

Deactivation Study Duration Proposed Change Education

David Egan

Manager, System Planning Modeling & Support

PJM Interconnection

Problem: Current Tariff Study Timeline Insufficient

- 30 days is all the Tariff affords PJM to complete Deactivation Studies; in which PJM Planning must complete:
 - **Case build(s)** for applicable deactivation period(s);
 - **Analyses** (Gen Delivery, Load Delivery, & N-1-1);
 - Operations **alignment** with results;
 - **Transmission Owner validation** of results;
 - If violations are identified:
 - Mitigation **upgrade identification**;
 - Mitigation **upgrade adequacy** verification (sometimes iterative);
 - Assessment of upgrade completion schedule;
 - If schedule exceeds requested deactivation date:
 - Review alternative upgrades or ability to accelerate queue activity to avoid RMR;
 - Identification of operational measures to avoid RMR;
 - Notify customer of analyses results:
 - Approval to deactivate as scheduled; or
 - If violation mitigation duration exceeds requested deactivation date:
 - Schedule to mitigate; and
 - Need for unit(s) to operate under RMR.



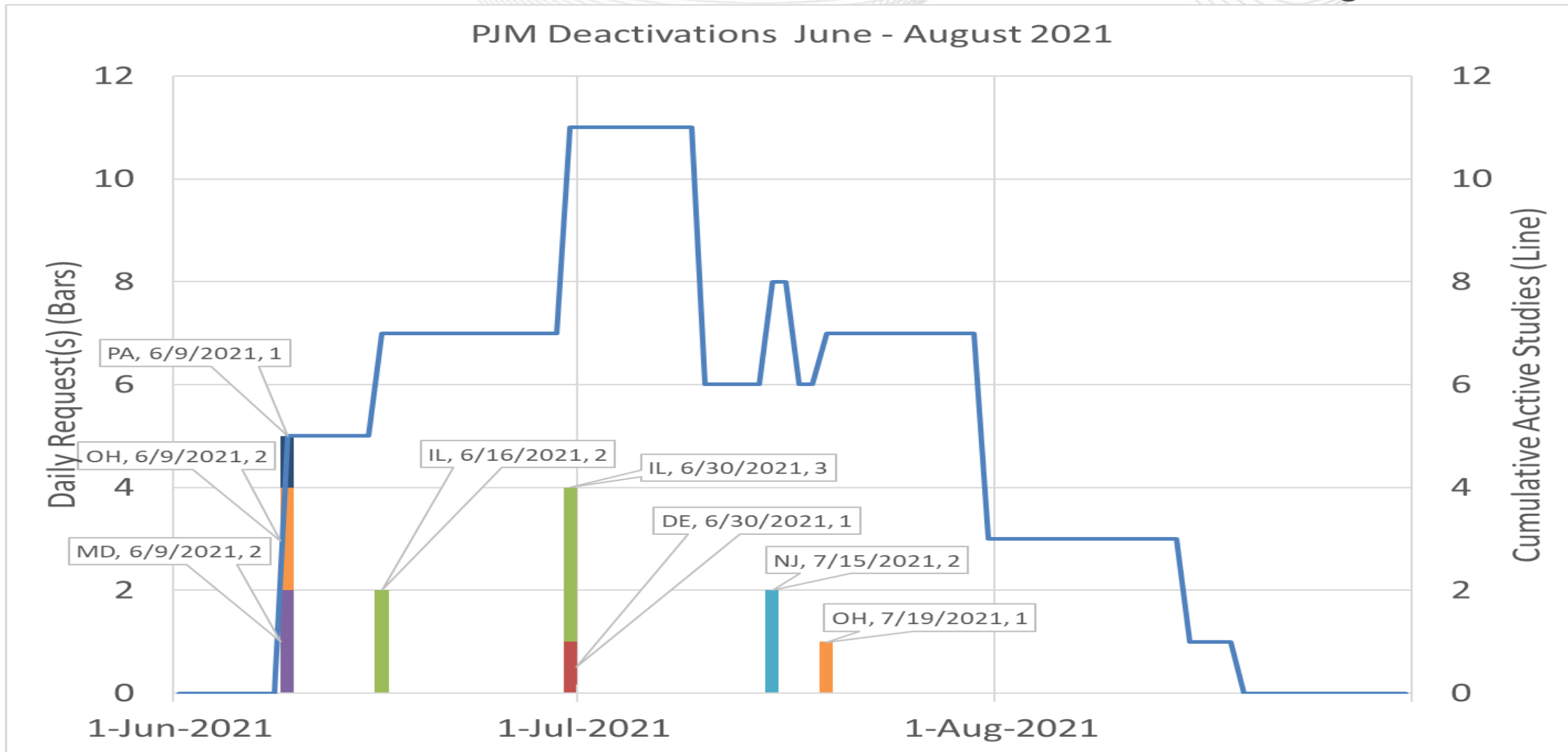
Additional Problems: Current Tariff Study Timeline Insufficient

