Annual ARR & Self-Scheduled FTR

February 13, 2023
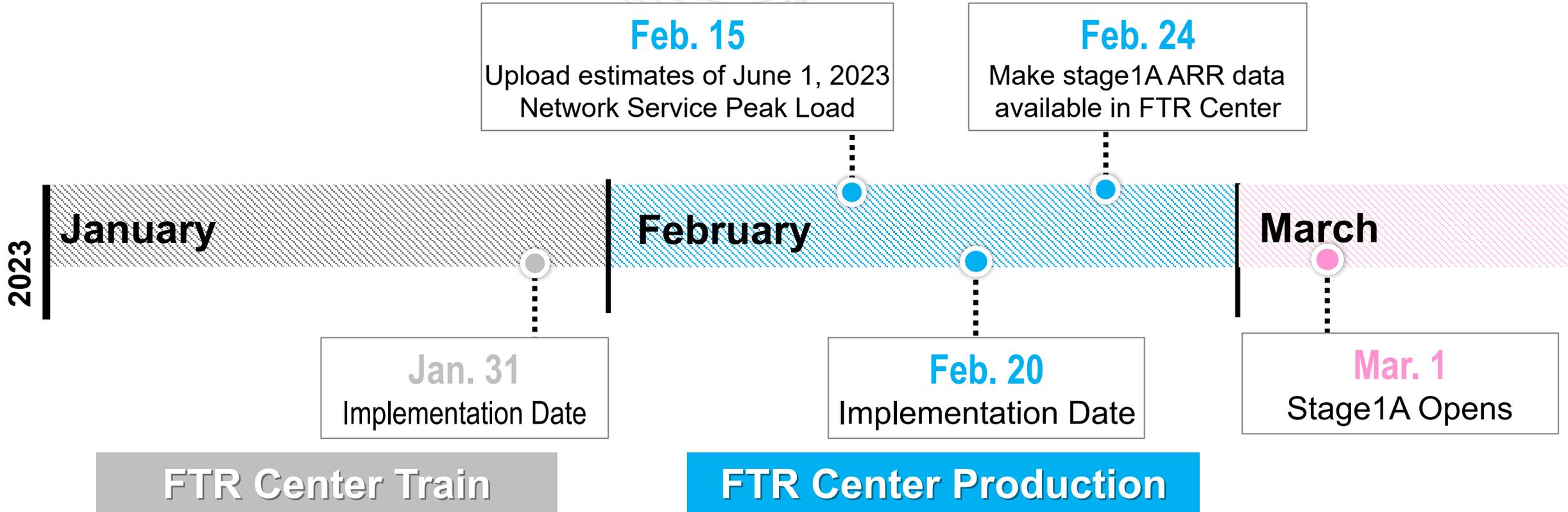
Xu Xu

Lead Engineer, Market Simulation
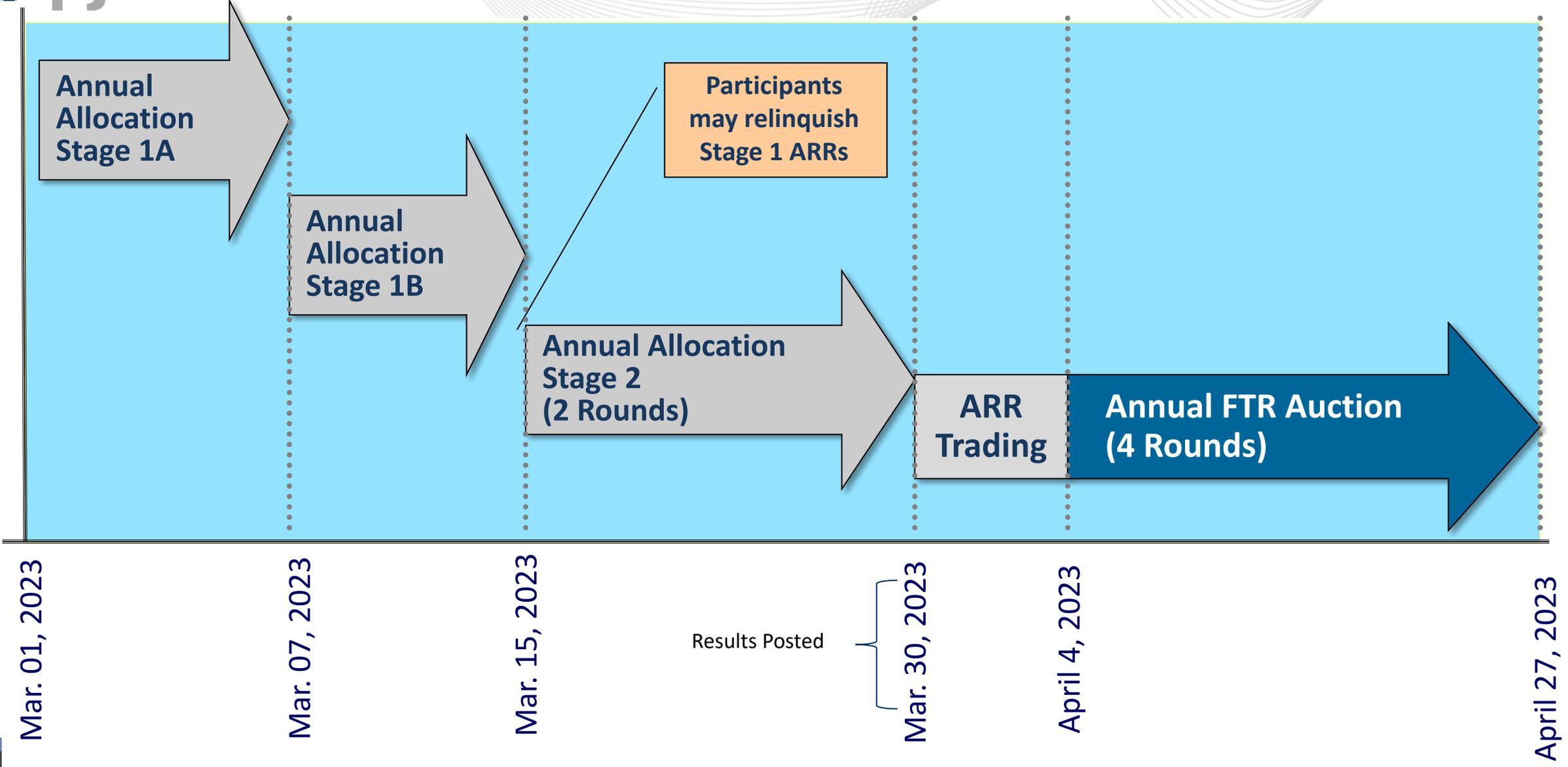
- 1/17/2023 - New presentation
- 2/13/2023 - Add schedule

Product - Action Required	Deadline	Who May Be Affected
Release – Train	**January 31**	ARR Allocation Participants
Release – Production	**February 20**	ARR Allocation Participants
Annual ARR Opens	**March 1**	ARR Allocation Participants
Annual FTR Opens	**April 4**	Only FTR Auction Participants who can Self-Schedule

Feb. 15
Upload estimates of June 1, 2023
Network Service Peak Load

Feb. 24
Make stage1A ARR data
available in FTR Center

2023

January **February** **March**

Jan. 31
Implementation Date

Feb. 20
Implementation Date

Mar. 1
Stage1A Opens

FTR Center Train

FTR Center Production

ARR Changes

- Stage 1A MWs up to 60% of Network Service Peak Load
- New source pnodes for Stage1B
- New sink pnodes for Stage 2

Self-Scheduled FTR

- Pre-change, only 24 h class type
- All class types (24 h, On-Peak, Daily Off-Peak, Wknd On-Peak) are available

Pre-changes

ARR Round	Source Pnode	Sink Pnode	Capability (MW)
Stage1A	Active historical resources or Qualified Replacement Resources	Aggregate Network Customer Load in the Transmission Zone or other designated Load Aggregation Zone	Up to value of Zonal Base Load (ZBL)
