



# PJM Capacity Market Changes: Capacity Performance and Demand Response

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February 5, 2015



# Capacity Performance Proposal

Performance  
Incentives /  
Penalties

Operational  
Availability  
and Flexibility

Fuel Security

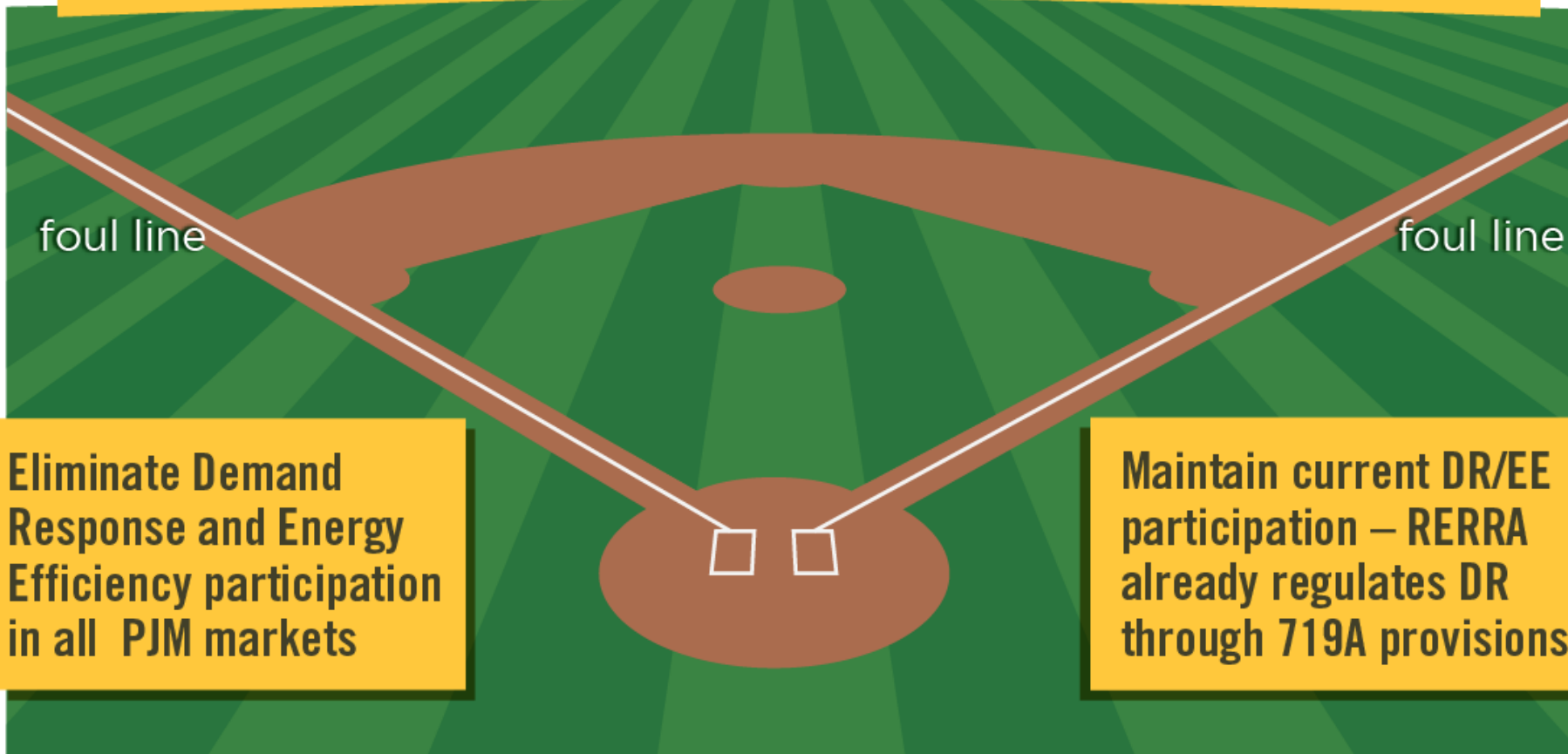
| Component                | Current RPM Rules                        | Capacity Performance  |
|--------------------------|--|---|
| Product Definition       | Obligation to be available               | Obligation to deliver energy during emergencies                 |
| Performance Hours        | 500 per year                             | Emergency procedures  |
| Obligation               | Average Availability                     | Deliver energy during specific hours                            |
| Flexibility Requirements | Resources compensated even if inflexible | Flexibility requirements based on physical unit characteristics |
| Performance Payments     | Peak hour availability based on average  | ~\$4,000/MWh during emergencies                                 |

- Demand Response uncertainty
- Net reduction in available generation
- 2015/2016 Delivery Year – PJM filings to allow:
  - Procurement of additional generation under a reliability must run type of mechanism
  - Waiver of requirement to sell back Capacity in the Incremental Auction due to a reduction in the Reliability Requirement

|                                      | 2016/2017                          | 2017/2018                          |
|--------------------------------------|------------------------------------|------------------------------------|
| Capacity Performance quantity target | 60% of RTO Reliability Requirement | 70% of RTO Reliability Requirement |
| Offer Price Cap                      | 0.5 times Net CONE                 | 0.6 times Net CONE                 |
| Performance Payments and stop loss   | 50% of proposed long-term values   | 60% of proposed long-term values   |

# Evolution of Demand Response

## Broad range of interpretations





A stylized illustration of a cable-stayed bridge. The bridge has two tall, grey, A-frame towers. The bridge deck is blue and grey, with a railing. The bridge is supported by two large, grey, trapezoidal piers. The background is white with faint, grey, wavy lines.