- Volume, Random, Reactionary, Cost Accuracy
 - Tariff does not provide additional time for multiple requests (**volume**):
 - Simultaneously in one notification; or
 - Close in date to each other;
 - Accurate costs / mitigation are nearly impossible in the 30 day timeline:
 - May have multiple solutions;
 - Not looking at other seasons and years;
 - Inadequate time for proper estimating; and
 - Must assume which will be least cost.
 - Resources are forced to be redirected upon a deactivation notification:
 - Regardless of other priority work; and
 - Provides no ability to plan resources;



- MISO
 - Advanced Notice: 26 weeks (182 days)
 - Studies:
 - 75 days to identify issues
 - 26 weeks to complete study
- NYISO
 - Advanced Notice: 365 days
 - Studies: Subsequent Quarter
- PJM Current:
 - Advanced Notice: 90 days
 - Studies: 30 days
- PJM Proposal
 - Advanced Notice :
 - submittal date dependent
 - Minimum : 3 months and 1 day*
 - Maximum-minimum: 6 months*
 - Studies: Subsequent Quarter

* The foregoing advanced notice constitute the minimum notice period. A longer notice period is permitted.



Proposed Deactivation Process Changes

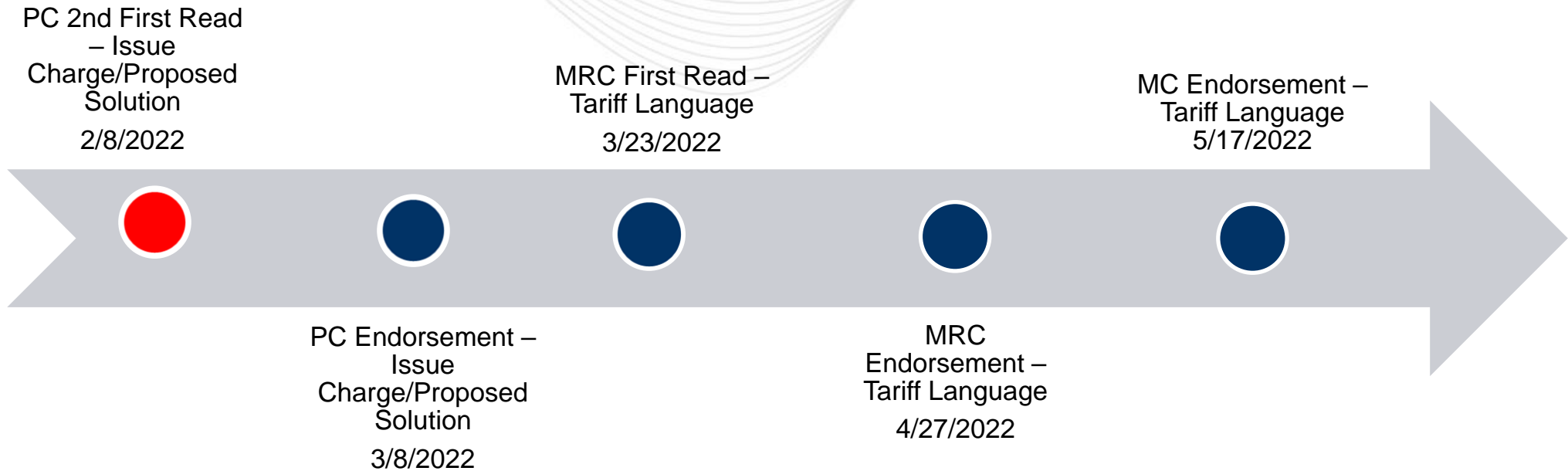
- PJM will study four times per year (quarterly) for all notices received prior to the study commencement date:
 - PJM study period commencements: January 1, April 1, July 1, and October 1.
 - PJM studies as a batch (holistic);
 - Reliability Notifications will be made by end of February, May, August, and September respectively.
 - PJM and TOs have the study period to build cases, run analyses, identify upgrades, review schedule, look for operational measures.
- Accordingly, to request a deactivation a Generation Owner, or designated agent, must submit notice:
 - (a) Between January 1 and March 31 to deactivate July 1 or later;
 - (b) Between April 1 and June 30 to deactivate October 1 or later;
 - (c) Between July 1 and September 30 to deactivate January 1 of the subsequent year or later; or
 - (d) Between October 1 and December 31 to deactivate April 1 of the subsequent year or later.

