



# Reactive Capability and Voltage Schedule Verifications

Darrell Frogg  
Lead Engineer, Generation Department  
Reliability Standards and Compliance  
Subcommittee  
April 21, 2023



# PJM 2023 Seasonal Reactive Capability Review

## eDART Reactive Capability - Seasonal Review

- The eDART Reactive Capability Seasonal Review function allows PJM to initiate a review of all applicable d-curves once a year.
- The 2023 Seasonal Reactive Capability Review is initiated on April 1, 2023, and will remain open through May 31, 2023.
  - GO Review Phase (April 1 – April 30, 2023): GOs to review and acknowledge accuracy of all active reactive values, and submit updates where necessary.
  - TO Review Phase (May 1 – May 31, 2023): TOs to review and acknowledge awareness of all active reactive values, and ensure their application in the respective TOs real time tools and analysis.
- This function also allows tracking of the GO and TO acknowledgements for each active generating facility reviewed during the process.

D-Curve Unit Acknowledgement Form													
Company: ██████████ Generation, LLC													
Initiate Timestamp: 09/28/2020 10:02 Completed Timestamp: Ongoing Review Type: Generation													
Unit Name	Unit Type	Installed Capacity	D-Curve Metered MVAR Location	Power System Stabilizer	EMS Equipment Name	MW Point	MVAR Min	MVAR Max	User ID	Last Update Timestamp	Acknowledge	Overwrite	Latest Completed Default MVAR Ticket
██████████	Steam/Fossil	380	Low-side Gross	No	██████████ GEN UNIT	50 120 180 230 280 350 400 401	-174 -173 -171 -169 -166 -160 -155 -140	195.3 195 194 193 189 180 169 155			<input type="checkbox"/>		

### D-Curve Unit Acknowledgement Help

**How to Acknowledge, Un-Acknowledge and Overwrite Timestamps for D-Curve Review**

To Acknowledge a Unit, check "Acknowledge" box

**Acknowledge**

---

To update the "Acknowledge Timestamp" to the current time, check "Acknowledge" and "Overwrite" boxes

<b>Acknowledge Timestamp</b>	<b>Acknowledge</b>	<b>Overwrite</b>
01/01/2015 00:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

---

To Un-Acknowledge, uncheck "Acknowledge" box. Please note that un-acknowledging a unit's D-Curve will cause that unit's row to turn yellow

**Acknowledge**

[Close Window](#)

- Check the Acknowledge box that has been verified for each relevant reactive resource

➤ Click the Submit Form button

[Submit Form](#)
[Select All / None](#)
[Color Legend](#)
[Main Menu](#)
[Download](#)
[Help](#)

D-Curve Unit Acknowledgement Form													
Company [REDACTED]													
Initiate Timestamp: 11/01/2022 08:45 Completed Timestamp: Ongoing Review Type: Transmission													
Unit Name	Unit Type	Installed Capacity	D-Curve Metered MVAR Location	Power System Stabilizer	EMS Equipment Name	MW Point	MVAR Min	MVAR Max	User ID	Last Update Timestamp	Acknowledge	Overwrite	Latest Completed Default MVAR Ticket
[REDACTED]	[REDACTED]	100	Low-side Gross	No	[REDACTED] GEN UNIT	0 2 10 20 45 65 85 98	0 -19 -35 -44 -50 -50 -48	0 24 39 45 46.5 45 28			<input type="checkbox"/>		[REDACTED]

### D-Curve Unit Acknowledgement Help

**How to Acknowledge, Un-Acknowledge and Overwrite Timestamps for D-Curve Review**

To Acknowledge a Unit, check "Acknowledge" box

**Acknowledge**

---

To update the "Acknowledge Timestamp" to the current time, check "Acknowledge" and "Overwrite" boxes

<b>Acknowledge Timestamp</b>	<b>Acknowledge</b>	<b>Overwrite</b>
01/01/2015 00:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

---

To Un-Acknowledge, uncheck "Acknowledge" box. Please note that un-acknowledging a unit's D-Curve will cause that unit's row to turn yellow

**Acknowledge**

[Close Window](#)

- Check the Acknowledge box that has been verified for each relevant reactive resource

➤ Click the Submit Form button

[Submit Form](#)
[Select All / None](#)
[Color Legend](#)
[Main Menu](#)
[Download](#)
[Help](#)



# PJM 2023 Annual Voltage Schedule Review

## eDART Voltage Schedules - Annual Review

- The eDART Voltage Schedule Annual Review function allows PJM to initiate a review of all applicable voltage schedules once a year.
- The 2023 Annual Voltage Schedule review was initiated on April 1, 2023, and will remain open through May 31, 2023.
  - TO Review Phase (April 1 – April 30, 2023): TOs to review and acknowledge accuracy of all active voltage schedules, and submit updates where necessary.
  - GO Review Phase (May 1 – May 31, 2023): GOs to review and acknowledge awareness of all active voltage schedules, and ensure their application in the respective generating facilities.
- This function also allows tracking of the TO and GO acknowledgements for each active voltage schedule reviewed during the process.

