Proposal to Better Accommodate Public Policy Resources

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PJM Capacity Construct Public Policy Senior Task Force

Sustainable FERC Project

Policies for a Clean Electric Grid

Questions posed I

- How define problems that our proposal trying to solve?
  - Status quo does not sufficiently accommodate policy-preferred resources, some of which seasonal; other proposals don't address barriers
  - Status quo RPM does not procure MWs with attributes (e.g., non-emitting, flexible) as preferred by policy, but currently enables compensation for attributes outside of RPM while enabling compensation of basic MWs needed for resource adequacy through RPM (don't change this)
  - "Low prices" in times of oversupply – not efficient to administratively reprice to what would be deemed "competitive" offers under long-term equilibrium conditions

Questions posed II

- Proposal accommodate resources w/ government preferences on a non-discriminatory basis?
  - Yes, proposal resource neutral, reduces barriers to these resources
- Will proposal encourage or frustrate state policy objectives/subsidies?
  - Proposal accommodates; it's neutral – neither encourages nor frustrates

Questions posed III

- Definition of an actionable subsidy?
  - At minimum: should not include compensation for attributes RPM doesn't remunerate, especially those internalizing environmental externalities; should not include assistance for newer technologies scaling up, seeing declines in costs (every resource has benefitted from these)
- What impact does your proposal have on energy markets? Will proposal mitigate long term price suppression in the capacity market and/or the energy market?
  - Proposal can help with price formation by reducing administratively driven oversupply

Problem: Accommodate

- RPM not sufficiently accommodating public policy resources
  - Does not take into account or compensate attributes (e.g., CO2-free) desired by policies, only procures and compensates basic MWs necessary to satisfy resource adequacy needs
  - Annual-only CP product has made this worse: 2017 BRA under 100% CP – much lower participation from renewables and DR
    - DR fell by 24%, solar fell by almost 63%
    - Wind fell by 8% compared to last year

Problem: Capacity oversupply

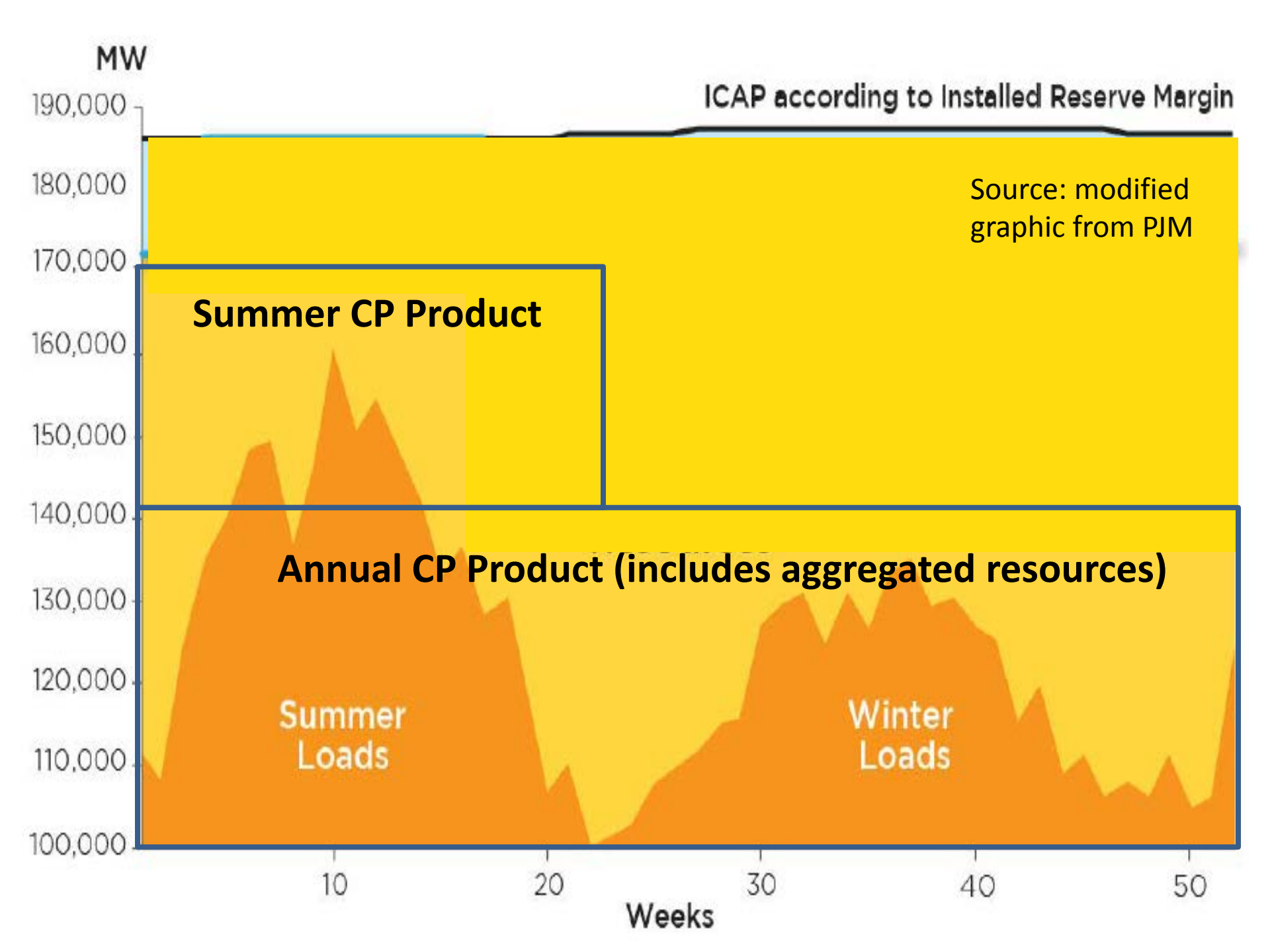
- Drives down energy market price per MWh for generators
  - Particularly detrimental to energy-only resources which make less due to revenues shifting from the energy to capacity market
- Increases total costs to consumers when VRR positioned to procure more capacity than needed
- Mutes locational/temporal energy price signals and price signals needed to incent flexibility