- Clarifies data submittal requirement with the Deactivation Notice;
- PJM & TO study periods become established, rather than unpredictable (improved efficiency);
- Batch studies vs. as submitted (holistic results);
- Sufficient time for
 - additional seasonal, interim year, and short circuit analyses, as required;
 - scheduling upgrades and estimating their costs; and
 - for PJM Operations to identify operational measures.

- CIRs
 - Existing Tariff language regarding preservation and relinquishment of Capacity Interconnection Rights upon Deactivation, identified in Tariff section 230.3.3, remain unchanged by this proposal.
- RPM Seller Must-Offer Exception Process (See Appendix slides 17-22 for normal and “revised” BRA process timing.)
 - The requirement tied to the deactivation process for both the normal and “revised” BRA schedules is for requestor to have submitted a deactivation notification to PJM prior to the exception “final request” date.
 - These changes do not modify when a Generation Owner can submit a deactivation notice.
 - The earliest BRA that these changes would be in place for would be the 24/25 BRA proposed for December 2022:

24/25 RPM Must-Offer Exception Milestones	Existing	Proposed
Final Exception Request Date (assume 12/7/22 BRA)	7/25/2022	7/25/2022
Advanced Notice	135 days	135 days
Days prior to commitment period (6/1/2024)	677 days	677 days

- There is no link between the exception final request and PJM Planning completing the deactivation analyses or providing results.



Conforming Manual 14D language will proceed through the Operating Committee and SOS

Presenter: Dave Egan
[David.Egan@pjm.com]

Deactivation Study Duration Proposed Change Education



Member Hotline

(610) 666 – 8980

(866) 400 – 8980

custsvc@pjm.com

Appendix



Recent Example PJM Deactivations: June-August 2021

Date/Unit(S)	DE	IL	MD	NJ	OH	PA	Grand Tot
6/9/2021			1232.7			648	2448.2
Avon Lake 10						21	21
Avon Lake 9						627	627
Cheswick 1						567.5	567.5
Morgantown Unit 1			613.3				613.3
Morgantown Unit 2			619.4				619.4
6/16/2021		2310					2310
Byron 1		1168.5					1168.5
Byron 2		1141.5					1141.5
6/30/2021	411.9	1192.4					1604.3
Indian River 4	411.9						411.9
Waukegan 7		328					328
Waukegan 8		354.4					354.4
Will County 4		510					510
7/15/2021				235.5			235.5
New Bay Cogen CC				120.2			120.2
Pedricktown Cogen CC				115.3			115.3
7/19/2021					1320		1320
Zimmer 1					1320		1320
Grand Total	411.9	3502.4	1232.7	235.5	1968	567.5	7918

Single Notification Example

Existing Deactivation 30 Day Study Process

June						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

July						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24

First 10 business days:
PJM develops case and performs analyses. Sends results to PJM Ops and affected TOs.

Second 10 business days:
TOs confirm PJM results and propose mitigation for violations with schedule and high level costs.

Final business day(s): PJM drafts and reviews letter with analyses results (violations) and duration for system upgrades. PJM issues letter customer and IMM by day 30.

