

The Order Validates Duke Energy’s Intent to Interconnect No More Than ~750 MW per Year of Solar Through 2029

B. Powers, January 4, 2023

Conclusion: The maximum average solar interconnection/online rate under the P1 Carbon Plan portfolio used as the base case in the Order will be 770 MW per year to add 5,400 MW of new solar from 2023 through 2029. The Order, consistent with Duke Energy, assumes solar plus storage will be a subset of this solar capacity. Procurement will be accelerated in 2023 and 2024, but the average interconnection rate of that procurement will be spread out over future years. That is the reason that the average interconnection rate through 2029 will be substantially lower than the 2023/2024 procurement rate.

References:

Order, p. 85: The Duke Modeling and Near-Term Actions Panel explained that Duke expects to procure 3,550 MW (inclusive of the 441 MW CPRE shortfall) in years 2022, 2023, and 2024, which leaves an additional 2,300 MW to be procured to reach P1 solar additions by 2029.

Carbon Plan, P1 new solar online by end of 2029 = 5,400 MW (Chapter 3, Table 3-3, p. 20).

Carbon Plan, Chapter 3, Table 3-3 (P1), footnote 10, p. 20) Annual solar additions (of 1,800 MW) represent annual amount [MW] required beginning in 2028 to reach 70%; maximum annual total DEP/DEC solar additions to (future) date (2028) have been 750 MW.

BP – Procurement is not that same as installed and online. Duke Energy is limiting solar interconnection (online) to 750 MW per year through 2027. The front-loading of some solar procurement in 2023/2024 does not mean the average interconnected and online rate will exceed 750 MW per year.

Order, p. 86: At the time of the hearing, the time to place solar resources in service was averaging about 26 to 32 months for projects that do not require the construction of transmission upgrades (implication – if transmission upgrades necessary, time between procurement and interconnected/operational will be longer than 26 to 32 months – it will depend on when the transmission upgrade is operational).

Assuming Carbon Plan start year is 2023, there are seven years to the end of 2029. Therefore:

5,400 MW new solar online (includes SPS subset) ÷ 7 years = 770 MW solar per year

Assuming Carbon Plan start year is 2022, there are eight years to the end of 2029. Therefore:

5,400 MW new solar online (includes SPS subset) ÷ 8 years = 675 MW solar per year