

# Capacity Market Overview

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# Capacity vs. Energy

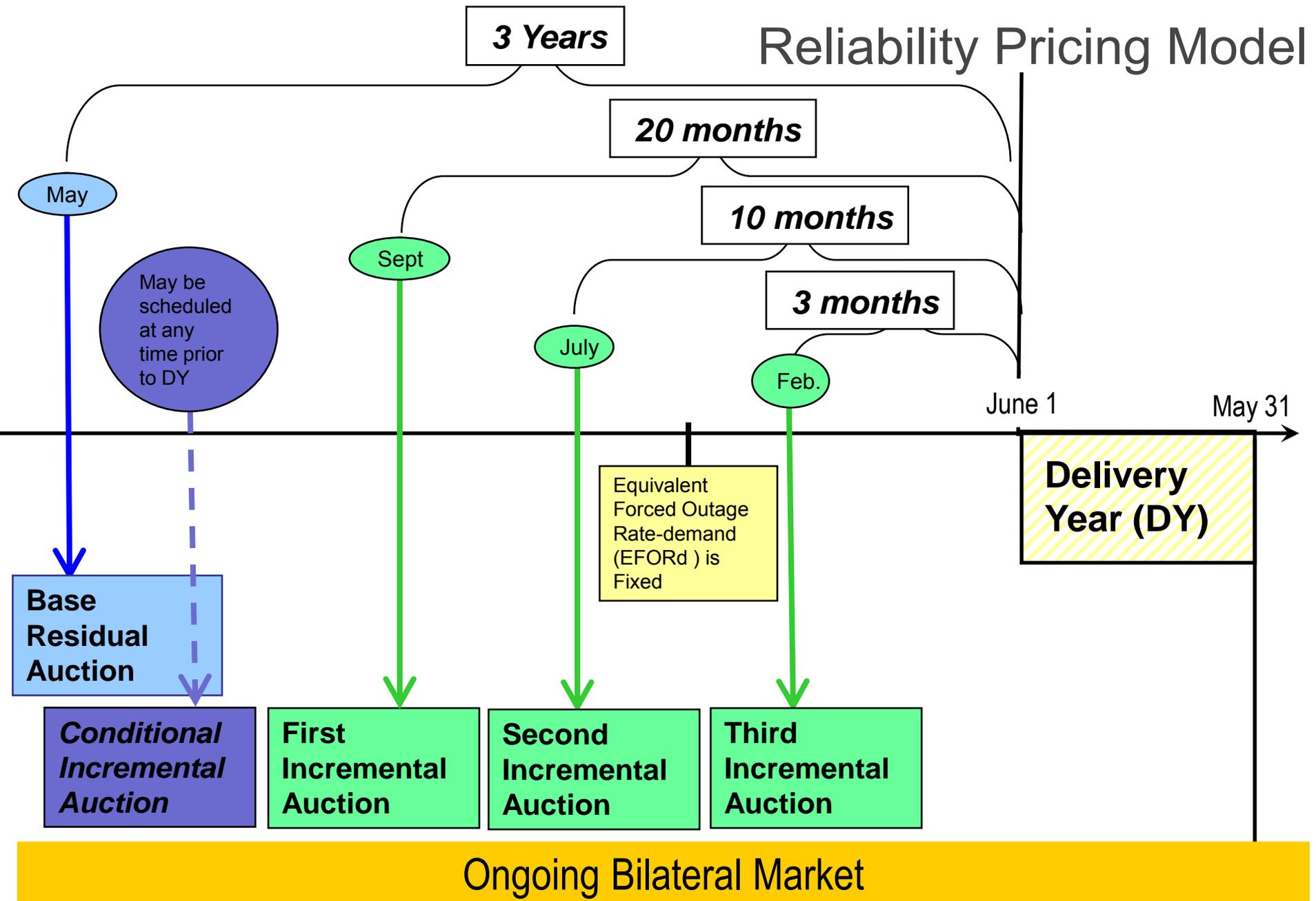
## Capacity

- A commitment of a resource to provide energy during PJM emergency under the capped energy price.
- Capacity revenues paid to committed resource whether or not energy is produced by resource.
- Daily product

## Energy

- Generation of electrical power over a period of time
- Energy revenues paid to resource based on participation in PJM's Day-Ahead & Real-Time Energy Markets
- Hourly product

# Reliability Pricing Model



# Interconnection Process

- A generator is pre-certified by PJM as meeting the generation deliverability test. PJM's Interconnection Process for internal generating resources for energy-only and capacity resource are described in the Tariff and the Operating Agreement.
  - Attachment BB - Inverter-Based Generating Facility
  - Attachment EE - ARR Upgrade Request
  - Attachment FF - Initial Study Agreement
  - Attachment Y - Generation Interconnection of 2 MW or Less
  - Attachment N - Generation Interconnection Request
  - Attachment S - Merchant Transmission Request

# Interconnection Process

- Application for Capacity Interconnection Request:
  - Attachment N - Generation Interconnection Request
- Application for Energy-Only Interconnection Request include:
  - Attachment BB - Inverter-Based Generating Facility
  - Attachment Y - Generation Interconnection of 2 MW or Less
- Capacity Injection Rights (CIRs) are subject to limitations of injection rights to the bus to which the facility is currently or about to be connected to through the interconnection process.

**Attachment N is the only interconnection request attachment that grants Capacity Injection Rights.**

# Peak Load Contribution (PLC)

- The prior year's zonal weather-normalized RTO-coincident summer peak load is allocated to the wholesale and retail customers in the zone using EDC-specific methodologies that typically employ the customer's shares of RTO actual peaks. These allocations are referred to as Peak Load Contributions, used in the determination of the customer's capacity obligation.
- Any behind the meter or load management can reduce the peak load if they are employed during the RTO actual peaks.
- The peak load reductions are added back if the behind the meter or load management participated as a capacity resource in the capacity markets.

# Generators as RPM Capacity Resources

- Generators are required to reside in the eRPM resource portfolio of a signatory to the PJM Operating Agreement.
- Generators that have an RPM Resource Commitment must offer into the Day Ahead Energy Market.
- Generators are required to report outage data (i.e. eGADS, eDART).
- Generators are required to submit seasonal test data.
- Generators are subject to RPM performance assessment penalties.

# Generators as RPM Capacity Resources

- Solar and wind generation are classified as Intermittent Resources. Rules for Intermittent Resources are described in **Appendix B: Calculating Capacity Values for Intermittent Capacity Resources** of PJM manual **M-21**.
- Installed Capacity (ICAP) value is based on the summer net dependable rating of a generating unit as determined in accordance with PJM's Rules and Procedures.

# RPM Demand Resource

- Participants may wish to offer behind the meter generation into PJM Capacity Market as a Demand Resource (DR) to receive capacity revenues.
- DR is required to submit compliance event data, or in the case there are no events, submit test compliance data.
  - Failure to submit compliance data results in penalties.
- DR option for NEM is questionable.
  - When PJM calls for implementing DR in a capacity emergency, the NEM must be started (or the output must be increased) to reduce the net load on the grid from the end-use customer. NEM resource that is operating at its maximum output either meeting the customer load and/or injecting into the grid cannot function as DR.
  - NEM based on solar or wind also cannot function as DR due to the variable nature of the output.
  - DR may not reduce their load below zero (i.e., export energy into the system) RAA, Schedule 6, Section L.