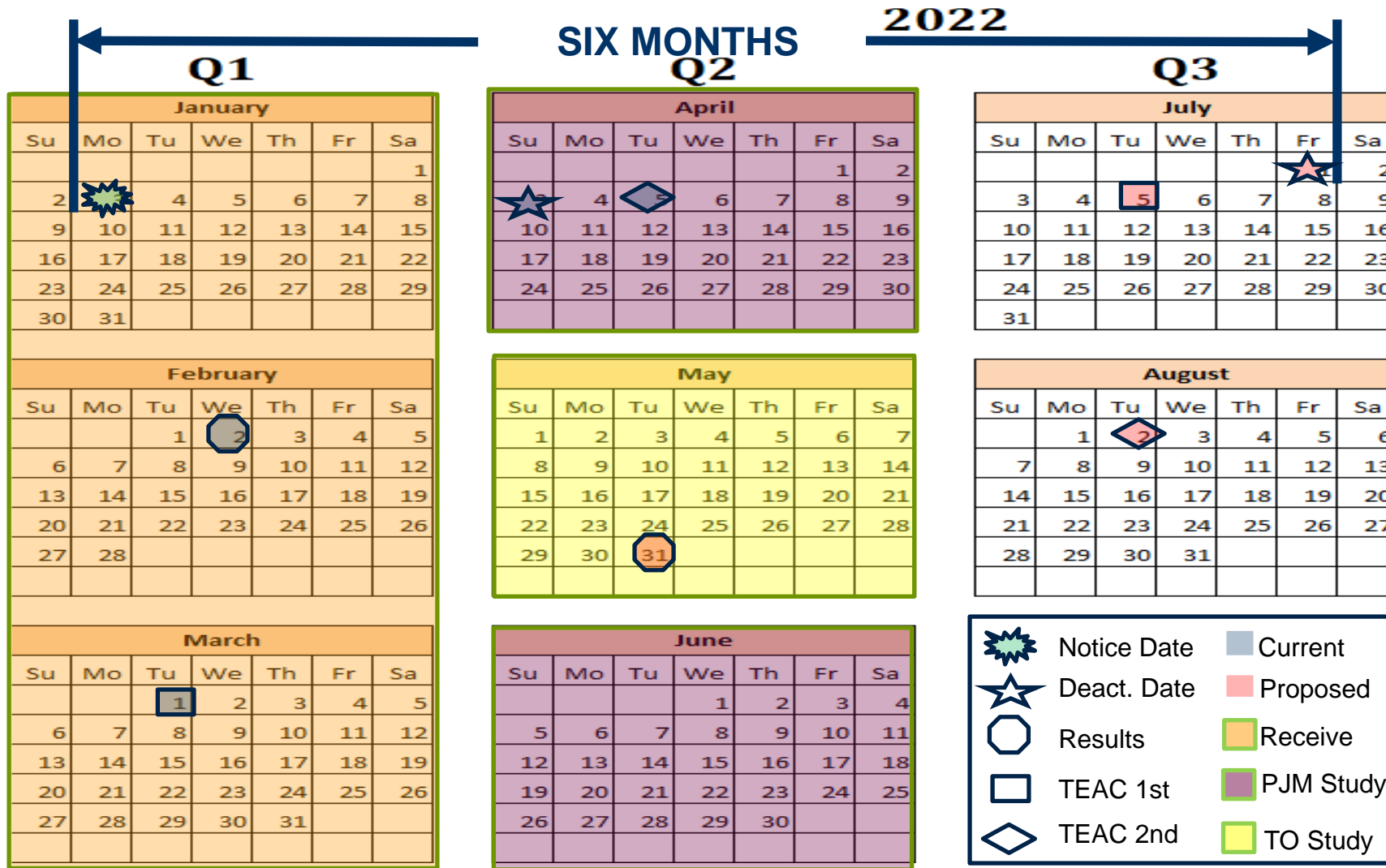
Multiple Deactivation Notices Example (June 2021)

