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**UCOP Comments on the 2018-2019 Transmission Planning Process
November 16, 2018 Stakeholder Meeting**

The University of California Office of the President (UCOP) appreciates the opportunity to provide comments on the results presented at the California Independent System Operator's (CAISO) 2018-2019 Transmission Planning Process stakeholder meeting on November 16th, 2018. The Regents of the University of California is the long-term off-taker of Giffen Solar Park, LLC located in Fresno, California; as such, we manage the contract and have scheduling coordinator responsibility for the solar plant.

The CAISO's "Economic Planning - Preliminary Production Cost Simulation Results" presentation indicated that the GFFNJCT-GIFFEN 70.0 kV line #1 constraint resulted in 1912 hours of congestion. CAISO notes that the production cost model (PCM) default 50% RPS scenario modeled 55 MW of existing and future solar generation in the Giffen area which are radially connected to the system over this congested line. The congested line is only 5 miles long and the congestion is serious; UCOP strongly encourages CAISO to prioritize exploring low cost opportunities for an economic upgrade to the line. CAISO's economic planning study highlights that this congestion is not temporary. Unless and until an upgrade or re-rating of the line is implemented, CAISO's study indicates that this congestion will persist indefinitely.

The CAISO study correctly highlighted the congestion on this particular constraint at Giffen. This line is already congested today, before any new resources are added. This current congestion represents both:

- 1) a significant cost of more than \$700,000 per year to the University of California (the long-term off-taker of the project output); and
- 2) a reduction of approximately 16,000 MWh in clean energy production for California customers from the Giffen project (due to ~30% curtailment of the plant output)

For the reasons enumerated above, we strongly encourage CAISO to prioritize exploring opportunities for an economic upgrade to the line. Such upgrades can include (but are not limited to) both dynamic-rating of the line as a short-term solution, as well as reconductoring of the line as a longer-term solution. UCOP requests that all studies and solutions be fast-tracked to mitigate the negative economic impacts of the congestion to California ratepayers.

Additional supporting detail is provided below:

- **Existing congestion:** Between January 2018 and October 2018, the constraint has been binding in 1,546 hours, or 37.6% of the 4112 ON-PEAK hours in the day-ahead market. This is without any additional future solar additions modeled by CAISO in the PCM, but rather with only the 39 MW of today's existing solar which is radially connected through the GFFNJCT-GIFFEN 70.0 kV line #1.
- **Economic impact of existing congestion:** Through significant curtailment of solar power, loss of renewable energy credits (RECs), as well as reduced energy value, the economic cost of this congestion is significant and will continue to be until changes are made. *Over the one-year period of November 2017 through October 2018, overall costs attributable to congestion on this line have been over \$700,000 (in reduced DA energy market revenue compared to the price that would have occurred but for the congestion) for the 20 MW Giffen project. This lost revenue represents a direct increase in the cost of energy to the University of California's Direct Access load.*
- **Environmental impact of existing congestion:** Over this period, *approximately 30% of Giffen solar output has been curtailed, meaning there is 16,000 MWh less renewable energy generated in the heartland of California.* Likely much of this curtailed solar generation must be replaced with gas resources or imports from beyond the constraint, creating additional energy costs and carbon emissions for California customers. Assuming that imported generation is replacing this generation *the curtailment is likely causing over 6,800 tons of additional carbon emissions.*¹
- **Economic impact to other projects:** It is expected that the constraint also imposes additional significant cost (or lost revenue) to two other existing solar projects at Giffen totaling 19 MW, which are owned or contracted to PG&E. This constraint thereby also negatively impacts other ratepayers in California in addition to the University of California.
- **Long-term economic impact:** Given the similar size of the projects (19 MW vs. 20 MW), it is likely that the total congestion cost is in excess of \$1.4 million for all existing projects at Giffen, *which would represent over \$18 million for a 40-year period at a 7% discount rate.* Such high cost would likely make a low-cost upgrade to the constraint a strong candidate to provide long-term economic benefits for CAISO's customers.

Respected submitted by:

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¹ This is calculated using CARB's default emissions rate of 0.428 tons/MWh for imported generation.