Oversupply mutes price signals for flexibility, consumer choice

- Large reserve margins: costs borne by customers regardless of willingness to pay for high level of resource adequacy
- Smaller reserve margins: customer see incentives to invest in flexibility
  - Customers desiring a higher degree of reliability can invest in DG, storage, and microgrids
  - Customers wishing to save money can participate in flexible demand programs

Proposal part 1

- Procure annual CP product to meet off-peak (usually winter) needs and procure
  - a summer CP product for summer peaking zones
  - (optional: a winter CP product for winter peaking zones)
- Keep cost allocation as is; seasonal CP product can be cleared like legacy summer-only DR prior to CP changes
- Separate CP products would reduce oversupply, and enable seasonal, policy-preferred resources to participate
- Continue to investigate improvements to aggregation
  - Seasonal aggregations < 400 MWs ~ 0.2% of the total capacity procured in 2017


MW
190,000
180,000
170,000
160,000
150,000
140,000
130,000
120,000
110,000
100,000
ICAP according to Installed Reserve Margin
Source: modified graphic from PJM
Summer CP Product
Annual CP Product (includes aggregated resources)
Summer Loads
Winter Loads
10
20
30
40
50
Weeks

Proposal part 2

- To address accommodate and oversupply problems:
  - Public policy resources or attributes may be procured (bilaterally or otherwise) prior to auction
  - Ensure these policy MWs are accounted for in RPM
    - If public policies/subsidies only compensate for the attribute (e.g., carbon-free) but not for the basic part of the MWs needed for resource adequacy purposes, continue enabling these resources to obtain RPM revenue for the basic part of the MWs
    - If public policies/subsidies are sufficient such that resource does not need RPM revenue, enable LSEs contracting these resources to opt out of the corresponding amount of capacity obligation

No repricing in our proposal

- Basic MWs shouldn't be paid the same as MWs with policy-preferred attributes. Repricing can inflate prices for all MWs as if they have attributes
  - Resources receiving compensation for attribute only should be allowed to recover the amount it costs to generate a basic MW from RPM. Consumers residing in the state w/ policy pay costs of attribute, RPM pays for basic MW
- Price of a basic MW is the intersection of the S and D curves (which account for oversupply). It is not the administratively determined "competitive" offer price under equilibrium conditions (i.e., in situations where there is no oversupply)