



BOUNDLESS ENERGY™

# Proposed ARR/FTR Solution Package

AEP

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# Observed Issues with Current ARR Design

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- Unable to adjust an ARR portfolio to respond to changes in market congestion.
- Unable to fully utilize residual transmission capability in local areas.
- Unable to submit ARR replacement requests earlier when new units coming online in middle of a planning year.
- Unable to hedge congestion of MW purchases from energy market.
- Unable to accommodate generation profiles of renewables.
- Unequal distribution of congestion surplus money.
- Decreased financial value of IARR due to re-defined source or sink point.

# Main Features in AEP's Proposed Solution Package

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- Add new ARR products, expand ARR biddable points, and increase ARR nomination frequencies while keeping intact 24H annual product, zonal baseload guarantee, and allocation structure.
  - Increase revenue returns to ARR holders.
  - Increase utilization of transmission capability available to ARR holders without aggravating transmission infeasibility.
- Distribute congestion surplus in proportion to unfilled ARR MW amount.
- Guarantee original definitions of IARRs.
- Open to enhancements for remaining design components.

# AEP's Proposed Solution Package

#	Design Components	AEP	Justification
1	Availability and Assignment of Congestion rights to Load	see below design components 3 and 5.	
2	Product Definition	<b>status quo plus the option of seasonal and monthly peak and off-peak ARR products.</b>	In addition to the 24H annual product, additional ARR products with granular time periods would increase the nomination possibility and revenue profitability for ARR holders.
3	Allocation mechanism	<b>1. similar to status quo structure-wise. Our annual allocation starting with 60%-75% of zonal baseload, NSPL, and the transmission capability, followed by monthly allocations up to 100% of zonal baseload, NSPL, and the transmission capability. 2. For ARR holders who don't want to adjust their nominations during monthly allocations, they can default to their annual nominations instead. 3. Eliminate monthly residual ARR allocations.</b>	Design Component 3 goes hand in hand with 4.
4	Allocation Frequency	<b>status quo plus the option of monthly nominations.</b>	In addition to the annual nomination, additional monthly ARR nominations would give ARR holders a chance to adjust their portfolios to respond to congestion changes in the market.
5	ARR nomination point availability	<b>same as PJM's proposed design plus the availability of reference bus for stage 1B and stage 2.</b>	Inclusion of the reference bus would provide ARR holders with a hedging path for power purchases from the energy market.

#	Design Components	AEP	Justification
7	Auction Surplus	<b>Auction/Congestion surplus goes to FTR deficiencies first, residual allocated to ARR holders proportional to unfilled MW volume ("unfilled" defined as &lt;ARR NSPL minus total awarded volume in all ARR stages/rounds&gt;).</b>	This new allocation method would provide more surplus money to ARR holders who don't have enough MW awards.
8	Congestion Surplus	<b>Auction/Congestion surplus goes to FTR deficiencies first, residual allocated to ARR holders proportional to unfilled MW volume ("unfilled" defined as &lt;ARR NSPL minus total awarded volume in all ARR stages/rounds&gt;).</b>	This new allocation method would provide more surplus money to ARR holders who don't have enough MW awards.
9	Model details	<b>Seasonal and Monthly Models (quarterly to replace annual products; Jun-Aug, Sep-Nov, Dec-Feb, Mar-May) for both peak and off-peak classes.</b>	Design Component 9 goes hand in hand with 2.
10	Amount of guaranteed ARRs	<b>status quo.</b>	A guarantee amount higher than a zonal baseload would escalate the current transmission infeasibility. The enhancements in our proposal would increase awards for ARR holders without aggravating transmission infeasibility.
12	IARR model development and SFT assumptions and procedures	<b>For IARRs of any type, the source and sink shall remain valid, biddable nodes (not subject to retirement/replacement) in all FTR auction types and for all periods, for the life of the IARR. Provision retroactive to current IARRs.</b>	A financial value of an IARR needs to be guaranteed.
22	Bid submission upload capability	<b>status quo plus the option of the csv format.</b>	The CSV format is easier to work with and maintain.
23	Implementation date	<b>6/1/2022 for the enhancements easier to implement and concurred by PJM. 6/1/2023 for the remaining enhancements.</b>	Benefits can be delivered in stages, depending on preparation efforts and implementation time.

# Appendix: Current and Proposed Allocation Mechanisms

- Current ARR design: 100% of capabilities for annual allocation
- Proposed ARR design: 60% of capabilities (that needs to be approved by stakeholders) for annual allocation; remaining capabilities released in monthly allocation
- Comparison Summary:

			Current ARR Design			Proposed ARR Design		
Allocation	Period	Stage	Nomination Cap	Transmission Capability	Schedule	Nomination Cap	Transmission Capability	Schedule
Annual	21/22	S1A (guaranteed)	100% of ZBL	100%	3/2/21-3/3/21	60% of ZBL	60%	3/2/21-3/3/21
		S1B	100% of NSPL - S1A Annual Awards	100%	3/5/21-3/8/21	60% of NSPL - S1A Annual Awards	60%	3/5/21-3/8/21
		S2 (3 rounds)	100% of NSPL - (S1A & S1B Annual Awards)	100%	3/15/21-3/30/21	60% of NSPL - (S1A & S1B Annual Awards)	60%	3/15/21-3/30/21
Monthly	Jun-21	S1A (guaranteed)	N/A	N/A	N/A	100% of ZBL - S1A Annual Awards	100%	
		S1B	N/A	N/A	N/A	100% of NSPL - (S1A & S1B & S2 Annual Awards + S1A Monthly Awards)	100%	5/5/21-5/6/21
		S2 (1 round)	N/A	N/A	N/A	100% of NSPL - (S1A & S1B & S2 Annual Awards + S1A & S1B Monthly Awards)	100%	