorrow Energy Plan funding will be approved, the growth will be proactively moderated by our active optimization of successful energy efficiency and conservation. Accordingly, we currently believe gross customer usage is expected to grow about 1.5% per year, on average, over the next 25 or so years. While this is not extreme growth, it is significant. Even so, growth could be lower or higher, over time. To that point, there are increasing reports of a national recession potentially over the next couple of years. Only time will tell what will occur in the future. We will monitor and update our projections every year.

2. Given that CPS Energy currently has a large reserve margin, do we need to procure any additional natural gas generation capacity next year?

Our Reserve Margin is the amount of capacity by which our certain and reasonable generating capacity exceeds the needs of our residential, commercial, industrial, and wholesale customers. While we work diligently and proactively to maintain our generation units, the older the plants are more likely to be shut down due to age or mechanical failure. Proactively, we therefore plan for the replacement of plants before they need to come offline so that our customers are better assured of Reliable and Affordable energy services.

We have the privilege and obligation to manage the community's energy assets. We need to either proactively build replacement capacity or secure consistent levels of power to ensure our community is not unnecessarily taking on higher levels of energy delivery risks. Keeping in mind that both new solar and a natural gas resource can take years to build and activate, the proposed natural gas resource, by design, would give San Antonio customers more energy certainty as we proceed into a period when energy prices are escalating significantly, especially when days are very hot.

There is only a small group of natural gas resources that have capacity that is available for

external customers to purchase. Assuming the capacity from the resource is not bought by some other party beforehand, CPS Energy could secure it for our customers, which would decrease the exposure to quickly increasing power prices. It would reduce customer bill volatility, including extreme price spikes. Accordingly, the **FlexPower** Bundle is a very prudent and responsible approach to keeping our reserve margin healthy over the next 4-to-10 years.

Over time, we will also explore other emerging energy technologies. We will leverage them into our system prudently as they become more effective and efficient.

3. If CPS Energy is not retiring any natural gas power plants until 2023, why do we need to start procuring more NG generation capacity in 2020?

Prudent planning is an important commitment we make for our customers and our community. Older plant retirements are expected to occur over the next 5-to-10 years. As mentioned in the previous paragraph, there is a need to mitigate the risks posed by depending on these aging plants over the next few years. The ERCOT market continues to be very tight in the coming years, with increasing risk of exposure of our customers to high prices should one or more of our older units fail during the summer or winter peak hours. The natural gas resource will also help firm up the substantial proposed solar capacity of up to 900 MW and protect our customers from the risk of high prices.

4. After your board voted unanimously to support the city's climate plan goals, why is CPS Energy staff proposing to add more fossil fuel generation capacity over the next two years than renewables generation plus battery storage?

To the contrary, we are proposing the addition of much more solar and energy storage than we are proposing to "lease" from a natural gas resource. In fact, within the **FlexPower** Bundle, solar and storage capacity (950 megawatts) exceeds the natural gas capacity (500 megawatts) by almost 50%. Coincidentally, the 900 megawatts of solar capacity proposed within the **FlexPower** Bundle would also increase solar capacity in the Texas energy market by almost 50% - from approximately 1,900 megawatts to about 2,800 megawatts.

Furthermore, the term of the solar Purchase Power Agreements, which are basically leasing arrangements, are expected to be 25-year commitments. This is much more extensive than the shorter 4-to-10 year potential natural gas capacity agreements. A limited term for the natural gas resource portion of the **FlexPower** Bundle provides a reliable bridge to a future when energy storage should become more cost effective.

The Climate Action and Adaptation Plan (CAAP) sets a solid goal of net-zero emissions by 2050. We believe that it is not practical to only assume the path over the next 30 years is linear. All solutions today and in the near future cannot be renewables only because there is no energy when the sun does not shine. We further believe that progress will occur a few steps at a time, year-after-year, through thoughtful and balanced interim solutions. Again, this will ensure that our customers receive consistent / reliable and affordable power over the next 30 years as we all work to reach our goals.

We will continue to take a deliberate approach in introducing energy storage systems in the future. The exact velocity of these improvements are not known.

Finally, while our Board voted unanimously to support the CAAP in the fall of 2019, it is important to note that the Board's formal resolution explicitly requires our management team to thoughtfully work within the broad strategic framework of our **Flexible Path**. The Board resolution can be found on our website at:

<https://www.cpsenergy.com/content/dam/corporate/en/Documents/Trustees/BOT-Presentations/2019.08.26%20CAAP%20Resolution.pdf>

5. Battery prices dropped 85% between 2010 and 2018. Isn't a ten year lease of a natural gas power plant too long of a commitment given the current rate of technological advancements?

Just because prices have dropped on battery energy storage systems (BESS) over the past few years does not necessarily equate to them being affordable today. Over the past three years, CPS Energy has been dispatching a small BESS into the ERCOT market to gain operational experience. We also own and operate a larger combined solar and BESS facility (10 MW capacity, 1-hour duration or a 5 MW, 2-hour duration), that is scheduled to be fully on-line in December of this year. With this new solar/BESS facility, CPS Energy has taken a major step in using this new technology to produce emission-free renewable energy during high energy use days. We will continue to take a deliberate approach in introducing energy storage systems in the future.