June						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

July						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



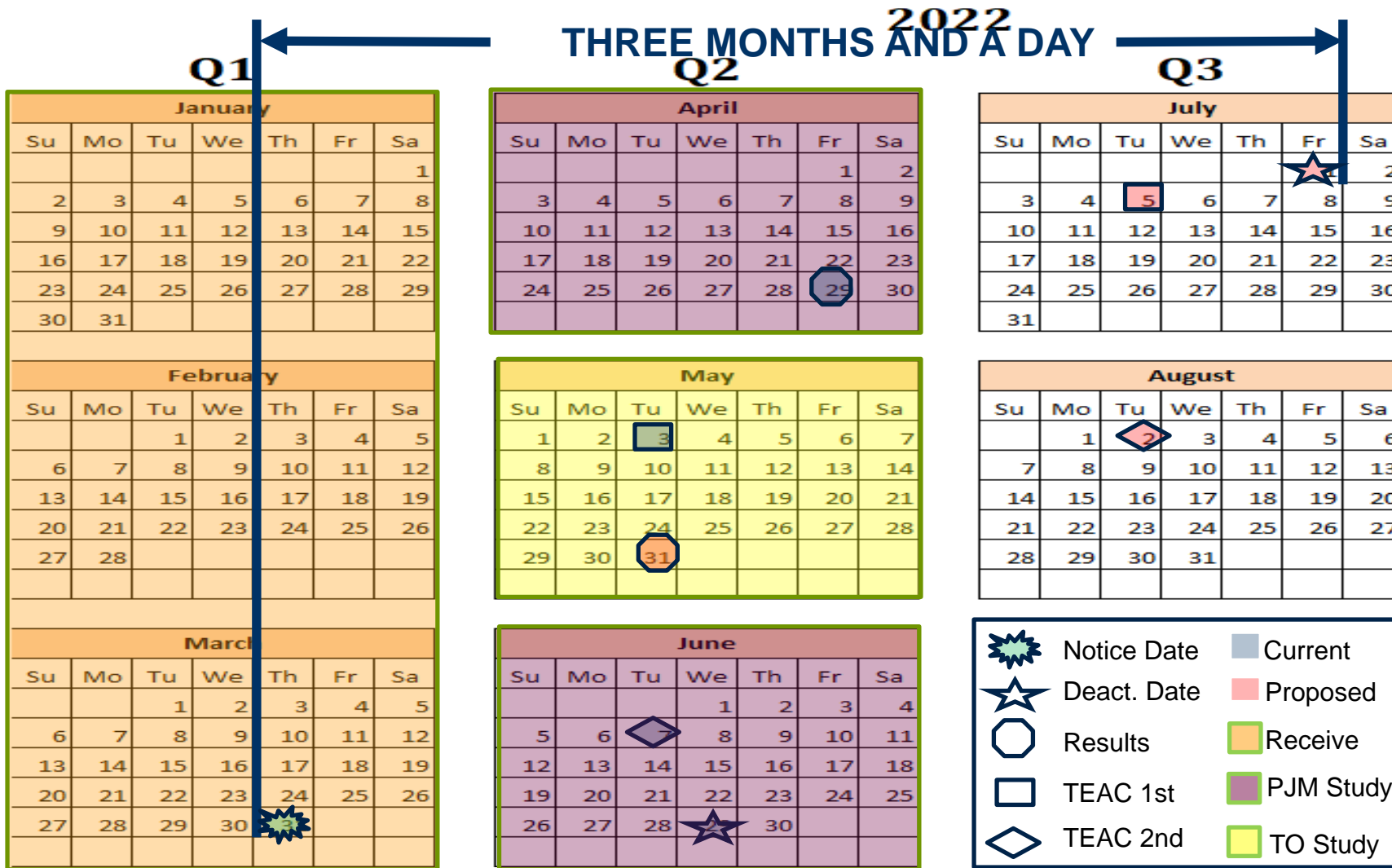
Comparison Example 1 with Minimum Required Advanced Notification: Deactivation Submitted on First Business Day of a Quarter



Criteria	Current (days)	Proposed (days)
Advanced Notice	90	179
PJM Study	10	21
TO Study	10	22
Results	30	148
TEAC 1 st Read	57	183
TEAC 2 nd Read	92	211



