



# Benefits Calculation

May 18, 2018

- Simulation Years\*
  - Simulate benefits for RTEP year only
- Trend Extrapolation\*
  - Fix benefits beyond RTEP year at RTEP year benefits
- Benefit Calculation Period\*
  - 10 years after project in-service date, capped at RTEP+10
- Sensitivities\*
  - Mandatory sensitivities
    - To be defined prior to the beginning of market efficiency window
    - Have a B/C ratio threshold of 1.00
  - Optional sensitivities
    - To be defined during market efficiency project evaluation process
    - Do not have to pass any B/C ratio threshold

\* Updated since last MEPETF Meeting on 4/20/18



# Energy Benefits Key Elements and Recent Updates (cont'd)

- Benefit Adjustment for In-Service Date\*
  - It is PJM's goal to address energy constraints by the RTEP year, and to incentivize projects that are designed and proposed to be in service by RTEP year
  - PJM will adjust energy benefits of projects that are proposed to be in service later than the RTEP year to account for any savings forgone due to later in-service date
  - Example:

## Proposal 1:

Annual benefit = \$10M  
Annual revenue requirements = \$4M  
In-Service year = RTEP

B/C Ratio = 2.50

## Proposal 2:

Annual benefit = \$10M  
Annual revenue requirements = \$4M  
In-Service year = RTEP+1

Lost savings in RTEP = \$6M

B/C Ratio = 2.27

\* Updated since last MEPETF Meeting on 4/20/18

- Simulation Years
  - RPM and RTEP years
- Benefit Calculation Period\*
  - 2 years
- In-Service Date\*
  - To be in service prior to establishing planning parameters for the next BRA planning period.
  - In the event a transmission expansion cannot be attained by the RPM year, PJM will consider capacity market solutions beyond RPM year, and before RTEP year.
- Benefit Adjustment for In-Service Date\*
  - PJM will adjust capacity benefits of projects that are proposed to be in service later than the RPM year to account for any savings forgone due to later in-service date

\* Updated since last MEPETF Meeting on 4/20/18

- PJM does not include the zones which have an increase in total Net Load Payments (over project evaluation period) when calculating total energy benefits.
- However, annual negative benefits for transmission zones with a positive total benefit are included in project benefit calculation.

| Zonal Benefit | Year 1  | Year 2  | Year 3  | Year 4 | Year 5  | ... | Year 14 | Year 15 | Benefit NPV | Zone included? |
|---------------|---------|---------|---------|--------|---------|-----|---------|---------|-------------|----------------|
| Zone 1        | \$(751) | \$(348) | \$(348) | \$55   | \$458   | ... | \$3,020 | \$3,261 | \$8,932     | Yes            |
| Zone 2        | \$385   | \$231   | \$77    | \$(77) | \$(234) | ... | \$(712) | \$(766) | \$(1,515)   | No             |

- Including zones with a total negative benefit in energy benefit calculation will
  - penalize zones that are paying high LMPs by not addressing the congestion
  - reduce the chance of approving market efficiency projects
  - make benefit calculation inconsistent with cost allocation