6. Is a ten year commitment to natural gas generation a wise investment when a carbon tax could possibly be passed at the federal level in the next few years?

Please keep in mind that, to date, there has been no formal commitment for any timeframe on any part of the **FlexPower** Bundle. Conversely, we are entering an exploratory period where we will seek more definitive third-party information, which will include recommending definitive timeframes for each part of the Bundle. The initial power quantities in the **FlexPower** Bundle have basically been made as general suggestions to create helpful context. A ten-year agreement for a natural gas resource is more of an outside range. The agreement could be as short as four years.

There has been talk of a Carbon Tax for more than 10 years. While this may or may not happen in the foreseeable future, our solid energy portfolio diversification will help mitigate the relative financial impact to our customers' bills.

While the level of carbon price assessments could be notable, customers could be more impacted by power supply gaps that are more probable for solar power that does not generate when the sun does not shine. The gaps could increase power price volatility and escalation.

Finally, while a carbon tax could increase financial pressure, we believe it will be applied broadly to all market participants. We also believe our diverse energy portfolio will help us mitigate the impact.

7. Would the natural gas-powered generation be used year-round or just during peak demand seasons? Would it be used to sell electricity to CPS Energy service territory customers, ERCOT wholesale customers. or both? If both, to what extent for each?

The natural gas resource would be used to serve both our retail and wholesale customers. As presented to the Board of Trustees, a natural gas resource dedicated to CPS Energy

would return the most value to our customers if it runs based on market conditions. It therefore would have the potential to run at any hour of the year. Its output, combined with the output of the rest of the CPS Energy portfolio, would serve the CPS Energy customer base. To the extent there is excess energy produced by the entire portfolio, beyond the needs of the retail customer base, this is considered off-system sales, the benefits of which serve to meet the financial needs of CPS Energy and defer the need for annual rate increases, which has been the case for the last six years. The capacity will be used as needed. Even so, it would represent less than 10% of our total portfolio before and after the older natural gas resources are closed.

8. What is the efficiency of the gas unit that CPS Energy wants to contract with?

Efficiency is used to describe the energy that a certain system can extract and make useful from its energy source. Since only combined cycle technology is being considered for the natural gas resource, the efficiency is expected to be very high; in the 50% range (which is similar to our existing combined cycle fleet efficiency). As a comparison, our older natural gas, coal, and nuclear resources are in the 30% to 35% efficiency range, new solar photovoltaic modules are in the 18% to 20% efficiency range, and new wind turbines are about 50% efficient.

9. To what extent has this proposed gas plant been depreciated? Is this a power plant that would otherwise be retiring, but a lease by CPS Energy will extend the life of it?

A specific natural gas resource plant has not been selected, therefore the power plant life is not known. Specific information related to depreciation status and plant life would be under the control of the generation asset owner. However, since only combined cycle units, early in their operational lives, are under consideration, any arrangement would not extend the life of a unit that would otherwise retire.

10. Do CPS Energy's existing gas procurement contracts provide enough natural gas to power this additional proposed NG power plant or would CPS Energy need to pursue an additional natural gas supply contract?

While we work diligently and proactively to maintain our generation units, the older the plants are more likely to be shut down due to age or mechanical failure. Proactively, we therefore plan for the replacement of plants before they need to come offline so that our customers are better assured of Reliable and Affordable energy services.

A specific natural gas resource has not been selected. Details of the natural gas supply arrangement would be determined at a later time. Since the natural gas resource would be an existing plant in the ERCOT market, contracts for natural gas supply already exist. CPS Energy could assume these contracts, negotiate our own, or simply reimburse the owner for the natural gas it schedules to the unit on our behalf. Natural gas is a robust and "liquid" market (i.e. a market with very transparent pricing), so any of these options are possible and relatively equivalent.

11. Could CPS Energy achieve a higher reserve margin by taking the proposed budget for battery storage over the next few years and instead spend it on energy efficiency programs?

We have and will continue to deploy a multi-faceted approach to improve San Antonio's

energy and environmental landscape. To date, we have:

- Closed older coal units;
- Replaced higher emitting coal plants with lower emitting and younger natural gas resources;
- Launched and managed a large and highly successful energy efficiency and conservation program (called the Save for Tomorrow Plan - STEP);
- Become leaders in wind and solar energy.

While energy efficiency and conservation funding is an often less expensive per unit energy investment than energy storage, we need to keep our solutions diversified for the foreseeable future. This said, we will launch into a new exploratory period that will give us more up-to-date information about market offerings. In this way, we keep our options open and optimized.

Energy efficiency programs, such as demand response, can reduce peak consumption. Over the past 10 years, CPS Energy has added over 200 MW of demand response capability. There is an economic and practical limit to the maximum amount of demand response capacity that can be achieved. This limit is much smaller than the 1,700 MW replacement capacity needed to meet peak demand in the next decade.

Thanks again for your continued environmental-focused feedback and engagement about our **Flexible** proposals.

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