

Incremental Auction Revenue Rights

Brian Chmielewski Manager, Market Simulation June 12, 2019 Markets Implementation Committee

Interregional IARRs

| Action Required | Deadline | Who May Be Affected |
|------------------------|-----------|-----------------------------|
| Education | 6/12/2019 | FTR/ARR Market Participants |
| Send questions to PJM | 6/30/2019 | FTR/ARR Market Participants |
| Proposal Matrix Design | 7/10/2019 | All Stakeholders |
| Proposal First Read | 8/7/2019 | All Stakeholders |
| | 10 | |



• IARR coordination with MISO approved in April 2019

Address concerns with FTR underfunding as a result of approved customer-funded IARR projects that impact market-to-market coordinated flowgates

- Key takeaways:
 - IARRs are supported by transmission upgrades that can provide additional capability on PJM and MISO facilities
 - PJM guarantees the final awarded IARRs represent at least 80% of the original requested/determined IARRs
 - MISO cannot guarantee Firm Flow Entitlements to support IARRs that may impact coordinated flowgates which can directly cause FTR underfunding



- PJM and MISO offer an IARR product for transmission expansions that add incremental capability to the PJM system
- IARR MWs are awarded for the incremental capability created for the life of the facility or 30 years, whichever is less
 - Must be simultaneously feasible with all existing Stage 1 ARR
 - Valued each year based on Annual FTR Auction clearing prices
- PJM offers an additional option allowing stakeholders to obtain an IARR by agreeing to fund transmission upgrades needed to support the request



MISO-PJM IARR Coordination

Customer requests IARR through the PJM queue

PJM performs a transfer analysis PJM identifies violations in PJM and MISO PJM and MISO identify necessary upgrades to address the violations When the upgrades are completed, RTOs will coordinate the IARR request and FFEs