## TO Review Phase – Steps for Annual Review

- Click the *In Effect* filter option to select only *Active* and *Needs Schedule* tickets in the TO's zone.
  - *Active* tickets indicate generator voltage schedules that have been fully processed (i.e. TO submitted, PJM Reviewed, and GO Acknowledged) and are currently in effect. These should be reviewed for accuracy by the TO.
  - *Needs Schedule* tickets indicate:
    - Generators without submitted TO voltage schedules. TOs need to submit voltage schedules for these generators.
    - Generators with already submitted TO voltage schedules that have not yet been fully processed (i.e. not yet GO Acknowledged or Active). These do not require any further action by the TO.
- Click orange **Acknowledge** button to complete annual review.





## Voltage Schedule (as of 01/04/2019 15:38)

Needs Schedule (4 / 4)  
  Submitted (0 / 0)  
  Pending Review (0 / 0)  
  TO Review (0 / 0)

PJM Reviewed (1 / 0)  
  GO Acknowledged (0 / 0)  
  Saved (0 / 0)  
  Active (1 / 0)

Completed (1 / 0)  
  Canceled by TO (3 / 0)  
  Canceled by PJM (9 / 0)

In Effect  
  Canceled Prev. Ack. (6 / 0)  
  Late (0 / 0)  
  GO Comments (0 / 0)

Trans. Owner:    
 Gen. Owner:    
 Trans. Zone:    
 From Date:  To Date:

Unit Type:    
 Unit Name:    
 Ticket #:

Incl. Hist.  Eff. Date  TO Date  GO Date

TO Date Filter – click to perform date search on tickets acknowledged during TO Annual Review

Click In Effect checkbox to filter for Active and Needs Schedule Tickets

**Annual Review**  
 Annual Review - TO Phase:

Click acknowledge to confirm that you have completed annual review of all active voltage schedules

 
  
  
  
  
  
  

Annual Review Section is visible only when Annual Review in progress and not yet acknowledged

Click Acknowledge Button to Complete TO Review after reviewing all applicable tickets

Annual Review Message for TOs

## Voltage Schedule Tickets

Ticket #	GO Company TO Company	TR Zone	Unit Name Equipment Name Bus Name	Voltage Schedule Type	Normal			Light			Heavy			Effective Date	Status	Comments
					Target	Lower	Upper	Target	Lower	Upper	Target	Lower	Upper			

## GO Review Phase – Steps for Annual Review

- GO View defaults to PJM Reviewed filtered tickets. Any tickets in this status need to be reviewed by the GO, and GO Acknowledged after implementing at the respective generators.
- Click *In Effect* filter to select only *Active* and *Needs Schedule* tickets.
  - *Active* tickets indicate generator voltage schedules that have been fully processed (i.e. TO Submitted, PJM Reviewed, and GO Acknowledged) and are currently in effect. These need to be reviewed by the GO to ensure accurate implementation at the respective generators.
  - *Needs Schedule* tickets indicate generators without submitted voltage schedules, or generators with submitted voltage schedules that have not yet been fully processed (i.e. not yet GO Acknowledged or Active). These do not require any action by the GO.
- Click orange **Acknowledge** button to complete annual review.

**Voltage Schedule (as of 01/04/2019 15:58)**

Needs Schedule (26 / 0)  Submitted (4 / 0)  Pending Review (0 / 0)  TO Review (7 / 0)

**PJM Reviewed (0 / 0)**  GO Acknowledged (1 / 0)  Saved (0 / 0)  Active (14 / 0)

Completed (0 / 0)  Canceled by TO (5 / 0)  Canceled by PJM (37 / 0)

In Effect  Canceled Prev. Ack. (11 / 0)  Late (0 / 0)  GO Comments (0 / 0)

Trans. Owner:

Gen. Owner:

Trans. Zone:

From Date:  To Date:

Unit Type:

Unit Name:

Ticket #:

Incl. Hist.  Eff. Date  TO Date  GO Date

**Annual Review** Annual Review - GO Phase: Test Message

Click acknowledge to confirm that you have completed annual review of all active voltage schedules

Ticket #	GO Company TO Company	TR Zone	Unit Name Equipment Name Bus Name	Voltage Schedule Type	Normal			Light			Heavy			Effective Date	Status	Comments
					Target	Lower	Upper	Target	Lower	Upper	Target	Lower	Upper			

Review and change all PJM Reviewed tickets to GO Acknowledged

GO Date Filter – click to perform date search on tickets acknowledged during GO Annual Review

Click In Effect checkbox to filter for Active and Needs Schedule Tickets

Annual Review Section is visible only when Annual Review in progress and not yet acknowledged

Click Acknowledge Button to Complete GO Review after reviewing all applicable tickets

Annual Review Message for GOs

Facilitator:

Monica Burkett,

[Monica.Burkett@pjm.com](mailto:Monica.Burkett@pjm.com)

Secretary:

Dana Hiser,

[Dana.Hiser@pjm.com](mailto:Dana.Hiser@pjm.com)

SME/Presenter:

Darrell Frogg,

[Darrell.Frogg@pjm.com](mailto:Darrell.Frogg@pjm.com)

**Reactive Capability and Voltage  
Schedule Verifications**



**Member Hotline**

(610) 666 – 8980

(866) 400 – 8980

[custsvc@pjm.com](mailto:custsvc@pjm.com)

**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](mailto:it_ops_ctr_shift@pjm.com)