Stage1B	Same as stage1A	Same as stage1A	Up to Network Service Peak Load (NSPL)
Stage2 Round1	any available generator, interface, hub, zone	Same as stage1A	Up to Network Service Peak Load (NSPL)
Stage2 Round2	Same as Round1	Same as stage1A	Up to Network Service Peak Load (NSPL)
Stage2 Round3	Same as Round1	Same as stage1A	Up to Network Service Peak Load (NSPL)

Changes

ARR Round	Source Pnode	Sink Pnode	Capability (MW)
Stage1A	Active historical resources or Qualified Replacement Resources	Aggregate Network Customer Load in the Transmission Zone or other designated Load Aggregation Zone	Guarantee 60% of Network Service Peak Load (NSPL)
Stage1B	Same as stage1A, plus Hub, Zone and Interface	Same as stage1A	Up to Network Service Peak Load (NSPL) (subject to proration)
Stage2 Round1	any available generator, interface, hub, zone	Same as stage1A, and any available generator, interface, hub, zone	Up to Network Service Peak Load (NSPL) (subject to proration)
Stage2 Round2	Same as Round1	Same as round1	Up to Network Service Peak Load (NSPL) (subject to proration)

Has to be same for stage1A and 1B

Will be 60% of Network Service Peak Load

ARRs
 Request
 Results
Credit
Position
Public
Quotes
Results
Trading
Utilities

Market 2023/2024 ARR   Stage Stage 1A (Open)   Sink Zone BGE_RESID_AGG   Sink BGE_RESID_AGG

