



MEMORANDUM

LEGISLATIVE REFERENCE BUREAU

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To: Ald. Robert Bauman
From: Luke Knapp, Legislative Fiscal Analyst
Date: February 12, 2020
Subject: Solar Now Lease Agreement – Rent Formula Analysis

Recently, you asked the Legislative Reference Bureau to review the proposed rental agreement between the City of Milwaukee and We Energies as part of the Solar Now program. The lease agreement uses a formula to annually calculate the monthly rent. Each component of the formula is expanded upon below.

Rent Calculation

Rent paid to the City under the proposed lease agreement is determined by using the following formula:

MISO-accredited capacity of the PV system X value of capacity = rent payment to the City.

The Midcontinent Independent System Operator (MISO) accredited capacity is subject to change each year under the 20-year lease timeframe, based on a MISO annual calculation. The method for producing this accreditation is detailed below. The value of capacity is a fixed rate throughout the duration of the lease, and dependent on the time the lease is signed. This number is also detailed further below.

MISO Accredited Capacity

The annual rent payment under the proposed lease agreement is subject to change each year during the 20-year timeframe. This is due to the annual reevaluation of the MISO-accredited capacity of PV system being used. We Energies states that this number is based on a MISO formula, which is recalculated each year. The formula is the most recent 3 years' historical generation for the hours ending 2:00 PM, 3:00 PM, and 4:00 PM in the months of June, July and August. In year 1 of the lease, that accreditation is determined as 50%. In the proposed lease agreement, We Energies uses the assumption that future years may receive an accreditation of 55%-60%, based on the above formula and 30 years of historical solar irradiance data for Southeastern Wisconsin. A public MISO document titled "Planning Year 2019-2020: Wind & Solar Capacity Credit 2018" confirms that in 2020 the accreditation would be 50%: "New solar units without operational data will continue to receive 50% capacity credit."

In Mr. Barnett's correspondence with the Public Works Committee, he asserts that this assumption of a future accreditation of 55%-60% is inaccurate. To support this claim, he

cites a MISO public document which shows solar capacity credit decreasing over time. The document, with the appropriate slide attached, comes from “MTEP19 Futures”, which is a forecasting model MISO uses, incorporating economic, political and technological changes, to predict future energy trends. The Legislative Reference Bureau reviewed other documents from the MTEP19 Futures, one of which expands further on this solar accreditation:

“PV solar received a 50% capacity credit in MTEP18 – MISO proposes an enhancement to address this in MTEP19”.

“MISO proposes to model a decreasing PV capacity contribution as the amount of forecasted PV increases in and across the Futures. Proposal only impacts reserve contribution in the EGEAS model, not operating capacity”.

These documents appear to support Mr. Barnett’s claims that MISO’s own models are at odds with the numbers projected in the lease agreement. However, the lease agreement states that it is using data specific to Southeastern Wisconsin, which may or may not explain the discrepancy. Likewise, it is unclear as to whether the proposed impact being, in MISO’s words, only to “reserve contribution” and not “operating capacity” might explain the difference.

Value of Capacity (CONE – Cost of New Entry)

Unlike the MISO Accredited Capacity, the value of capacity would be fixed throughout the duration of the 20-year lease. This value is determined by MISO’s current Business Practice Manual, and is the “MISO zone 2 cost of new entry (CONE) for the MISO Resource Adequacy Planning Year”. If the lease were signed today, this number would be \$87,170. A MISO public document, dated September 11, 2019 and titled “Cost of New Entry PY 2020/21: Resource Adequacy Subcommittee”, shows that zone 2’s CONE is projected to increase to \$93,470 in 2020/21, an increase of \$6,300. However, other projections for future CONE were not found and a year-over-year change should not be construed as indicating a trend.

Conclusion

The rental agreement formula does pose some risk to the City:

1. MISO Accreditation fluctuating annually throughout the course of the 20-year lease; and
2. The Value of Capacity being a fixed rate, as the potential revenue may be higher depending on when the lease is signed.

The Legislative Reference Bureau’s review does support Mr. Barnett’s claim that MISO’s projections contradict the We Energies’ projections in separate documents; however, this distinction may be better explained by a subject matter expert.

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