

# Long Term Capacity Market Changes

Capacity Coalition 2

August 1, 2023

# Why the Market Needs to Change

- Legacy 'Annual' resources are retiring and will not be replaced in kind by units with similar characteristics.
- Market rules were designed specifically for these declining exiting units.
- New capacity is needed to fill both the anticipated retirement gap and increasing load growth
- 24/7 price signal will no longer attract replacement resources since new resources have very different performance characteristics
- Developing a market that builds on the foundation of RPM but importantly sends granular/interval prices will attract new resources and technologies.
- PJM needs many new types of resources to maintain system reliability

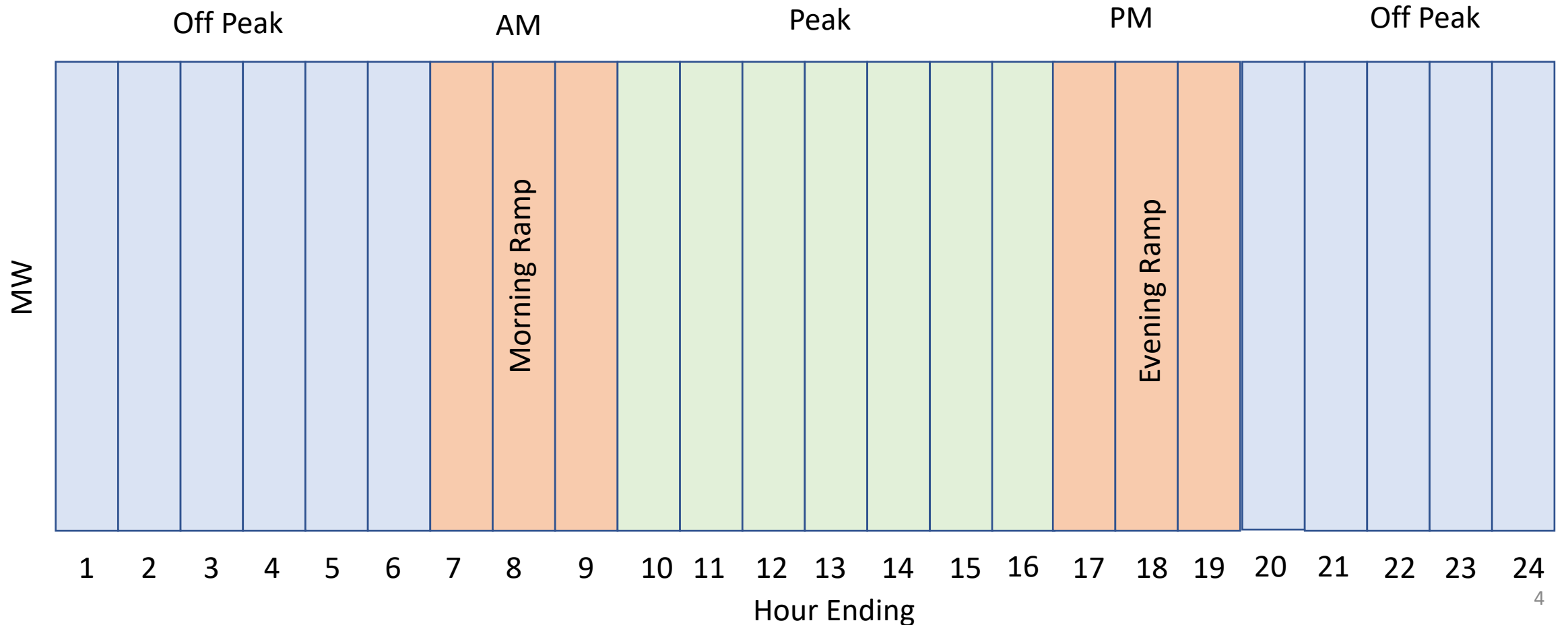
# Interval Pricing Solution

- By 2030, move to monthly seasons with 4 intervals/day pricing
- Sends the right price to incentivize appropriate market responses for high demand and/or low supply periods.
- Supports and integrates solar, wind, storage, DERs to provide needed and timely supply to contribute to system reliability needs.
- Recognizes actual availability of intermittent supply - Units must bid what they can actually offer.
- Allows PJM to apply today's ELCC model, including weather and outage correlations to capacity demand intervals and eliminates need to try to annualize intermittent resources output.