Refresh   XML
Save   CSV

Requests IARR Requests

Total Bid MW: 100   Round Capability: 5...2   Network Service Peak Load: ...   Row Count: 57

	Source	Sink	MW Capability	Bid MW
☐	ASYLUM 23 KV LIBRTY10	BGE_RESID_AGG		0.0
☑	BRANDONS24 KV GEN 01	BGE_RESID_AGG	1...	100
☐	BRANDONS24 KV GEN 02	BGE_RESID_AGG	1..9	0.0
☐	CALVERTC22 KV GEN 02	BGE_RESID_AGG		0.0
☐	CALVERTC25 KV GEN 01	BGE_RESID_AGG	1...4	0.0
☐	CONEMAUG115 KV DIESEL	BGE_RESID_AGG		0.0

Bid MW needs to be equal or smaller than the MW Capability

Total Bid MW needs to be equal or smaller than the Round Capability

NSPL minus the cleared MWs of stage1A

Bid MW needs to be equal or less than MW Capability

Additional Source pnodes: Hub, Zone and Interface

Two Ways in UI to add additional sources
- Right click, showing 'Add ARR'
- Change the path from the dropdown list

- Sink (sinkpnodename) has to be the load settlement's point/aggregate

```
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">
<env:Header/>
<env:Body>
<SubmitRequest xmlns:xsd="http://eftr.pjm.com/ftr/xml" xmlns:xsi="http://eftr.pjm.com/ftr/xml" xmlns="http://eftr.pjm.com/ftr/xml">
<ARRQuotes MarketName="2023/2024 ARR" MarketRoundName="Stage 1B">
<ARRQuote>
<Path source="BGE" sink="DOM_RESID_AGG"/>
<MW>0.1</MW>
</ARRQuote>
</ARRQuotes>
</SubmitRequest>
</env:Body>
</env:Envelope>
```

- Can put both sink and sinkZone, but they have to be the same

```
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">
<env:Header/>
<env:Body>
<SubmitRequest xmlns:xsd="http://eftr.pjm.com/ftr/xml" xmlns:xsi="http://eftr.pjm.com/ftr/xml" xmlns="http://eftr.pjm.com/ftr/xml">
<ARRQuotes MarketName="2023/2024 ARR" MarketRoundName="Stage 1B">
<ARRQuote>
<Path source="BGE" sink="DOM_RESID_AGG" sinkZone="DOM_RESID_AGG"/>
<MW>0.1</MW>
</ARRQuote>
</ARRQuotes>
</SubmitRequest>
</env:Body>
</env:Envelope>
```

Market: 2023/2024 ARR
Stage: Stage 2 Round 1 (Open)
Sink Zone: DOM_RESID_AGG

Sink Zone matches the load settlement's point/aggregate

Requests | IARR Requests

Total Bid MW: 0.0 | Round Capability: 8,275.0 | Network Service Peak Load: 10,203 | Row Count: 0

Source	Sink	Bid MW

Add ARR

Any available generator, interface, hub, zone

Source	Sink	Bid MW
100 SHAD34.5 KV GSG6WF	139 MEND34.5 KV WBROOKWF	10.0
AEP GEN HUB	APS	5

ALTOONA 46 KV WARRIORR
AMOS 26 KV AM1
AMOS 26 KV AM2
AMOS 26 KV AM3
AMPOR 138 KV GENDUMMY
APS
ARCHBTAP13 KV PEI 1
ARCHBTAP13 KV PEI 2
ARCHBTAP13 KV PEI 5
ARCHBTAP13 KV PEI 6

211-220/1595

- Has to specify sink zone at the load settlement's point/aggregate
- Sink can be any available generator, interface, hub, zone

```
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">
<env:Header/>
<env:Body>
<SubmitRequest xmlns:xsd="http://eftr.pjm.com/ftr/xml" xmlns:xsi="http://eftr.pjm.com/ftr/xml" xmlns="http://eftr.pjm.com/ftr/xml">
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<ARRQuote>
<Path source="BGE" sink="APS" sinkZone="DOM_RESID_AGG" />
<MW>0.1</MW>
</ARRQuote>
</ARRQuotes>
</SubmitRequest>
</env:Body>
</env:Envelope>
```

Train Implementation

- January 31

Production Implementation

- February 20
- Make stage1A ARR data available on February 24
- Bidding window opens on March 1

- Annual ARR/FTR Training

  - https://www.pjm.com/training/training-resources

- 2023/2024 ARR post materials

  - https://www.pjm.com/markets-and-operations/ftr

- External Interface Specification Guide

  - https://www.pjm.com/-/media/markets-ops/ftr/ftr-external-interface-specification.ashx

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ARR Changes/SelfScheduled FTR

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