

Power Couples March 2025

PJM Co-Located Load Show Cause Order Workshop

Power Couples add clean energy alongside new load* Wind Local grid Solar Surplus interconnection enables rapid generation 12222 deployment 44 Interconnection AAAAAAAAA Existing plant can only serve load after grid Gas plant obligations are met New load 0 GWh RMI – Energy. Transformed.

*without impacting other customore



Example Power Couple serving 250 MW of load



- Indicative PPA price of \$63/MWh for 30 years
- 86% of load served by hourly matched clean
- Incumbent fossil emissions 10% below historical
- Load + RE use 11% of suitable land

PJM region has the second-highest potential for Power Couples, which could serve over 10 GW of large loads in



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Thank you!

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Appendix Regulatory outlook

Region focus: PJM

Regulatory outlook	
Expedited Interconnection	New surplus interconnection rule supports fast generator interconnection, load interconnection process less clear
Ownership allowance & franchise rules	Dependent on owner of existing generator and state franchise and retail rules
Tx costs & export revenue	Overall economics depend on load treatment (ie is it network load) and whether load can have subordinate use of the existing generator

PJM supply curve





Appendix Hourly dispatch



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Appendix Analytical approach

The analysis has three parts that together configure the system and measure its impact



Defining project design requirements as constraints

 $\operatorname{renew}_t + \operatorname{discharge}_t - \operatorname{charge}_t + \operatorname{gas} \operatorname{for} \operatorname{load}_t - \operatorname{clean} \operatorname{export}_t - \operatorname{curtailment}_t = \operatorname{load}_t \quad \forall t \in \mathcal{T}$

- The gas capacity must serve the grid first
 - Maintain baseline exports

gas for $export_t + clean export_t \ge baseline export_t \quad \forall t \in \mathcal{T}$

• Load must be served by new clean during critical hours

 $\operatorname{renew}_t + \operatorname{discharge}_t - \operatorname{charge}_t \geq \operatorname{load}_t \quad \forall t \in \mathcal{C}ritical$

- Gas can only serve a specified fraction of load $\sum_{\mathcal{T}} \text{gas for } \text{load}_t \leq \rho \sum_{\mathcal{T}} \text{load}_t$
- Gas generation must not exceed a fraction of its historical value

$$\sum_{\mathcal{T}} (\text{gas for load}_t + \text{gas for export}_t) \le \varepsilon \sum_{\mathcal{T}} \text{historical export}_t$$