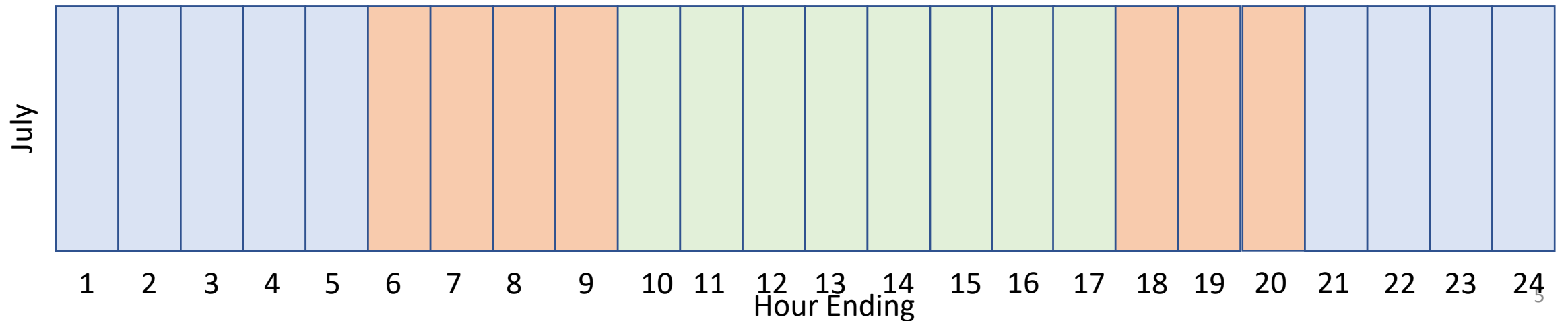
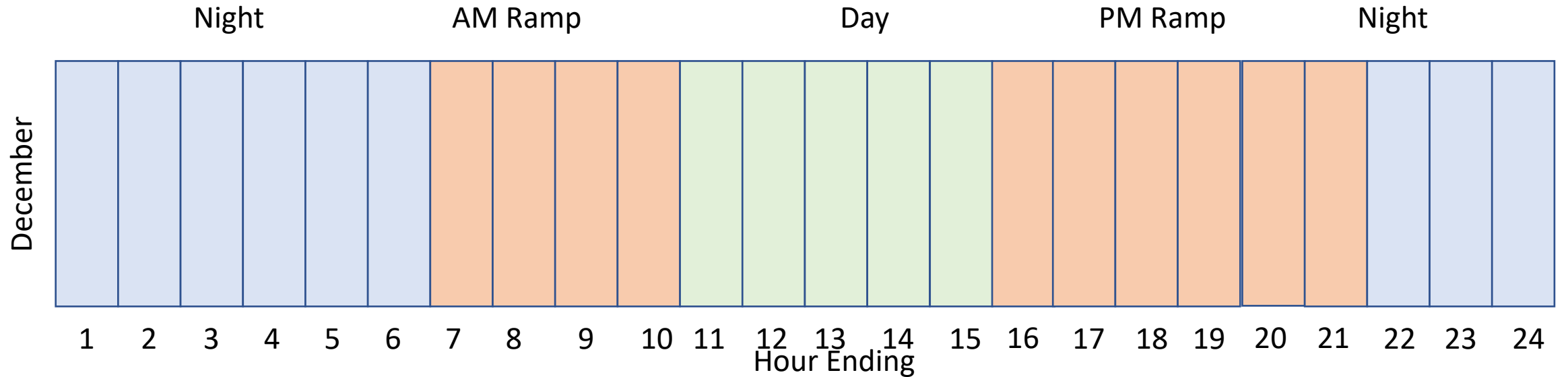
# Season with four Time-of-Day Intervals Example

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One Season with four Time-of-Day intervals Off-Peak, AM Ramp, Peak, PM Ramp



# Changing Seasons could allow for Changing Intervals



# Concept Can Solve Offer and Commitment Issues

- Units must offer for intervals they can perform
  - PJM can clear flexible output units in key intervals
- Eliminates ELCC need on supply side:
  - Allows PJM to adjust demand base on unit performance during weather extremes
  - Units offer seasonal and interval adjusted output
- Market sets prices for each season/interval through auction:
  - Send right price to market. Match prices with supply and demand outcomes.
  - New storage entry for peak system needs
  - Growing DER market for capacity during peak needs
  - Proper and common-sense valuations for both intermittents and annual resources
  - Allow Market Mechanisms and innovation to satisfy reliability needs

# Long Term Solution

- 24/7 price signal will not get future technology capacity built for the times when it is needed most.
- RPM is not aligned with actual resource availabilities, capabilities and risk and ELCC adjustments fail to match real capabilities
- Maintain the framework of the current structure, while adopting and implementing a sub-annual/hourly framework
- Encourage competitive market response by utilizing a market established dynamic supply/demand granular prices
- Target monthly with four time of day intervals by delivery year 2030

# Long Term Solution - Implementation

- Two seasons are just a start towards incentivizing and accommodating flexible and intermittent units
- Our request is for PJM to initiate a subsequent 'CIFP' type effort to appropriately design a more granular market
- A vote in favor to support this long-term proposal at the Stage 4 MC meeting would send a signal to PJM to continue to pursue an improved capacity market that incents the appropriate types and amounts of needed new capacity.