Customer receives IARRs requested from PJM

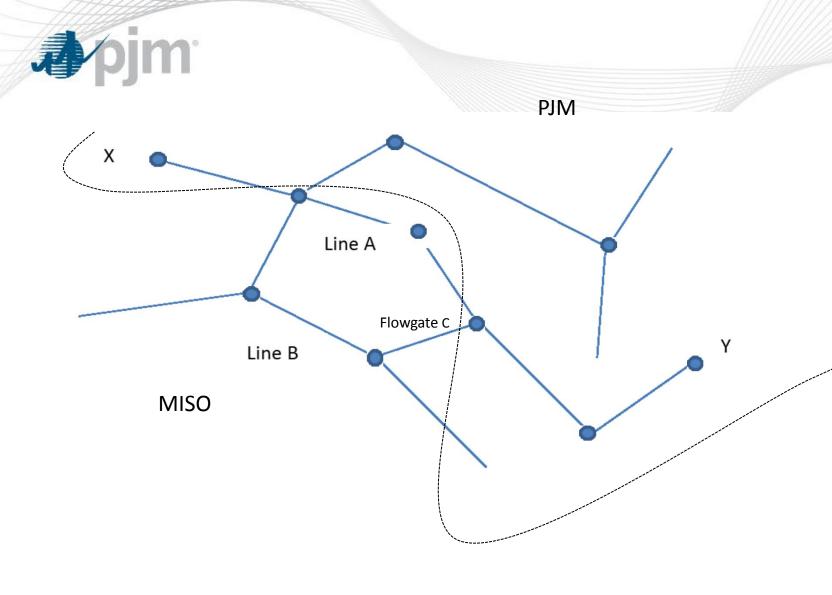
5

PJM©2019



Identified Gaps in Process

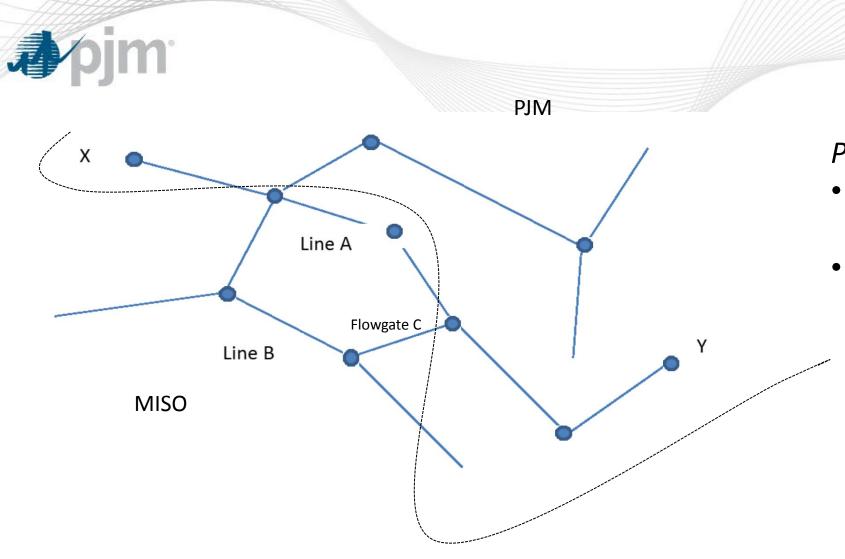
- Proper transfer of FFEs is needed on impacted flowgates to support IARR request to ensure FTR Revenue Adequacy
- PJM requirement to guarantee at least 80% of IARR MW
 - May require some guarantee from MISO on future FFE allocations, which MISO cannot guarantee given the potential risk to value for MISO stakeholders
- Non-active flowgates may impact feasibility of IARR if activated in future



Illustrative Example

IARR Submission

- Source Location: X
- Sink Location: Y
- MW Requested: 200MW Market Analysis Results
 - Line A and B are limiting elements in latest ARR
 Allocation
- 100MW additional flow on Line A and B, 50MW on Flowgate C as a result of IARR submission



Illustrative Example

Planning Coordination

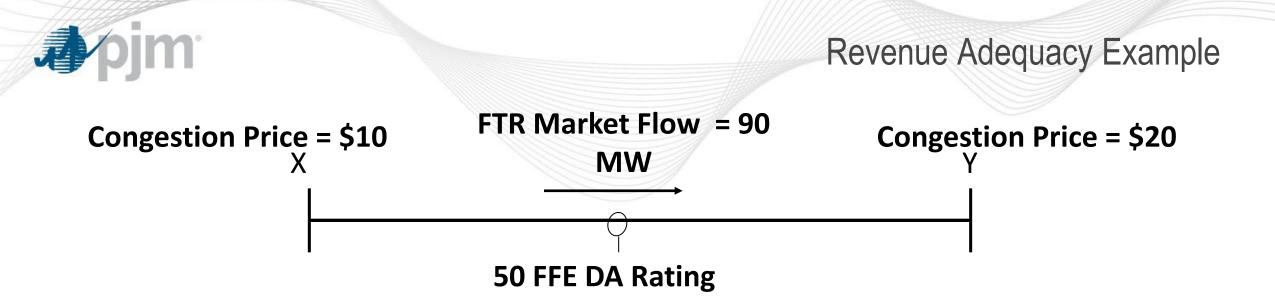
- Re-conductor Line A and B to address violations
 - Physical reinforcements
 are not needed for FG C,
 however it is now 50MWs
 over-allocated from an
 FTR/FFE perspective



- Based on illustrative example Flowgate C would be 40 MW over allocated in the annual FTR auction
 - 160 MW IARR (80%) would be modeled in the annual FTR auction
 - DA Congestion revenue collected on that path would be restricted/based on preexisting FFE limit

IM

1



Day Ahead Congestion Charge = 50 MW (\$20 - \$10) = <u>\$500</u>

FTR Target Allocation

Total FTR Target Allocation = 90 MW (\$20 - \$10) = <u>\$900</u>

FTR Target Allocation payout is 56%



Next Steps

- Any questions can be addressed to the FTRGroup@pjm.com
- Design Components/Options Matrix at July MIC