Comparison Example 2 with Minimum Required Advanced Notification: Deactivation Submitted on Last Business Day of a Quarter



Criteria	Current (days)	Proposed (days)
Advanced Notice	90	92
PJM Study	10	21
TO Study	10	22
Results	30	61
TEAC 1 st Read	33	96
TEAC 2 nd Read	68	124

RPM Must Offer Exception Process Highlights

Preliminary Request

- Sept 1st prior to BRA
- 240 days prior to IA
- Non-binding and non-public
- Provides PJM advance notice to assess reliability impacts

Final Request

- December 1st prior to BRA
- 120 days prior to IA
- **Must be accompanied / preceded by deactivation notice**
- Deactivation notice posted to PJM Website

IMM Determination

- 90 days prior to auction

Seller Notification of agree/disagree with IMM Determination

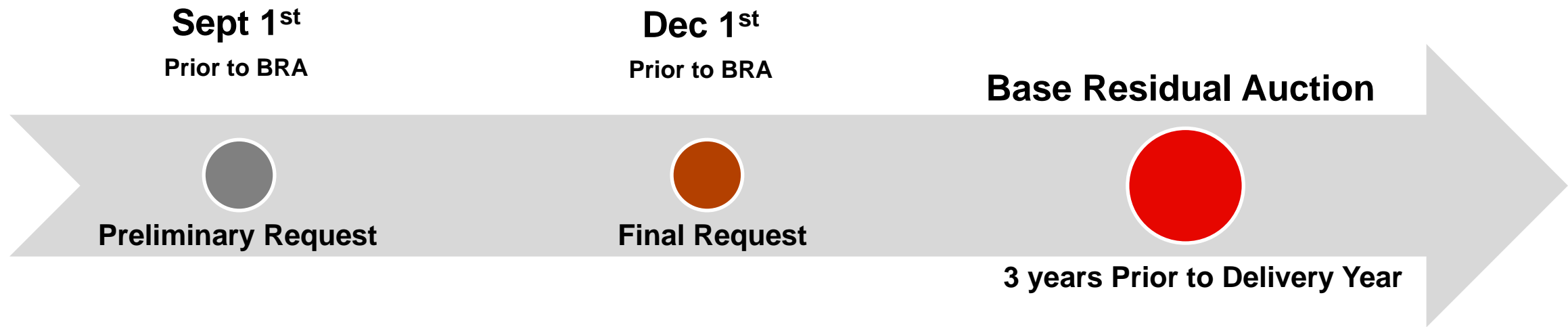
- 80 days prior to auction

PJM Determination

- 65 days prior to auction

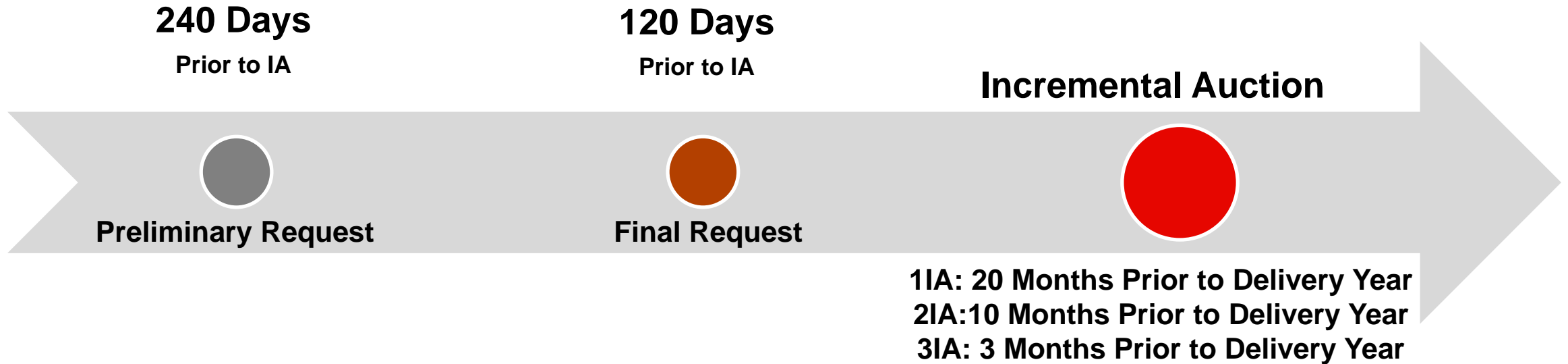


Exception Process - Base Residual Auction Standard Timeline





Exception Process - Incremental Auction Standard Timeline





23/24 BRA Proposed Exception Request Timeline

Activity	Previous Deadline	Proposed Deadline	Tariff Source
Last day for Capacity Market Sellers to request must-offer exception for the reason specified under Tariff, Attachment M-Appendix § II.C.4.A	10/1/2021	2/8/2022	Tariff, Attachment DD 6.6
IMM provides participant with determination on must offer exception	10/31/2021	3/10/2022	Tariff, Attachment M – Appendix
Last day for Capacity Market Sellers to notify PJM/IMM of agreement with IMM determination on must offer exception	11/5/2021	3/20/2022	Tariff, Attachment DD 5.14 & 6.6
PJM notifies participant/IMM of its determination on must offer exception for the reason specified under Tariff, Attachment M-Appendix § II.C.4.A	11/25/21	4/4/22	Tariff, Attachment DD 6.6
Last day for Capacity Market Sellers to notify PJM/IMM whether it intends to exclude from its Sell Offer some or all capacity from its generation resource on the basis of an identified exception to the RPM Must Offer Obligation	11/25/21	4/4/22	Tariff, Attachment DD 6.6