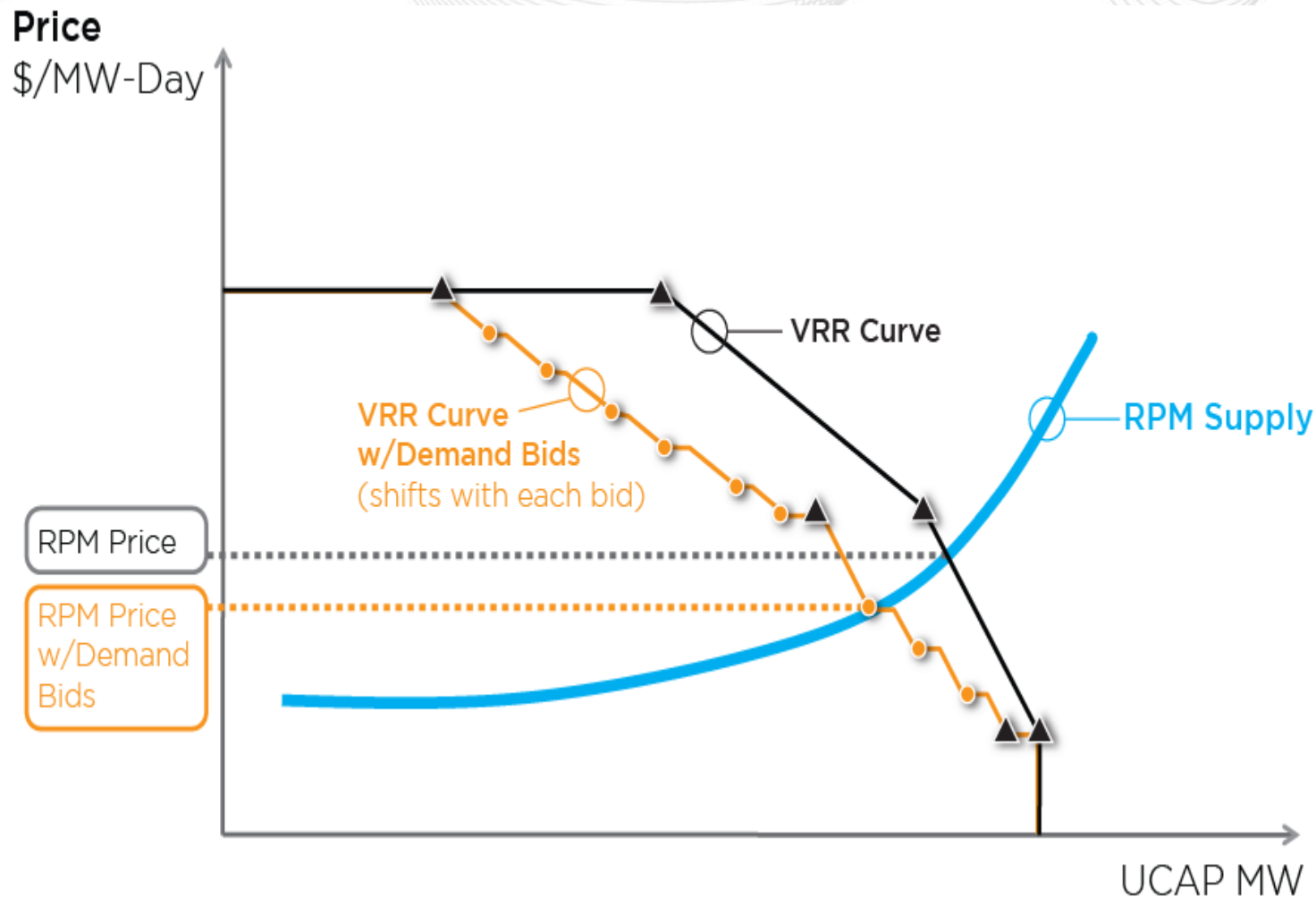
Current state of market uncertainty

Proposed path toward market clarity and confidence – contingent on Supreme Court Action



# Demand Response: PJM's Filing vs Today

|                          | <b>Today</b>   | <b>PJM Filing</b>                                     |
|--------------------------|--|---|
| Capacity market          | Supply resource<br>(Similar to generation)                   | Demand bid  |
| Capacity obligations     | Reduce load per rules  | Same  |
| Who manages?             | Curtailement service provider/load serving entity            | Load-serving entity/retail service provider           |
| End-use customers        | All may participate subject to regulatory rules              | Same  |
| Energy market            | Economic or emergency resource; paid full LMP                | No direct compensation; benefits through cost-savings |
| Ancillary service market | Curtailement service provider or load-serving entity manages | Same  |



Shown based on existing PJM VRR Curve. PJM has proposed an alternative demand curve as part of its triennial review process.

# Who Offers Demand Response into PJM's Markets Today?

A Venn diagram consisting of three overlapping circles. The largest circle on the left is blue and labeled "Curtailment Service Providers". The middle circle is green and labeled "Competitive Retail Suppliers". The smallest circle on the right is red and labeled "Utilities". The circles overlap in various combinations, and each circle is associated with a text box on the right side of the slide.

## Curtailment Service Providers

Specialize in DR/EE services and do not supply the energy needs of their customers

## Competitive Retail Suppliers

Some retail suppliers provide DR/EE services to their customers

## Utilities

### Retail Choice States

- Utility DR/EE programs offered to SOS/BGS/POLR customers
- Utility DR/EE programs offered to any customers

### Vertically Integrated States

- Utility DR/EE programs offered to the utilities customers