Reference: <https://www.pjm.com/directory/etariff/FercDockets/6501/20220121-el19-58-010.pdf>



24/25 through 26/27 BRA Proposed Exception Request Timeline

Activity	Tariff Source	Revised Days prior to Auction
Seller Preliminary Must-Offer exception request (Deactivation)	Sept. 1 prior to BRA (Tariff, Attachment DD, section 6.6)	waived
Seller Final Must-Offer exception request (Deactivation)	Dec. 1 prior to BRA (Tariff, Attachment DD section 6.6)	135
Market Monitor Determination	90 days prior to auction (Tariff, Attachment M – Appendix)	90
Seller Notification to PJM of Agree/Disagree	80 days prior to auction (Tariff, Attachment DD, sections 5.14 & 6.6)	80
PJM Determination	65 days prior to auction (Tariff, Attachment DD sections 5.14 & 6.6)	65
Seller Notification of intent to exclude Must-Offer Exception MW	65 days prior to auction (Tariff, Attachment DD section 6.6)	65

Reference: <https://www.pjm.com/directory/etariff/FercDockets/6501/20220121-el19-58-010.pdf>



Updated RPM Auction Schedule through 26/27

	Current	Proposed
2023/24 BRA	Jan. 25, 2022, Tue	June 8, 2022
2022/23 Third IA	Feb. 28, 2022, Mon	Feb. 28, 2022
2024/25 BRA	Aug. 9, 2022, Tue	December 2022
2025/26 BRA	Feb. 28, 2023, Tue	June 2023
2023/24 Third IA	March 21, 2023, Tue	March 2023
2026/27 BRA	Aug. 29, 2023, Tue	November 2023
2024/25 Second IA	July 31, 2023, Mon	Cancel (within 10 months from conduct of BRA)
2024/25 Third IA	Feb. 26, 2024, Mon	Feb. 2024
2025/26 Second IA	July 15, 2024, Mon	Cancel (within 10 months from conduct of BRA)
2026/27 First IA	Sept. 9, 2024, Mon	Cancel (within 10 months from conduct of BRA)
2025/26 Third IA	Feb. 24, 2025, Mon	Feb 2025
2026/27 Second IA	July, 14, 2025, Mon	July 2025
2026/27 Third IA	Feb. 23, 2026, Mon	Feb 2026

Reference: <https://www.pjm.com/directory/etariff/FercDockets/6501/20220121-el19-58-010.pdf>

**PROTECT THE
POWER GRID
THINK BEFORE
YOU CLICK!**



Be alert to
malicious
phishing emails.

Report suspicious email activity to PJM.
(610) 666-2244 / it_ops_ctr_shift@pjm.com

